TOTAL IONIZING DOSE TEST REPORT

Part Type: K4B4G0846Q

Package: FBGA-78

Description: 4Gb (512Mb x 8 x 8 banks) DDR3L SDRAM

Manufacturer: Samsung

Date Code: 1280

Esa Estec Purchase Order N° 4000112477/14/NL/HB dated December 4, 2014

Esa Estec Technical Responsible: Christian POIVEY

Hirex reference:	HRX/TID/01586	Issue:01	Date:	November 22, 2018
Written by:	O. PERROTIN	Test Lab Business Manager		
Approved by:	R. SELLIER	Test Lab Production Manager		

CHANGE RECORD

ISSUE	DATE	PAGE	DESCRIPTION OF CHANGES
01	November 22, 2018	All	Original Issue

TOTAL IONIZING DOSE TEST REPORT
on Samsung
K4B4G0846Q
4Gb (512Mb x 8 x 8 banks) DDR3L SDRAM

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1 Introduction

Two total ionizing dose verification test batches for the Samsung K4B4G0846Q, 4Gb (512Mb x 8 x 8 banks) DDR3L SDRAM have been performed with an accumulated dose of :
Batch 1: Dose rate of 224 rad(Si)/hour
- Read mode samples: 290 kRad(Si)
- Write mode samples: 723 kRad(Si)

Batch 2: 274kRad(Si) at a dose rate of 210 rad(Si)/hour, in response to Esa Estec purchase order reference 4000112477/14/NL/HB.

The purpose of this test was to evaluate total dose withstanding of this component, to investigate its suitability for being used in space applications. This test was conducted on samples provided by Syderal.
Test has been performed in accordance with Hirex Engineering proposal reference HRX/PRO/04531 Issue 01.

Batch 1 was performed at UCL Facilities in dynamic bias ON with in-situ monitoring.
Batch 2 was performed at TRAD Facilities in static bias ON and bias OFF.

A complete set of electrical measurements together with graphical representation of measured parameters with respect to total dose received, are provided for all samples.

2 Applicable and Reference Documents

2.1 Applicable Documents

- Hirex Engineering proposal: HRX/PRO/04531 Issue 01
- Total dose radiation test plan: HRX/TDP/0093 issue 02.
- Hirex Engineering Detail Design Document: HRX/DDD/02426 Issue 01.
- Hirex Engineering Test Conditions: HRX/TC/01887 Issue 01.
- ESCC Basic Specification No. 22900 issue 05.

2.2 Reference Documents

- Samsung Datasheet rev.1.0 dated June 2013.

3 Test Samples

35 samples of the K4B4G0846Q device have been tested:
- Batch 1:
  - 10 samples in Dynamic Low frequency,
  - 10 samples in Dynamic Max frequency.
- Batch 2:
  - 10 samples in static bias ON,
  - 5 samples in static bias OFF.

Samples were allocated into the bias conditions during exposures and annealing as provided in the following table.

Batch 1

Serial Numbers	Allocation
SN 1 to 10	Dynamic Low Frequency
SN41 to 50	Dynamic Max Frequency

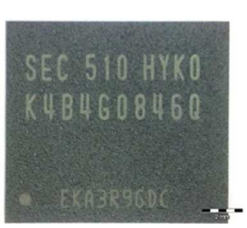
Batch 2

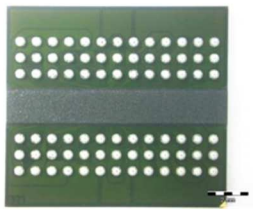
Serial Numbers	Allocation
SN 37	Control
SN 51 to 60	Biased ON
SN 61 to 65	Biased OFF

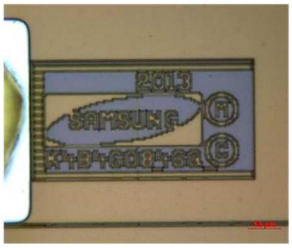
Identification of the K4B4G0846Q is provided below:

Part Number:	K4B4G0846Q
Top Marking:	5AE77 D9QBJ logo JJQZ
Diffusion Lot:	-
Date Code:	1280

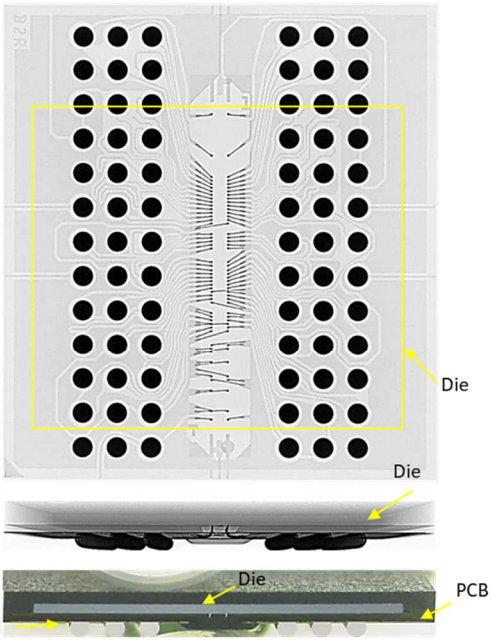
Identification of the component including external marking and any die identification is provided on the following photos (see Physical Analysis Report HRX/RCA/00105 issue 01).

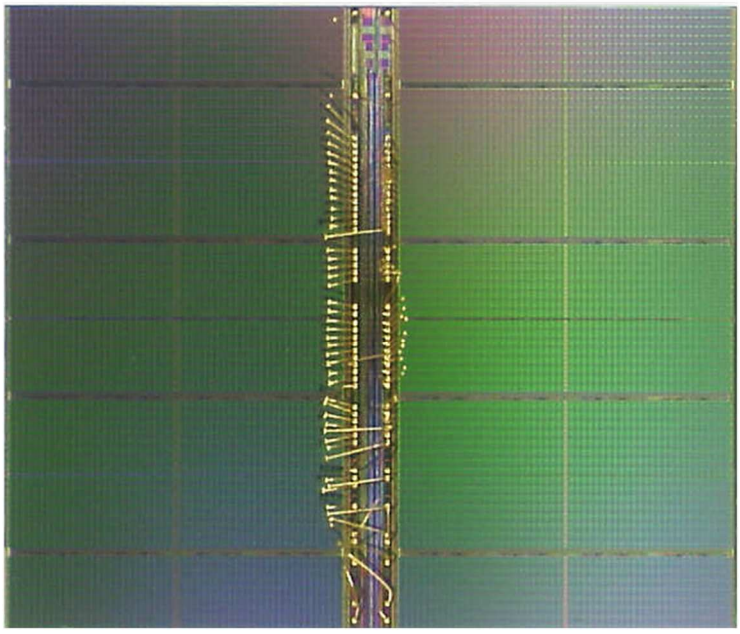






Part type : K4B4G0846Q-HYK0
Marking : SEC 510 HYK0
K4G40846Q
EKA3R9GDC
Date code : 1510
Packaging : 78-Ball FBGA 11 x 10 mm
Die size : 7.3 x 8.6 mm
Assembly type : Single flip chip wire bonded down center





4 Experimental Conditions

4.1 Radiation Source Dose Rate and Annealing

Batch 1:
The dose exposures were performed in parallel at UCL in Louvain (Belgium)
In this irradiation facilities, a Cobalt 60 source is used with the possibility to vary the dose rate by simply adjusting the distance to the source.
During the dose exposures, devices under test have been irradiated in an ambient temperature of 24°C ±6°C.
During annealing step at 85°C±5°C, the temperature was controlled and monitored by using an external monitoring system.

Before exposure, dose rate calibration using an active dosimeter (RADCAL Model 2186) was performed at each board location. The dose received by the devices has been controlled by the measurement of one Alanine pellet dosimeter placed onto each bias board

Read Mode samples

Pellet Dosimetry data	Dose rate	Annealing steps	Start Exposure Date	End Exposure Date	Comment
krad(Si)	rad(Si)/h				
290	224	-	23/04/2018	21/06/2018	Dry-Ice during 11 days after exposure
-	-	24 h / Room	02/07/2018	03/07/2018	
-	-	168 h / 85°C	03/07/2018	10/07/2018	

Write Mode samples

Pellet Dosimetry data	Dose rate	Annealing steps	Start Exposure Date	End Exposure Date	Comment
krad(Si)	rad(Si)/h				
723	224	-	23/04/2018	04/09/2018	Dry-Ice during 7 days after exposure
-	-	24 h / Room	11/09/2018	12/09/2018	
-	-	168 h / 85°C	12/09/2018	19/09/2018	

Batch 2:
The dose exposures were performed in parallel at GAMRAY facility in Toulouse (France).
In this irradiation facilities, a Cobalt 60 source is used with the possibility to vary the dose rate by simply adjusting the distance to the source.
During the dose exposures, devices under test have been irradiated in an ambient temperature of 24°C ±6°C.
During annealing step at 100°C±5°C, the temperature was controlled and monitored by using an external monitoring system.
Before exposure, dose rate calibration, using an active dosimeter SAPHYMO gamma probe, was performed at each board location. Resulting test conditions are provided below.

The radiation environment at GAMRAY is specified in Appendix 2 - Irradiation Certificate.

Dosimetry data	Dose rate	Annealing steps	Date	Irradiation Time Out	Start Meas Time	End Meas Time	Irradiation Time In	Temp. Meas
krad(Si)	rad(Si)/h							°C
0	-	-	08/06/2018		-	-	11:32	22
30.8	210	-	14/06/2018	09:31	10:05	10:32	11:39	22
51.3	210		18/06/2018	09:33	10:16	10:48	11:27	21
102	210	-	28/06/2018	09:30	09:48	10:22	11:22	22
208.4	210	-	19/07/2018	09:30	09:42	10:14	11:38	22
274.2	210	-	01/08/2018	09:31	10:01	11:00	11:30	22
-	-	24 h / Room	02/08/2018	12:30	12:42	13:04	14:20	22
-	-	168 h / 100°C	09/08/2018	11:00	11:32	12:49	-	21

4.2 Batch 1 – Dynamic bias during dose exposures and in-situ measurements conditions

Dynamic bias conditions and in-situ test results are provided in appendix 3.

4.3 Batch 2 – Static bias during dose exposures and measurements conditions

4.3.1 Static bias conditions

During exposures at Gamray bias board provided by HIREX (reference: PL329A as per figure 1) allowed to bias 10 samples in accordance with the bias conditions provided in Figure 2.
5 other samples were biased OFF with all pins connected to ground.
During annealing steps the same stress conditions have been applied at room and 100°C temperatures.

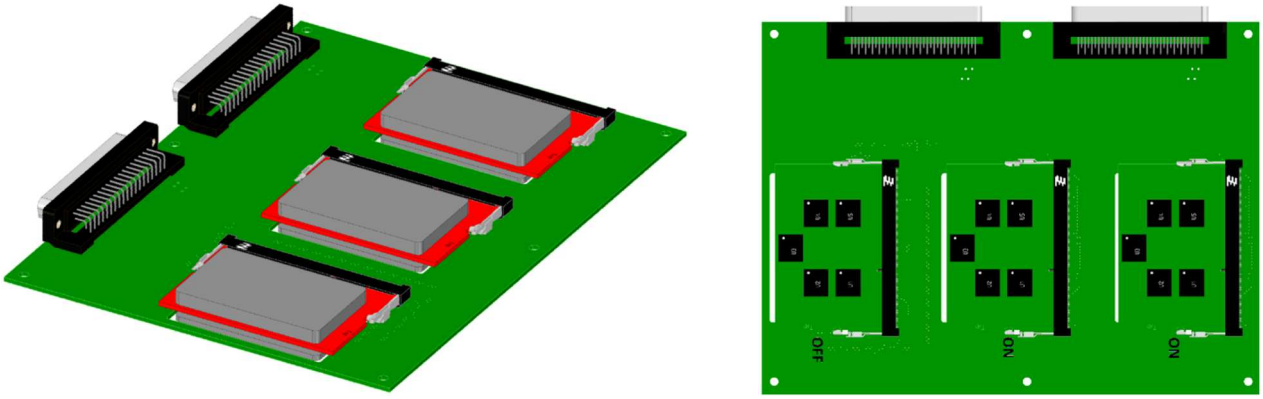


Figure 1 : PL239A – Bias board

Pin Name	Configuration
A[15:0]	Odd addresses Pull Up Even addresses: Pull Down
BA[2:0]	Odd BA: Pull Up Even BA: Pull Down
CK, CK#	Pull Up
CKE	Pull Up
CS#	Pull Down
DM	Pull Down
ODT	Pull Up
RAS#, CAS#, WE#	Pull Up
RESET#	Pull Up
DQ[7:0]	Odd addresses Pull Up Even addresses: Pull Down
DQS, DQS#	Pull Up
VDD	1.35V
VDDQ	1.35V
VREFCA	0.675V
VREFDQ	0.675V
VSS	GND
VSSQ	GND
ZQ	GND

Pull Up: R = 1kΩ to VDDQ ; Pull Down: R = 1kΩ to GND
Vdd + VddQ power supplies have been monitored during exposure and annealings.

Figure 2 : Static bias conditions during Irradiation Exposures and Annealing

4.3.2 Electrical Measurements

Electrical parameters test setup synoptic for K4B4G0846Q is provided in Figure 2.

A MUTEST Tester was used to perform required measurements.

Dedicated test fixture board (Hirex reference: CT254A) was designed to ensure proper measurement conditions.

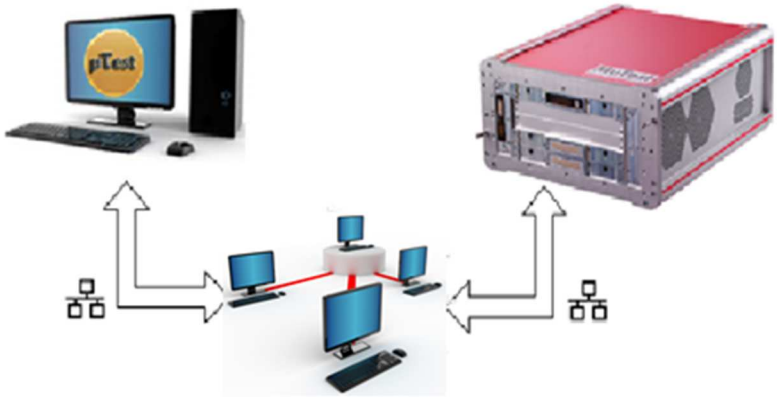


Figure 3: K4B4G0846Q test setup synoptic

Electrical parameters test conditions and limits used for performing this test are provided in the following table.

ID	Parameters	Symbol	Test condition	Min	Nom	Max	Unit
DC & ICC Test: VDD=VDDQ=1.35V VrefDQ=VrefCA=0.675V, fCK=**800MHz** unless otherwise specified							
10400	Operating Current 0 -> One Bank Activate-> Precharge	IDD0	VilAC160, VihAC160; RST=0V or VDDQ	-	-	45	mA
10500	Operating Current 1 -> One Bank Activate-> Read-> Precharge	IDD1	VilAC160, VihAC160; RST=0V or VDDQ	-	-	55	mA
10600	Precharge power-down current: Slow exit	IDD2P0	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	15	mA
10700	Precharge power-down current: Fast exit	IDD2P1	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	15	mA
10800	Precharge standby current	IDD2N	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	20	mA
10850	Precharge standby ODT current	IDD2NT	Vil=0.515, Vih=0.835			25	mA
10870	Precharge quiet standby current	IDD2Q	VilAC160, VihAC160 ;RST=0V or VDDQ			20	mA
10900	Active power-down current	IDD3P	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	20	mA
11000	Active standby current	IDD3N	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	30	mA
11200	Burst read operating current	IDD4R	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	100	mA
11300	Burst write operating current	IDD4W	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	105	mA
11400	Burst auto refresh current	IDD5B	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	145	mA
11500	Extended temperature self refresh	IDD6ET	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	15	mA
11600	All banks interleaved read current	IDD7	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	170	mA
11700	Reset current	IDD8	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	15	mA
11800	Differential cross point voltage	Vox	VrefDQ=0.675V	VrefDQ-0.205	-	VrefDQ+0.205	V
11900	Input High Voltage	Vih_AC160	Except CKE, RESET,ODT & differential pin;	-	-	Vref + 0.16	V
12000	Input Low Voltage	Vil_AC160	Except CKE, RESET,ODT & differential pin;	Vref - 0.160	-	-	V
19001	Differential cross_point voltage	Vix_min_CK	GoNOGO;	Vref - 0.150	-	Vref + 0.150	V

ID	Parameters	Symbol	Test condition	Min	Nom	Max	Unit
19000	Differential cross_point voltage	Vix_min_DQS	GoNOGO;	Vref - 0.150	-	Vref + 0.150	V
12000	Differential cross_point voltage	Vix_max_CK	GoNOGO;	Vref - 0.150	-	Vref + 0.150	V
12001	Differential cross_point voltage	Vix_max_DQS	GoNOGO;	Vref - 0.150	-	Vref + 0.150	V
12300	Output low leakage Current	IOZL	Vout=0V	-5	-	5	µA
12400	Output high leakage Current	IOZH	Vout=1.35V	-5	-	5	µA
12500	Input Low Leakage Current	IIL	Vin=0V	-2	-	2	µA
12600	Input High Leakage Current	IIH	Vin=1.35V	-2	-	2	µA
FUNC Test : VDD=VDDQ=1.35VVrefDQ=VrefCA=0.675V, RTT_Tester=50ohms, VTT=VDDQ/2 , fCK=**800MHz** unless otherwise specified							
14900	Functional Checkerboard BL 4	Func_Test_2_row_2_bank_BL4	go/no go, Vil=0V, Vih=1.35V tREFI<7.8ms	-	-	-	P/F
10200	Functional Checkerboard BL 8	Func_Test_2_row_2_bank	go/no go, Vil=0V, Vih=1.35V tREFI<7.8ms	-	-	-	P/F
10300	Functional Checkerboard Full Memory	Func_Test_all_row_8_bank	go/no go, Vil=0V, Vih=1.35V tREFI<7.8ms	-	-	-	P/F
AC Test: VDD=VDDQ=1.35V; VrefDQ=VrefCA=Vol=Voh=0.675V; Vil=0V Vih=1.35V; RTT_Tester=50ohms; VTT=VDDQ/2; fCK=**800MHz** unless otherwise specified							
12700	ACTIVATE to ACTIVATE or REFRESH command Period	tRC	go/no go	-	-	48.75	ns
12800	REFRESH to ACTIVATE or REFRESH	tRFC	go/no go (4Gb memory)	-	-	260	ns
12900	ACTIVATE to PRECHARGE Command Period	tRAS	go/no go	-	-	35	ns
13000	ACTIVATE to internal Read or WRITE delay	tRCD	go/no go	-	-	13.75	ns
13100	ACTIVATE to ACTIVATE min command period	tRRD	go/no go	-	-	4	nCK
14500	Four Activate Window	tFAW	go/no go	-	-	30	ns
14600	CAS to CAS command delay	tCCD	go/no go	-	-	4	nCK
14700	PECHARGE Command period	tRP	go/no go	-	-	13.75	ns
14800	Write Recovery Time	tWR	go/no go	-	-	15	ns

ID	Parameters	Symbol	Test condition	Min	Nom	Max	Unit
13200	Clock Cycle time	tCK	go/no go	1.25	-	-	ns
13300	DQS, DQS# rising to/from rising CK, CK# Upper Bits	tDQSCK	Search ; Note 3	-225	-	225	ps
13400	Input Setup Time (fast slew rate)	tIS	go/no go ; CAS#; RAS#; CS#; WE# Note 2	-	-	365	ps
13500	Input Hold Time (fast slew rate)	tIH	go/no go ; CAS#; RAS#; CS#; WE# Note 2	-	-	400	ps
13600	Data-In Setup Time to DQS-In (DQ, DM)	tDS	go/no go Note 2	-	-	258	ps
13700	Data-In Hold Time to DQS-In (DQ, DM)	tDH	go/no go Note 2	-	-	265	ps
13800	CLK to First Rising Edge of DQS-In	tDQSS_MIN	go/no go Note 4	-0.27	-	-	nCK
13900	CLK to First Rising Edge of DQS-In	tDQSS_MAX	go/no go Note 4	-	-	0.27	nCK
14000	Data-Out to High Impedance from CK/CK#	tHZDQ	go/no go Note 3	-	-	225	ps
14100	DQS to High Impedance from CK/CK#	tHZDQS	go/no go Note 3	-	-	225	ps
14200	DQS/DQS# Low Impedance from CK/CK#	tLZDQS	go/no go Note 2	-630	-	405	ps
14300	DQ to Low Impedance from CK/CK#	tLZDQ	go/no go Note 2	-630	-	405	ps
14400	Refresh Interval	tRef		64			ms

Note 1: Limit include ETA 1632+ ETA 864 = 240ps
Note 2: Limit include ETA1632 + ETA1632 = 180ps
Note 3: ETA1632 may be applied after characterization
Note 4: Placement margin included

Table 1 : Measured electrical parameters

5 Conclusion

A Total Ionizing Dose verification test was carried out by Hirex Engineering under Esa Estec contract on the Samsung K4B4G0846Q 4Gb (512Mb x 8 x 8 banks) DDR3L SDRAM in FBGA-78 package.

35 samples plus one control sample have been used during testing. They were exposed under two batches to radiation using a dose rate of 220 rad(Si)/h (Batch 1 with 2 x 10 parts) and 210 rad(Si)/hour (batch 2 with 10 + 5 parts) at room temperature.

Batch 1: Dynamic bias mode with in-situ measurements.
In-situ test conditions and results during exposure and annealing of bath 2 in dynamic bias mode are provided in a specific test report provided in **appendix 4**.

Batch 2: Static bias mode with remote testing.

- In-situ current Monitoring:

An in-situ current monitoring of Vdd+Vddq power supply current has been performed during exposure and annealing (**see appendix 1**) by group of 5 samples. We observed an increase of supply currents due to radiation exposure.

During Annealing 24h at room temperature and 168h at 100°C a significant recovery has been observed.

- Remote electrical parameter measurements

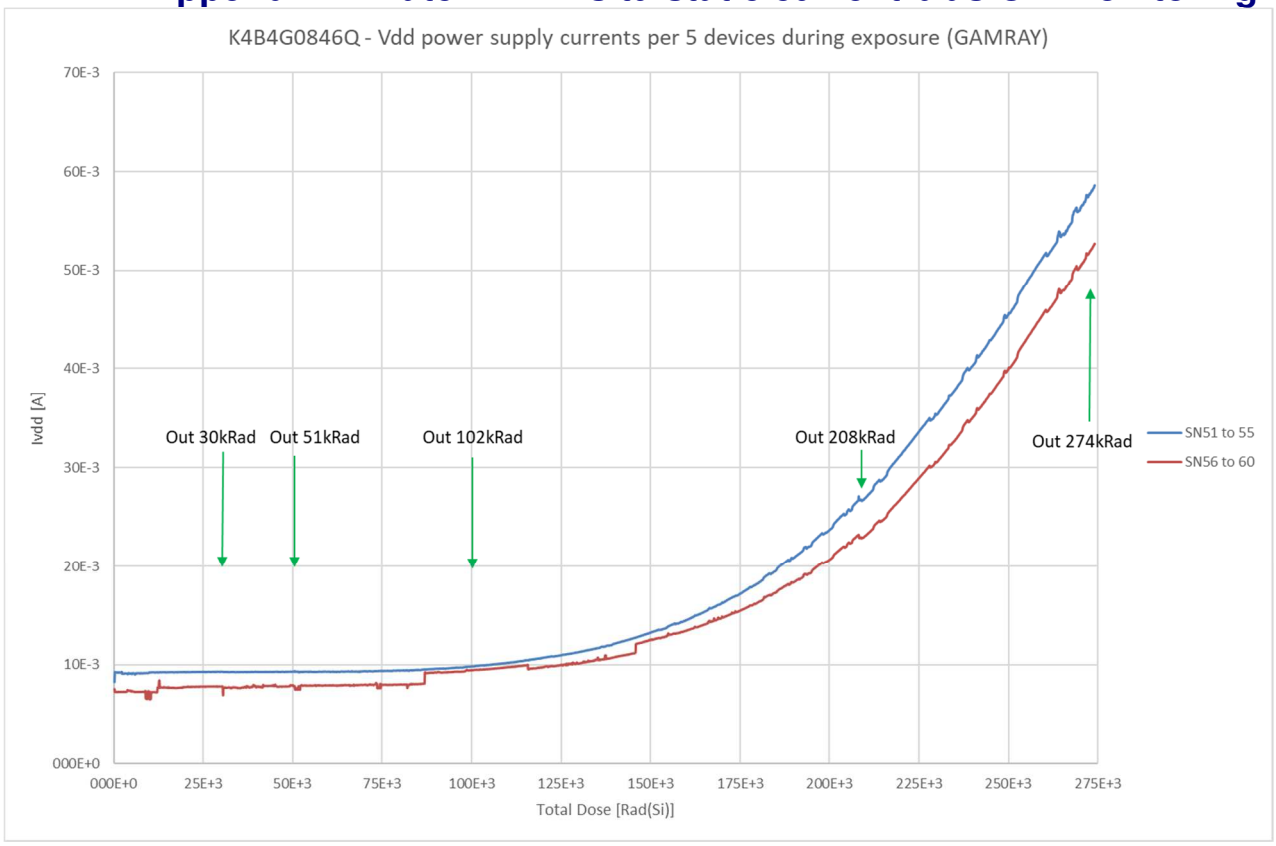
Test results including tables and graphics are provided in **appendix 2** for each remote measured parameter.

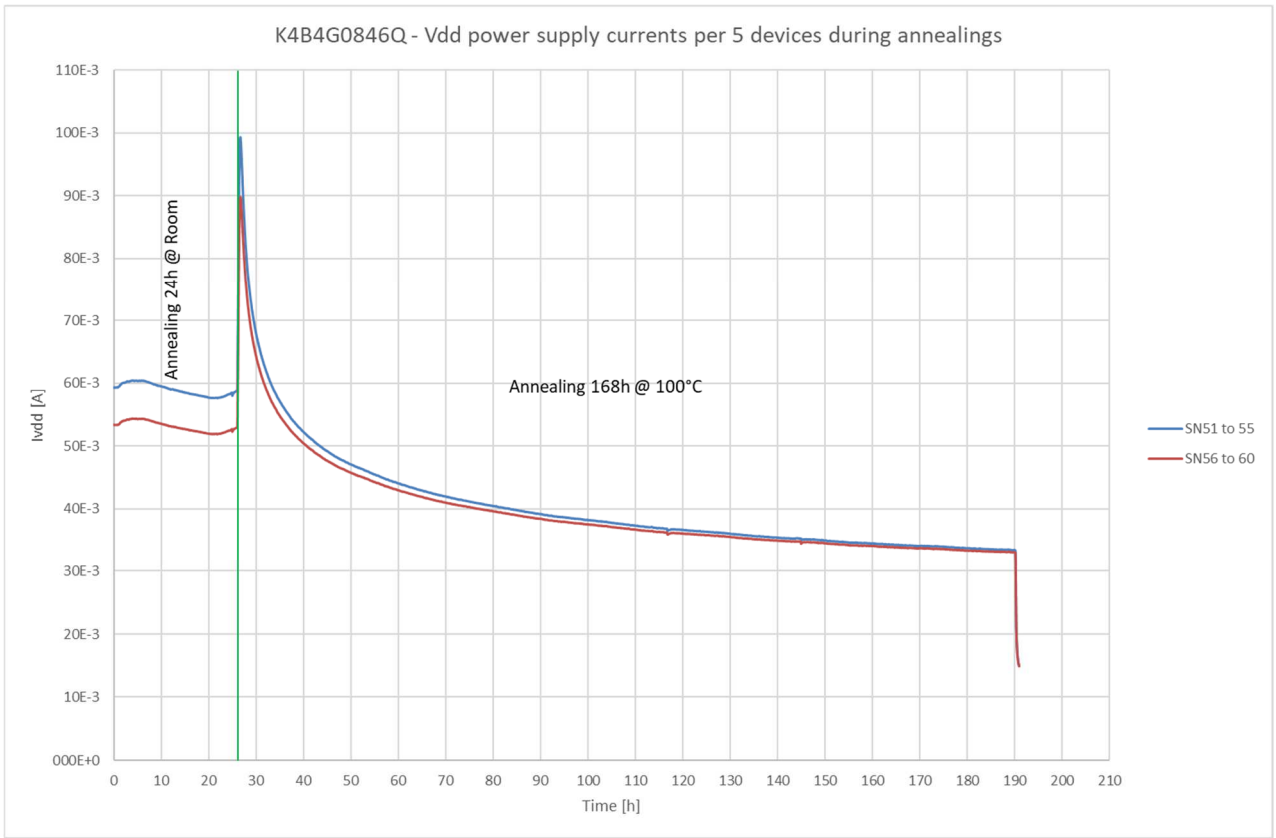
- Statistics are provided for biased ON and biased OFF samples.
- Control sample have been measured before and after each electrical measurement step.
- Corresponding control sample data (identified respectively “IN” and “OUT”) are provided here after.
- Failed values (if any) with respect to specified limits are highlighted in bold red font in the tables.

➔ **Batch 2 conclusion**

Biased ON and OFF samples:
- Power supply currents was slightly out of specification limits after 200 kRad(Si) step. A recovery has been observed during annealing steps.
- All other parameters are within specification limits and all samples are functional all along testing.

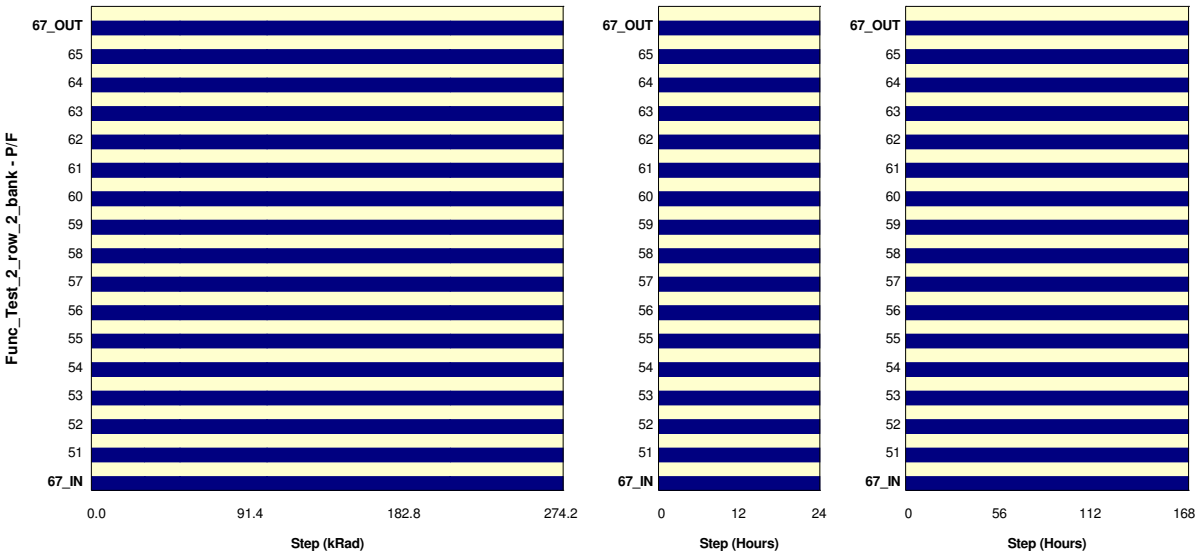
Appendix 1: Batch 2 - In-situ static current bias ON monitoring





Appendix 2: Batch 2 - Remote static bias electrical measurements

Parameter : Functional Checkerboard BL 8 : Func_Test_2_row_2_bank
Test conditions : GoNOGO. Vil=0V. Vih=1.35V. tREFI<7.8ms
Unit : P/F
No spec limit specified.



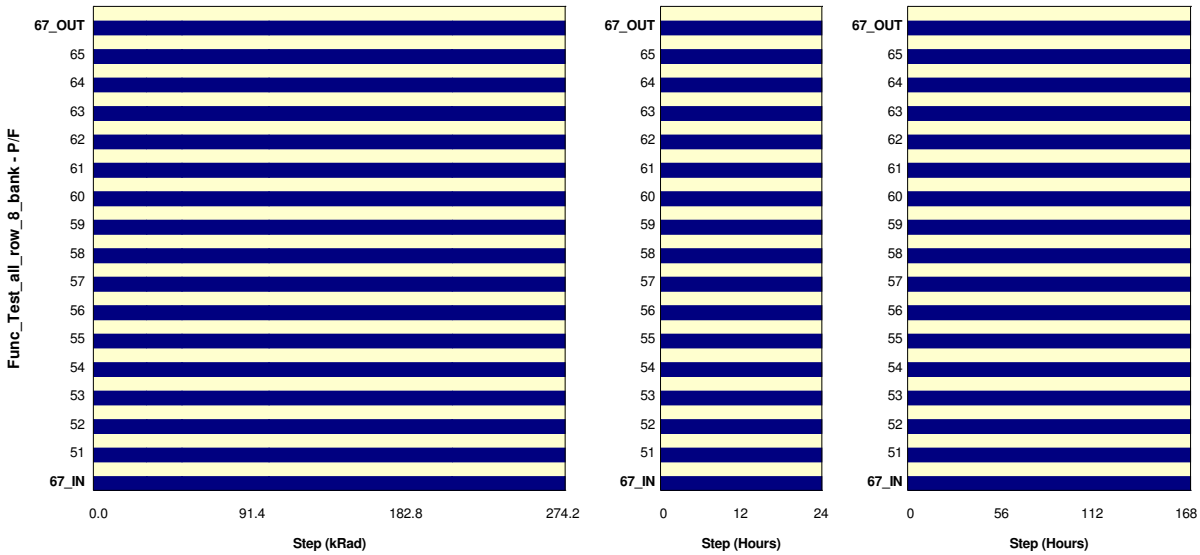
Measurements

Func_Test_2_row_2_bank	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_2_row_2_bank	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Functional Checkerboard Full Memory : Func_Test_all_row_8_bank
Test conditions : GoNOGO. Vil=0V. Vih=1.35V. tREFI<7.8ms
Unit : P/F
No spec limit specified.



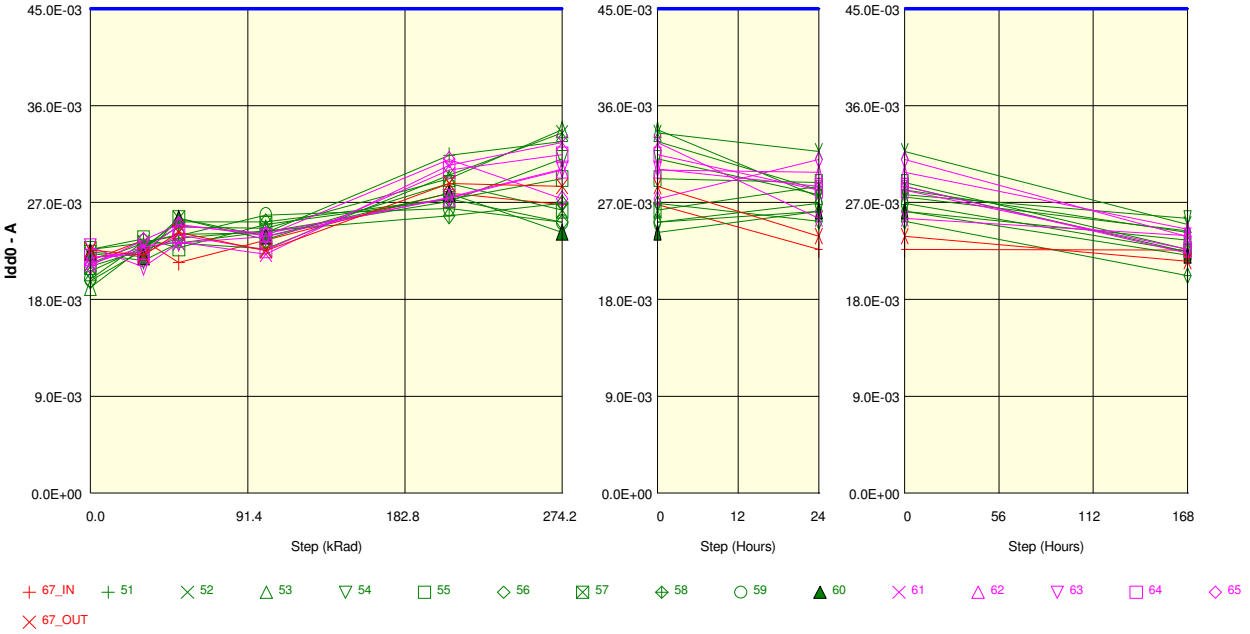
Measurements

Func_Test_all_row_8_bank	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_all_row_8_bank	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Operating Current 0 -> One Bank Activate-> Precharge : Idd0
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 45.0E-03
Spec limits are represented in bold lines on the graphic.



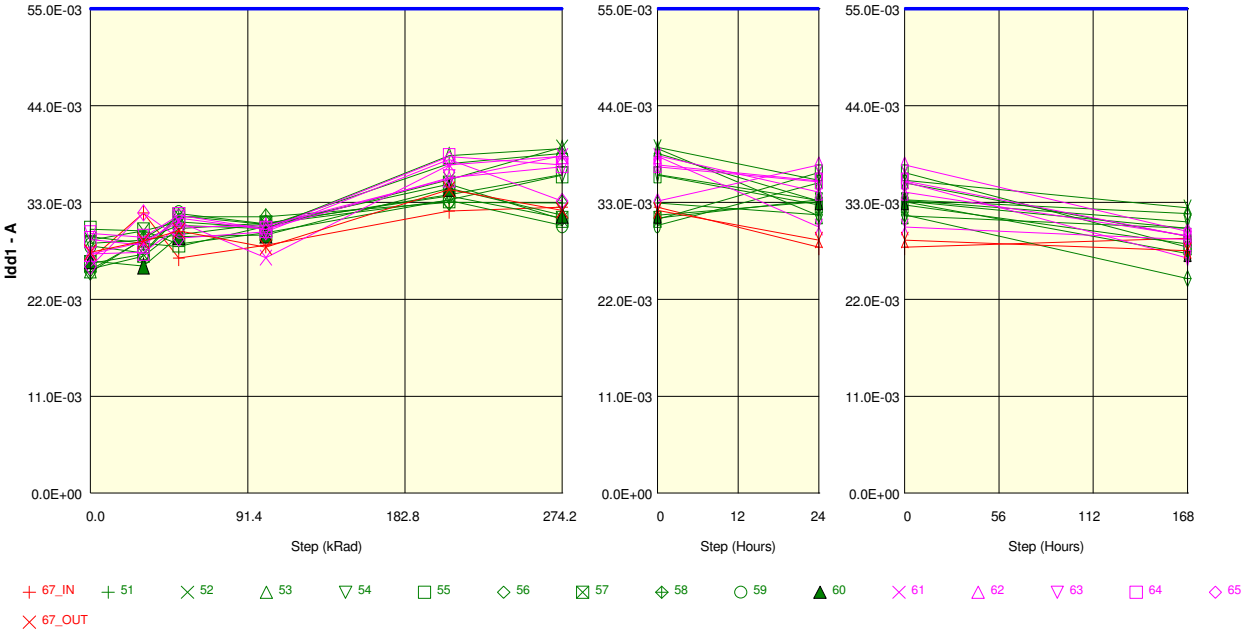
Measurements

Idd0	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	21.6E-03	23.5E-03	21.4E-03	23.5E-03	27.9E-03	26.8E-03	22.6E-03	22.6E-03
67_OUT_REF	22.6E-03	22.1E-03	24.2E-03	22.5E-03	28.7E-03	28.5E-03	23.9E-03	21.5E-03
ON samples								
51	22.6E-03	23.3E-03	24.0E-03	24.2E-03	31.4E-03	32.7E-03	28.2E-03	24.2E-03
52	21.4E-03	23.3E-03	23.3E-03	22.7E-03	29.5E-03	33.4E-03	31.7E-03	25.0E-03
53	19.1E-03	22.8E-03	24.7E-03	24.6E-03	29.2E-03	33.8E-03	27.5E-03	24.4E-03
54	22.3E-03	21.6E-03	23.3E-03	24.3E-03	27.1E-03	31.1E-03	27.7E-03	25.5E-03
55	22.6E-03	23.6E-03	22.8E-03	25.0E-03	27.3E-03	29.2E-03	28.9E-03	22.6E-03
56	20.6E-03	22.8E-03	25.2E-03	25.2E-03	27.3E-03	25.1E-03	26.2E-03	23.5E-03
57	21.1E-03	22.6E-03	25.5E-03	23.6E-03	28.7E-03	26.3E-03	28.5E-03	22.4E-03
58	19.7E-03	22.6E-03	23.7E-03	24.4E-03	25.8E-03	26.9E-03	25.3E-03	20.2E-03
59	19.9E-03	23.3E-03	23.9E-03	25.8E-03	26.4E-03	25.1E-03	26.9E-03	22.5E-03
60	22.4E-03	22.0E-03	25.5E-03	23.9E-03	27.8E-03	24.2E-03	26.2E-03	22.1E-03
Statistics								
Min	19.1E-03	21.6E-03	22.8E-03	22.7E-03	25.8E-03	24.2E-03	25.3E-03	20.2E-03
Max	22.6E-03	23.6E-03	25.5E-03	25.8E-03	31.4E-03	33.8E-03	31.7E-03	25.5E-03
Average	21.2E-03	22.8E-03	24.2E-03	24.4E-03	28.1E-03	28.8E-03	27.7E-03	23.2E-03
Std Deviation	1.3E-03	628.4E-06	996.9E-06	877.4E-06	1.7E-03	3.7E-03	1.8E-03	1.6E-03

Measurements

Idd0	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	21.6E-03	23.5E-03	21.4E-03	23.5E-03	27.9E-03	26.8E-03	22.6E-03	22.6E-03
67_OUT_REF	22.6E-03	22.1E-03	24.2E-03	22.5E-03	28.7E-03	28.5E-03	23.9E-03	21.5E-03
OFF samples								
61	21.3E-03	22.9E-03	23.3E-03	22.2E-03	30.5E-03	32.6E-03	25.5E-03	23.9E-03
62	21.9E-03	22.5E-03	24.8E-03	24.1E-03	27.4E-03	30.0E-03	29.8E-03	24.5E-03
63	22.9E-03	21.0E-03	23.3E-03	23.8E-03	27.5E-03	30.1E-03	28.5E-03	22.3E-03
64	21.9E-03	22.2E-03	24.0E-03	22.6E-03	30.0E-03	31.4E-03	28.1E-03	22.6E-03
65	21.1E-03	23.5E-03	25.0E-03	23.9E-03	31.0E-03	27.3E-03	31.0E-03	23.8E-03
Statistics								
Min	21.1E-03	21.0E-03	23.3E-03	22.2E-03	27.4E-03	27.3E-03	25.5E-03	22.3E-03
Max	22.9E-03	23.5E-03	25.0E-03	24.1E-03	31.0E-03	32.6E-03	31.0E-03	24.5E-03
Average	21.8E-03	22.4E-03	24.1E-03	23.3E-03	29.3E-03	30.3E-03	28.6E-03	23.4E-03
Std Deviation	691.4E-06	929.2E-06	811.6E-06	863.6E-06	1.7E-03	2.0E-03	2.1E-03	942.6E-06

Parameter : Operating Current 1 -> One Bank Activate-> Read-> Precharge : Idd1
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 55.0E-03
Spec limits are represented in bold lines on the graphic.



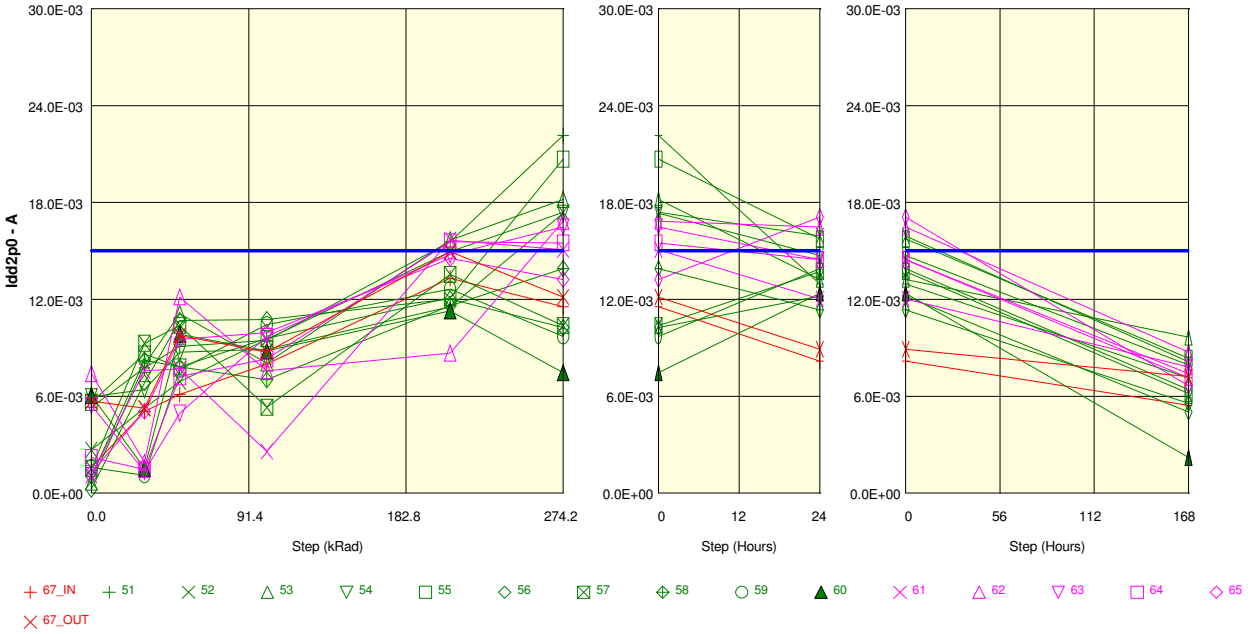
Measurements

Idd1	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	26.5E-03	31.8E-03	26.7E-03	28.1E-03	32.0E-03	32.5E-03	28.0E-03	28.9E-03
67_OUT_REF	27.3E-03	28.6E-03	29.8E-03	28.0E-03	34.5E-03	32.1E-03	28.7E-03	27.5E-03
ON samples								
51	29.1E-03	28.4E-03	28.0E-03	30.3E-03	37.4E-03	38.6E-03	33.1E-03	30.1E-03
52	28.7E-03	29.8E-03	30.8E-03	30.2E-03	35.6E-03	39.2E-03	35.5E-03	32.4E-03
53	25.3E-03	28.8E-03	30.4E-03	30.0E-03	38.3E-03	39.1E-03	31.5E-03	30.1E-03
54	28.4E-03	28.7E-03	29.4E-03	30.6E-03	33.9E-03	36.2E-03	33.2E-03	30.8E-03
55	30.0E-03	29.8E-03	28.3E-03	29.5E-03	33.3E-03	36.1E-03	32.7E-03	28.3E-03
56	25.5E-03	26.9E-03	30.0E-03	30.6E-03	33.8E-03	31.3E-03	33.3E-03	31.7E-03
57	26.1E-03	27.1E-03	31.5E-03	30.5E-03	35.1E-03	31.1E-03	36.4E-03	28.0E-03
58	25.1E-03	28.9E-03	31.4E-03	31.4E-03	33.0E-03	33.0E-03	31.6E-03	24.4E-03
59	28.1E-03	27.3E-03	31.7E-03	30.6E-03	33.3E-03	30.4E-03	35.2E-03	29.2E-03
60	26.4E-03	25.8E-03	29.1E-03	29.3E-03	34.6E-03	31.6E-03	33.1E-03	27.2E-03
Statistics								
Min	25.1E-03	25.8E-03	28.0E-03	29.3E-03	33.0E-03	30.4E-03	31.5E-03	24.4E-03
Max	30.0E-03	29.8E-03	31.7E-03	31.4E-03	38.3E-03	39.2E-03	36.4E-03	32.4E-03
Average	27.3E-03	28.1E-03	30.1E-03	30.3E-03	34.8E-03	34.7E-03	33.6E-03	29.2E-03
Std Deviation	1.8E-03	1.3E-03	1.3E-03	591.3E-06	1.8E-03	3.6E-03	1.6E-03	2.4E-03

Measurements

Idd1	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	26.5E-03	31.8E-03	26.7E-03	28.1E-03	32.0E-03	32.5E-03	28.0E-03	28.9E-03
67_OUT_REF	27.3E-03	28.6E-03	29.8E-03	28.0E-03	34.5E-03	32.1E-03	28.7E-03	27.5E-03
OFF samples								
61	27.2E-03	28.5E-03	30.8E-03	26.7E-03	37.3E-03	38.3E-03	30.2E-03	28.8E-03
62	27.2E-03	27.3E-03	30.2E-03	30.3E-03	35.6E-03	38.3E-03	34.2E-03	29.2E-03
63	29.5E-03	29.1E-03	31.6E-03	30.0E-03	35.8E-03	37.0E-03	35.3E-03	26.7E-03
64	28.8E-03	28.1E-03	31.3E-03	29.9E-03	38.2E-03	37.3E-03	35.5E-03	29.2E-03
65	25.7E-03	31.8E-03	28.9E-03	29.7E-03	37.9E-03	33.1E-03	37.3E-03	29.7E-03
Statistics								
Min	25.7E-03	27.3E-03	28.9E-03	26.7E-03	35.6E-03	33.1E-03	30.2E-03	26.7E-03
Max	29.5E-03	31.8E-03	31.6E-03	30.3E-03	38.2E-03	38.3E-03	37.3E-03	29.7E-03
Average	27.7E-03	29.0E-03	30.6E-03	29.3E-03	37.0E-03	36.8E-03	34.5E-03	28.7E-03
Std Deviation	1.5E-03	1.7E-03	1.0E-03	1.5E-03	1.2E-03	2.1E-03	2.6E-03	1.2E-03

Parameter : Precharge power-down current: Slow exit : Idd2p0
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 15.0E-03
Spec limits are represented in bold lines on the graphic.



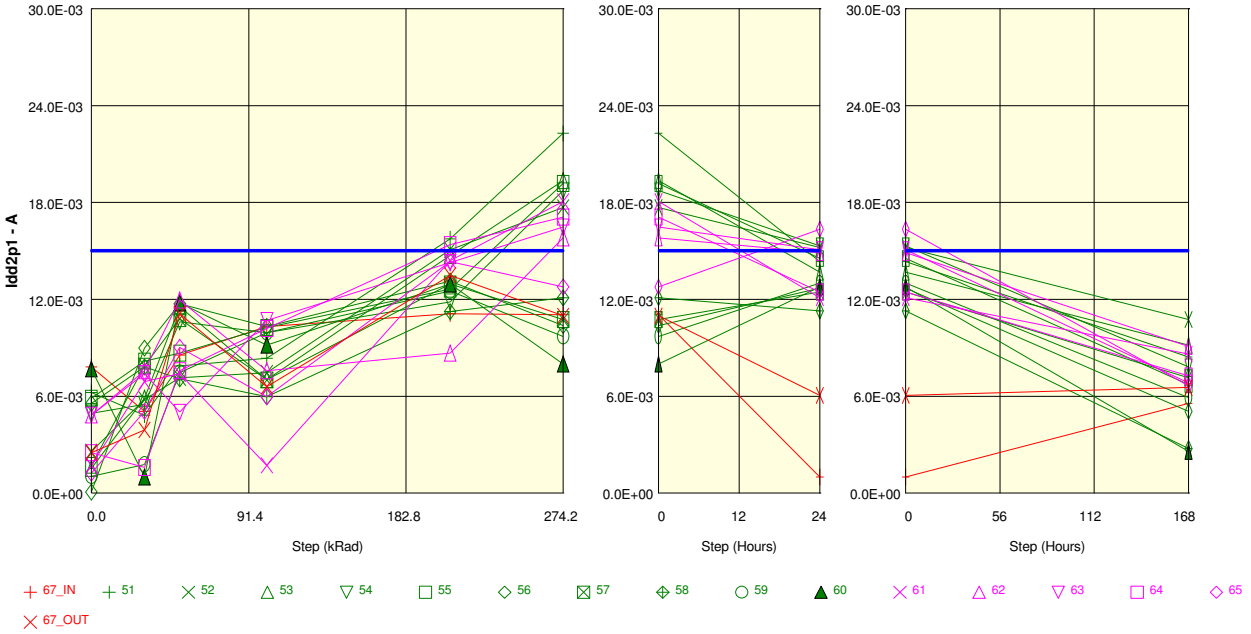
Measurements

Idd2p0	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.6E-03	5.1E-03	6.1E-03	8.0E-03	13.3E-03	11.5E-03	8.2E-03	5.4E-03
67_OUT_REF	5.7E-03	5.2E-03	9.8E-03	8.7E-03	15.0E-03	12.1E-03	8.9E-03	7.2E-03
ON samples								
51	5.3E-03	7.8E-03	9.1E-03	9.5E-03	**15.6E-03**	**22.2E-03**	12.9E-03	7.1E-03
52	2.7E-03	5.2E-03	6.9E-03	9.5E-03	15.0E-03	**17.4E-03**	**15.9E-03**	8.1E-03
53	671.4E-06	7.9E-03	11.1E-03	8.1E-03	**15.7E-03**	**18.2E-03**	13.2E-03	9.6E-03
54	6.0E-03	6.4E-03	8.7E-03	8.9E-03	11.5E-03	**17.3E-03**	14.7E-03	7.9E-03
55	5.6E-03	8.6E-03	7.8E-03	9.6E-03	12.1E-03	**20.7E-03**	**15.7E-03**	8.4E-03
56	244.1E-06	6.8E-03	10.7E-03	10.7E-03	12.0E-03	10.3E-03	12.2E-03	5.0E-03
57	1.5E-03	9.3E-03	10.4E-03	5.3E-03	13.6E-03	10.4E-03	13.7E-03	6.2E-03
58	1.0E-03	8.2E-03	7.8E-03	7.0E-03	11.6E-03	13.9E-03	11.4E-03	5.6E-03
59	1.6E-03	1.1E-03	7.6E-03	10.4E-03	12.6E-03	9.7E-03	13.9E-03	6.4E-03
60	6.0E-03	1.5E-03	9.8E-03	8.8E-03	11.3E-03	7.4E-03	12.4E-03	2.2E-03
Statistics								
Min	**244.1E-06**	1.1E-03	6.9E-03	5.3E-03	11.3E-03	7.4E-03	11.4E-03	2.2E-03
Max	**6.0E-03**	9.3E-03	11.1E-03	10.7E-03	15.7E-03	22.2E-03	15.9E-03	9.6E-03
Average	**3.1E-03**	6.3E-03	9.0E-03	8.8E-03	13.1E-03	14.7E-03	13.6E-03	6.7E-03
Std Deviation	**2.4E-03**	2.9E-03	1.5E-03	1.6E-03	1.7E-03	5.1E-03	1.5E-03	2.1E-03

Measurements

Idd2p0	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.6E-03	5.1E-03	6.1E-03	8.0E-03	13.3E-03	11.5E-03	8.2E-03	5.4E-03
67_OUT_REF	5.7E-03	5.2E-03	9.8E-03	8.7E-03	15.0E-03	12.1E-03	8.9E-03	7.2E-03
OFF samples								
61	1.1E-03	7.6E-03	7.7E-03	2.6E-03	**15.7E-03**	**15.1E-03**	12.0E-03	7.8E-03
62	7.4E-03	1.9E-03	12.1E-03	7.6E-03	8.7E-03	**16.8E-03**	**16.5E-03**	8.7E-03
63	5.4E-03	1.3E-03	4.9E-03	9.7E-03	14.8E-03	**16.5E-03**	14.5E-03	7.4E-03
64	2.2E-03	1.5E-03	7.2E-03	8.3E-03	**15.6E-03**	**15.5E-03**	14.5E-03	7.1E-03
65	1.3E-03	5.1E-03	9.5E-03	9.9E-03	14.5E-03	13.2E-03	**17.1E-03**	6.7E-03
Statistics								
Min	**1.1E-03**	1.3E-03	4.9E-03	2.6E-03	8.7E-03	13.2E-03	12.0E-03	6.7E-03
Max	**7.4E-03**	7.6E-03	12.1E-03	9.9E-03	15.7E-03	16.8E-03	17.1E-03	8.7E-03
Average	**3.5E-03**	3.5E-03	8.3E-03	7.6E-03	13.8E-03	15.4E-03	14.9E-03	7.5E-03
Std Deviation	**2.8E-03**	2.8E-03	2.7E-03	3.0E-03	2.9E-03	1.4E-03	2.0E-03	783.5E-06

Parameter : Precharge power-down current: Fast exit : Idd2p1
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 15.0E-03
Spec limits are represented in bold lines on the graphic.



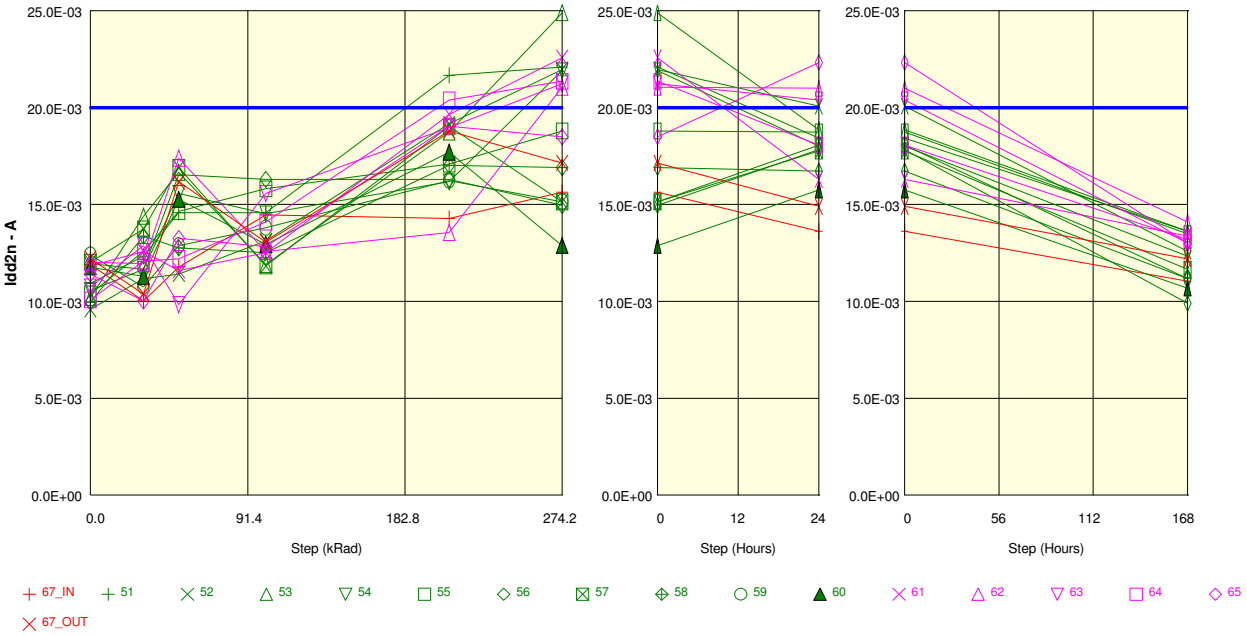
Measurements

Idd2p1	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	7.8E-03	5.1E-03	8.5E-03	10.3E-03	11.1E-03	11.0E-03	976.6E-06	5.6E-03
67_OUT_REF	2.5E-03	3.9E-03	11.1E-03	6.6E-03	13.5E-03	11.0E-03	6.0E-03	6.5E-03
ON samples								
51	6.2E-03	4.8E-03	7.9E-03	8.4E-03	**15.7E-03**	**22.3E-03**	14.3E-03	8.4E-03
52	2.6E-03	5.8E-03	7.1E-03	7.4E-03	**15.1E-03**	**17.7E-03**	**15.2E-03**	10.7E-03
53	1.5E-03	5.9E-03	11.5E-03	7.0E-03	14.7E-03	**19.3E-03**	13.7E-03	9.2E-03
54	4.9E-03	5.5E-03	10.6E-03	9.9E-03	11.8E-03	**18.7E-03**	**15.3E-03**	7.8E-03
55	5.9E-03	8.2E-03	8.7E-03	10.3E-03	12.6E-03	**19.2E-03**	14.5E-03	6.7E-03
56	61.0E-06	9.0E-03	11.7E-03	10.3E-03	13.1E-03	10.4E-03	12.7E-03	5.1E-03
57	1.7E-03	7.9E-03	10.8E-03	7.0E-03	12.9E-03	10.7E-03	12.5E-03	7.1E-03
58	5.6E-03	7.8E-03	7.1E-03	6.0E-03	11.2E-03	12.1E-03	11.3E-03	2.7E-03
59	1.0E-03	1.8E-03	7.4E-03	9.9E-03	12.5E-03	9.7E-03	13.0E-03	5.9E-03
60	7.7E-03	976.6E-06	11.8E-03	9.2E-03	12.9E-03	8.0E-03	12.8E-03	2.6E-03
Statistics								
Min	**61.0E-06**	976.6E-06	7.1E-03	6.0E-03	11.2E-03	8.0E-03	11.3E-03	2.6E-03
Max	**7.7E-03**	9.0E-03	11.8E-03	10.3E-03	15.7E-03	22.3E-03	15.3E-03	10.7E-03
Average	**3.7E-03**	5.8E-03	9.5E-03	8.5E-03	13.3E-03	14.8E-03	13.5E-03	6.6E-03
Std Deviation	**2.6E-03**	2.7E-03	2.0E-03	1.6E-03	1.4E-03	5.1E-03	1.3E-03	2.6E-03

Measurements

Idd2p1	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	7.8E-03	5.1E-03	8.5E-03	10.3E-03	11.1E-03	11.0E-03	976.6E-06	5.6E-03
67_OUT_REF	2.5E-03	3.9E-03	11.1E-03	6.6E-03	13.5E-03	11.0E-03	6.0E-03	6.5E-03
OFF samples								
61	1.7E-03	6.9E-03	7.4E-03	1.7E-03	14.4E-03	**18.1E-03**	12.1E-03	8.6E-03
62	4.8E-03	7.6E-03	12.0E-03	7.6E-03	8.7E-03	**15.8E-03**	14.9E-03	9.1E-03
63	4.8E-03	7.4E-03	5.0E-03	10.7E-03	14.3E-03	**16.5E-03**	**15.1E-03**	6.8E-03
64	2.5E-03	1.6E-03	7.6E-03	10.2E-03	**15.4E-03**	**17.1E-03**	12.5E-03	7.3E-03
65	1.2E-03	5.1E-03	9.0E-03	6.0E-03	14.3E-03	12.8E-03	**16.4E-03**	6.7E-03
Statistics								
Min	**1.2E-03**	1.6E-03	5.0E-03	1.7E-03	8.7E-03	12.8E-03	12.1E-03	6.7E-03
Max	**4.8E-03**	7.6E-03	12.0E-03	10.7E-03	15.4E-03	18.1E-03	16.4E-03	9.1E-03
Average	**3.0E-03**	5.7E-03	8.2E-03	7.2E-03	13.4E-03	16.0E-03	14.2E-03	7.7E-03
Std Deviation	**1.7E-03**	2.5E-03	2.6E-03	3.6E-03	2.7E-03	2.0E-03	1.8E-03	1.1E-03

Parameter : Precharge standby current : Idd2n
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 20.0E-03
Spec limits are represented in bold lines on the graphic.



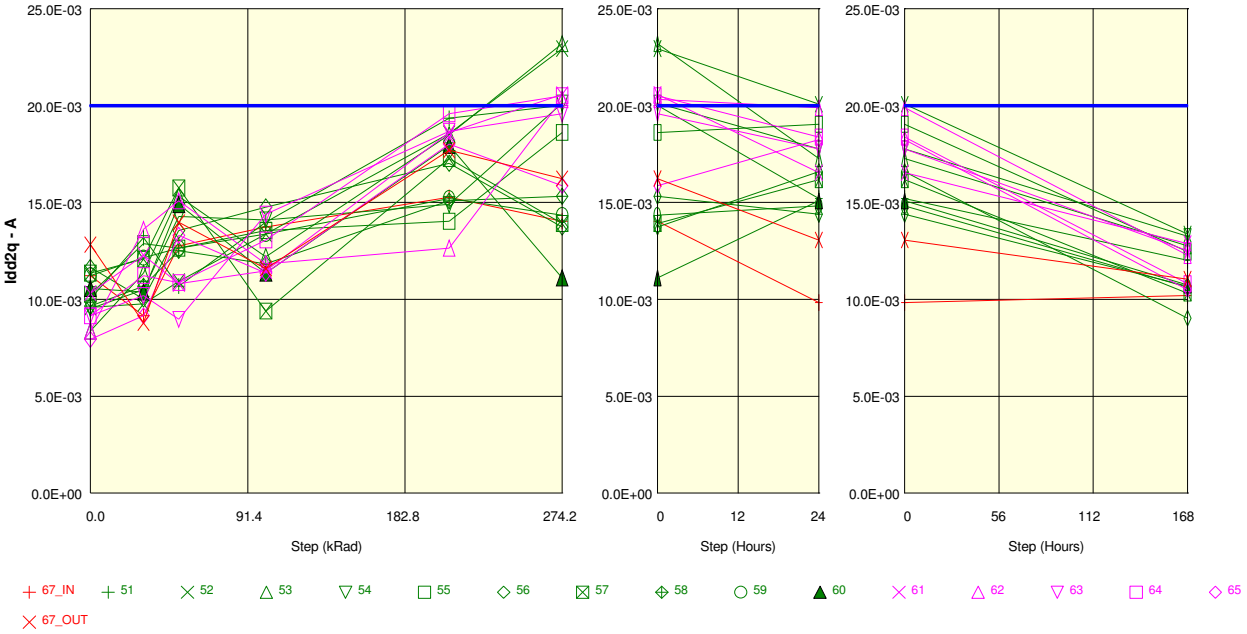
Measurements

Idd2n	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	11.9E-03	10.0E-03	11.8E-03	14.5E-03	14.3E-03	15.6E-03	13.6E-03	11.0E-03
67_OUT_REF	12.2E-03	10.4E-03	16.2E-03	13.1E-03	18.8E-03	17.2E-03	14.9E-03	12.2E-03
ON samples								
51	10.9E-03	12.3E-03	14.6E-03	14.6E-03	**21.7E-03**	**22.1E-03**	18.4E-03	13.6E-03
52	9.6E-03	11.2E-03	11.4E-03	13.1E-03	19.2E-03	**22.0E-03**	**20.1E-03**	12.6E-03
53	10.2E-03	14.4E-03	16.7E-03	11.9E-03	18.7E-03	**24.9E-03**	18.9E-03	13.6E-03
54	10.6E-03	11.7E-03	15.6E-03	14.5E-03	16.2E-03	**21.9E-03**	18.0E-03	12.3E-03
55	10.4E-03	12.6E-03	14.6E-03	15.8E-03	17.1E-03	18.8E-03	18.7E-03	13.5E-03
56	12.0E-03	11.7E-03	16.5E-03	16.3E-03	16.3E-03	15.0E-03	17.8E-03	9.9E-03
57	12.0E-03	13.7E-03	16.9E-03	11.8E-03	19.0E-03	15.1E-03	17.8E-03	11.7E-03
58	9.9E-03	13.4E-03	12.8E-03	12.5E-03	17.0E-03	16.9E-03	16.7E-03	11.2E-03
59	12.4E-03	10.7E-03	12.9E-03	13.8E-03	16.2E-03	15.1E-03	18.1E-03	11.2E-03
60	11.8E-03	11.3E-03	15.3E-03	12.9E-03	17.7E-03	12.9E-03	15.7E-03	10.7E-03
Statistics								
Min	**9.6E-03**	10.7E-03	11.4E-03	11.8E-03	16.2E-03	12.9E-03	15.7E-03	9.9E-03
Max	**12.4E-03**	14.4E-03	16.9E-03	16.3E-03	21.7E-03	24.9E-03	20.1E-03	13.6E-03
Average	**11.0E-03**	12.3E-03	14.7E-03	13.7E-03	17.9E-03	18.5E-03	18.0E-03	12.0E-03
Std Deviation	**992.5E-06**	1.2E-03	1.9E-03	1.6E-03	1.8E-03	4.0E-03	1.2E-03	1.3E-03

Measurements

Idd2n	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	11.9E-03	10.0E-03	11.8E-03	14.5E-03	14.3E-03	15.6E-03	13.6E-03	11.0E-03
67_OUT_REF	12.2E-03	10.4E-03	16.2E-03	13.1E-03	18.8E-03	17.2E-03	14.9E-03	12.2E-03
OFF samples								
61	11.8E-03	12.6E-03	11.6E-03	12.5E-03	19.7E-03	**22.6E-03**	16.3E-03	13.4E-03
62	12.0E-03	12.0E-03	17.4E-03	12.6E-03	13.6E-03	**21.1E-03**	**21.0E-03**	14.1E-03
63	10.7E-03	12.9E-03	9.8E-03	15.6E-03	19.0E-03	**21.2E-03**	**20.4E-03**	13.0E-03
64	10.1E-03	12.1E-03	12.2E-03	14.1E-03	**20.4E-03**	**21.4E-03**	18.1E-03	13.2E-03
65	11.4E-03	10.0E-03	13.2E-03	12.8E-03	19.0E-03	18.5E-03	**22.3E-03**	13.0E-03
Statistics								
Min	**10.1E-03**	10.0E-03	9.8E-03	12.5E-03	13.6E-03	18.5E-03	16.3E-03	13.0E-03
Max	**12.0E-03**	12.9E-03	17.4E-03	15.6E-03	20.4E-03	22.6E-03	22.3E-03	14.1E-03
Average	**11.2E-03**	11.9E-03	12.9E-03	13.5E-03	18.3E-03	20.9E-03	19.6E-03	13.3E-03
Std Deviation	**809.1E-06**	1.1E-03	2.8E-03	1.3E-03	2.7E-03	1.5E-03	2.4E-03	456.0E-06

Parameter : Precharge quiet standby current : Idd2q
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 20.0E-03
Spec limits are represented in bold lines on the graphic.



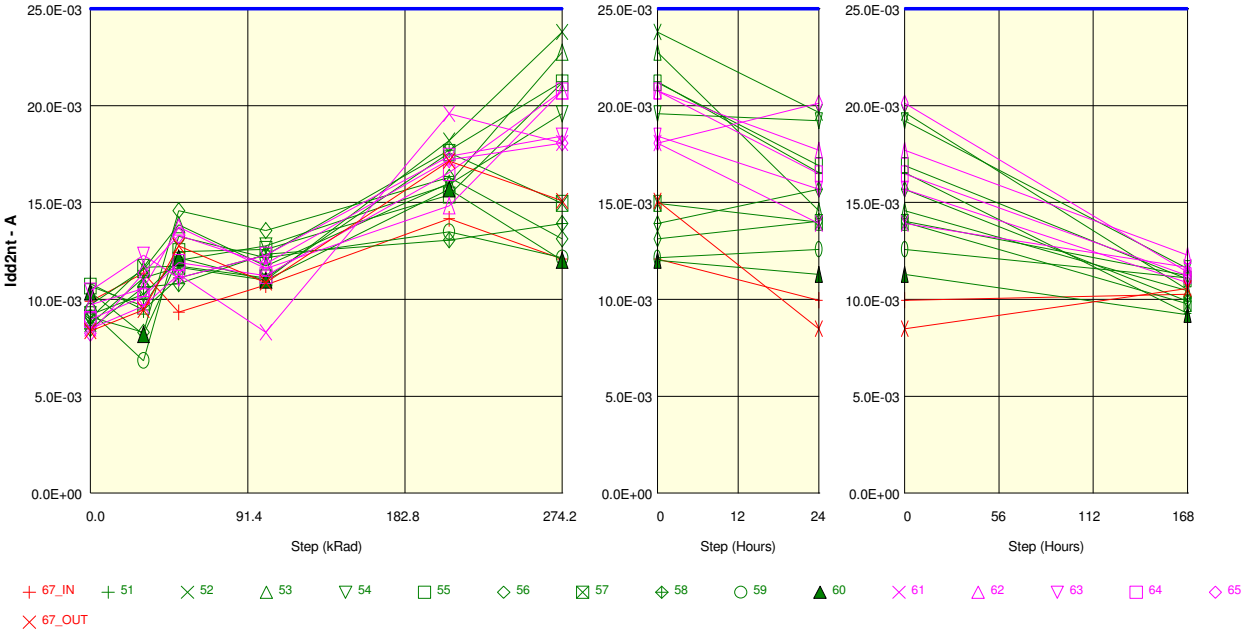
Measurements

Idd2q	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	11.2E-03	9.2E-03	12.8E-03	13.7E-03	15.3E-03	14.0E-03	9.8E-03	10.2E-03
67_OUT_REF	12.8E-03	8.8E-03	14.0E-03	11.6E-03	17.7E-03	16.2E-03	13.1E-03	11.0E-03
ON samples								
51	10.0E-03	13.2E-03	10.7E-03	14.0E-03	19.3E-03	**20.0E-03**	15.2E-03	12.0E-03
52	9.6E-03	9.8E-03	10.9E-03	13.4E-03	18.6E-03	**22.9E-03**	**20.1E-03**	13.4E-03
53	8.4E-03	11.4E-03	15.3E-03	12.2E-03	18.5E-03	**23.2E-03**	17.3E-03	12.8E-03
54	9.5E-03	10.5E-03	14.3E-03	14.1E-03	14.9E-03	**20.1E-03**	17.8E-03	13.2E-03
55	10.3E-03	12.9E-03	12.6E-03	13.6E-03	14.0E-03	18.6E-03	19.0E-03	12.5E-03
56	11.7E-03	10.0E-03	13.6E-03	14.8E-03	17.0E-03	13.7E-03	16.6E-03	9.0E-03
57	11.4E-03	12.1E-03	15.7E-03	9.4E-03	17.3E-03	13.9E-03	16.2E-03	10.3E-03
58	9.6E-03	10.7E-03	12.5E-03	11.8E-03	15.1E-03	15.3E-03	14.4E-03	10.7E-03
59	11.2E-03	12.1E-03	12.6E-03	13.4E-03	15.2E-03	14.3E-03	14.8E-03	10.6E-03
60	10.6E-03	10.4E-03	14.9E-03	11.4E-03	17.9E-03	11.1E-03	15.1E-03	10.7E-03
Statistics								
Min	**8.4E-03**	9.8E-03	10.7E-03	9.4E-03	14.0E-03	11.1E-03	14.4E-03	9.0E-03
Max	**11.7E-03**	13.2E-03	15.7E-03	14.8E-03	19.3E-03	23.2E-03	20.1E-03	13.4E-03
Average	**10.2E-03**	11.3E-03	13.3E-03	12.8E-03	16.8E-03	17.3E-03	16.6E-03	11.5E-03
Std Deviation	**1.0E-03**	1.2E-03	1.8E-03	1.6E-03	1.9E-03	4.2E-03	1.9E-03	1.4E-03

Measurements

Idd2q	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	11.2E-03	9.2E-03	12.8E-03	13.7E-03	15.3E-03	14.0E-03	9.8E-03	10.2E-03
67_OUT_REF	12.8E-03	8.8E-03	14.0E-03	11.6E-03	17.7E-03	16.2E-03	13.1E-03	11.0E-03
OFF samples								
61	10.3E-03	12.3E-03	10.8E-03	11.5E-03	18.6E-03	**20.6E-03**	16.5E-03	12.9E-03
62	8.4E-03	13.6E-03	15.1E-03	11.8E-03	12.6E-03	**20.3E-03**	19.9E-03	12.3E-03
63	9.2E-03	10.2E-03	9.0E-03	14.4E-03	18.7E-03	19.6E-03	17.8E-03	12.5E-03
64	9.2E-03	11.2E-03	10.9E-03	13.1E-03	19.6E-03	**20.5E-03**	18.4E-03	10.8E-03
65	7.9E-03	9.2E-03	13.3E-03	11.4E-03	18.0E-03	15.9E-03	18.3E-03	10.5E-03
Statistics								
Min	**7.9E-03**	9.2E-03	9.0E-03	11.4E-03	12.6E-03	15.9E-03	16.5E-03	10.5E-03
Max	**10.3E-03**	13.6E-03	15.1E-03	14.4E-03	19.6E-03	20.6E-03	19.9E-03	12.9E-03
Average	**9.0E-03**	11.3E-03	11.8E-03	12.4E-03	17.5E-03	19.4E-03	18.2E-03	11.8E-03
Std Deviation	**910.9E-06**	1.7E-03	2.4E-03	1.3E-03	2.8E-03	2.0E-03	1.2E-03	1.1E-03

Parameter : Precharge standby ODT current : Idd2nt
Test conditions : Vil=0.515. Vih=0.835
Unit : A
Spec Limit Max : 25.0E-03
Spec limits are represented in bold lines on the graphic.



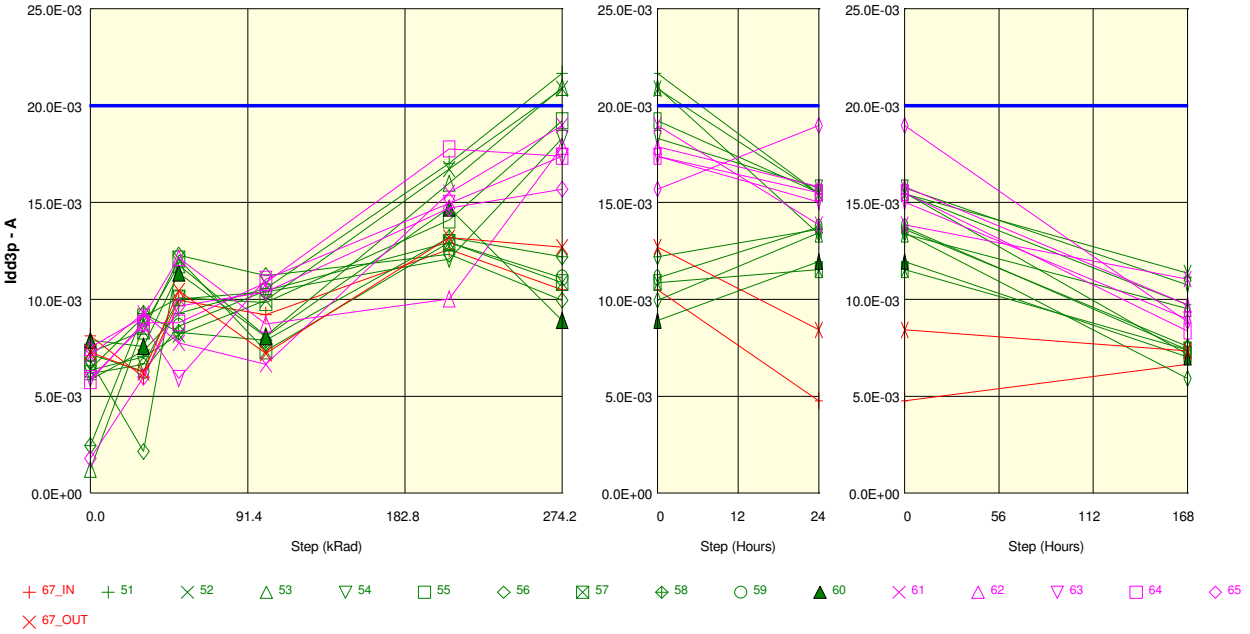
Measurements

Idd2nt	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	9.9E-03	11.4E-03	9.3E-03	10.7E-03	14.2E-03	12.1E-03	9.9E-03	10.3E-03
67_OUT_REF	8.4E-03	9.5E-03	12.8E-03	10.9E-03	17.2E-03	15.1E-03	8.5E-03	10.6E-03
ON samples								
51	10.8E-03	9.5E-03	11.1E-03	12.3E-03	17.7E-03	21.2E-03	16.5E-03	9.3E-03
52	8.7E-03	11.1E-03	11.7E-03	11.0E-03	18.2E-03	23.8E-03	19.7E-03	10.5E-03
53	9.7E-03	11.5E-03	13.9E-03	11.7E-03	16.0E-03	22.8E-03	14.6E-03	10.4E-03
54	9.2E-03	10.3E-03	12.0E-03	12.8E-03	15.9E-03	19.6E-03	19.2E-03	11.6E-03
55	10.7E-03	9.6E-03	12.5E-03	12.6E-03	15.4E-03	21.2E-03	16.9E-03	11.0E-03
56	9.1E-03	8.3E-03	14.6E-03	13.6E-03	16.3E-03	13.1E-03	14.0E-03	11.2E-03
57	9.0E-03	11.7E-03	11.7E-03	11.1E-03	17.6E-03	15.0E-03	14.0E-03	9.8E-03
58	8.5E-03	10.6E-03	10.8E-03	12.3E-03	13.1E-03	13.9E-03	15.7E-03	9.9E-03
59	9.4E-03	6.8E-03	13.2E-03	12.1E-03	13.5E-03	12.1E-03	12.6E-03	11.1E-03
60	10.4E-03	8.2E-03	12.1E-03	11.0E-03	15.7E-03	12.0E-03	11.3E-03	9.2E-03
Statistics								
Min	8.5E-03	6.8E-03	10.8E-03	11.0E-03	13.1E-03	12.0E-03	11.3E-03	9.2E-03
Max	10.8E-03	11.7E-03	14.6E-03	13.6E-03	18.2E-03	23.8E-03	19.7E-03	11.6E-03
Average	9.6E-03	9.8E-03	12.4E-03	12.0E-03	15.9E-03	17.5E-03	15.4E-03	10.4E-03
Std Deviation	814.9E-06	1.6E-03	1.2E-03	844.4E-06	1.7E-03	4.7E-03	2.7E-03	841.9E-06

Measurements

Idd2nt	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	9.9E-03	11.4E-03	9.3E-03	10.7E-03	14.2E-03	12.1E-03	9.9E-03	10.3E-03
67_OUT_REF	8.4E-03	9.5E-03	12.8E-03	10.9E-03	17.2E-03	15.1E-03	8.5E-03	10.6E-03
OFF samples								
61	8.5E-03	9.6E-03	11.3E-03	8.3E-03	19.6E-03	18.1E-03	13.9E-03	11.7E-03
62	9.7E-03	10.6E-03	13.7E-03	11.6E-03	14.8E-03	20.8E-03	17.7E-03	12.3E-03
63	10.4E-03	12.3E-03	11.1E-03	12.3E-03	17.4E-03	18.4E-03	15.7E-03	10.9E-03
64	9.0E-03	10.1E-03	11.9E-03	11.2E-03	16.5E-03	20.8E-03	16.5E-03	11.2E-03
65	8.2E-03	11.4E-03	13.3E-03	11.8E-03	17.2E-03	18.1E-03	20.1E-03	11.4E-03
Statistics								
Min	8.2E-03	9.6E-03	11.1E-03	8.3E-03	14.8E-03	18.1E-03	13.9E-03	10.9E-03
Max	10.4E-03	12.3E-03	13.7E-03	12.3E-03	19.6E-03	20.8E-03	20.1E-03	12.3E-03
Average	9.2E-03	10.8E-03	12.3E-03	11.0E-03	17.1E-03	19.2E-03	16.8E-03	11.5E-03
Std Deviation	903.7E-06	1.0E-03	1.2E-03	1.6E-03	1.7E-03	1.4E-03	2.3E-03	524.1E-06

Parameter : Active power-down current : Idd3p
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 20.0E-03
Spec limits are represented in bold lines on the graphic.



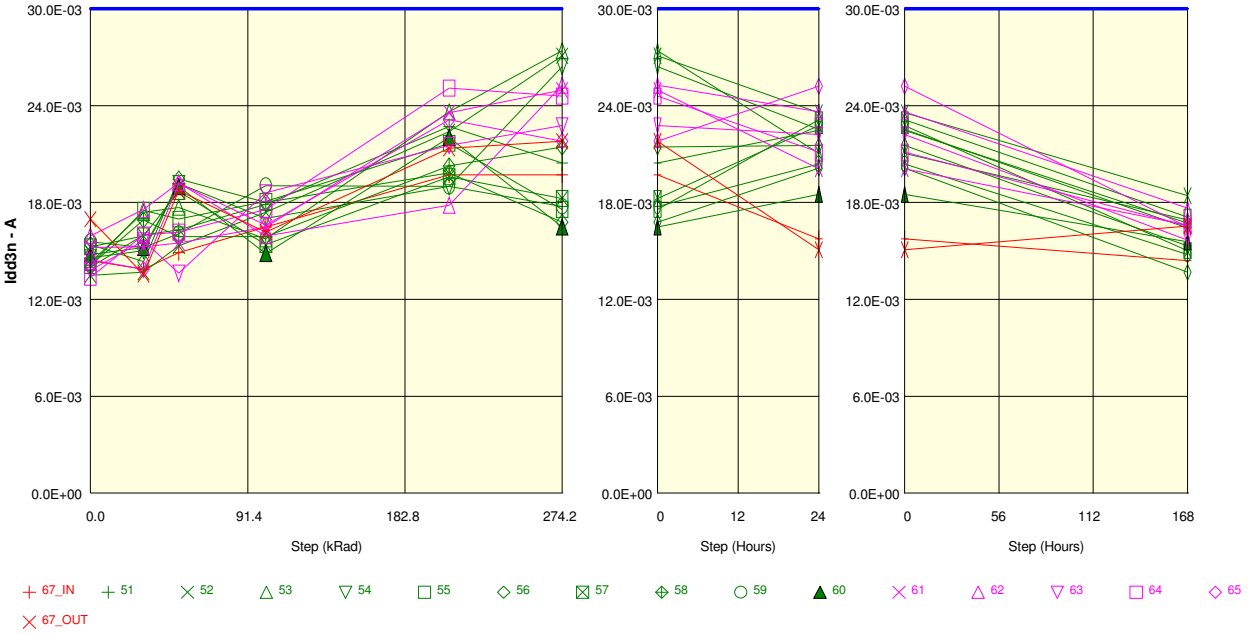
Measurements

Idd3p	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	8.1E-03	6.0E-03	9.9E-03	9.2E-03	12.6E-03	10.5E-03	4.8E-03	6.7E-03
67_OUT_REF	7.3E-03	6.2E-03	10.4E-03	7.2E-03	13.2E-03	12.7E-03	8.4E-03	7.3E-03
ON samples								
51	5.9E-03	7.3E-03	9.3E-03	10.6E-03	17.0E-03	**21.7E-03**	15.4E-03	9.7E-03
52	6.3E-03	7.0E-03	8.2E-03	9.9E-03	16.7E-03	**20.9E-03**	15.4E-03	11.4E-03
53	1.2E-03	8.6E-03	11.8E-03	8.1E-03	16.0E-03	**20.9E-03**	13.4E-03	9.5E-03
54	6.2E-03	6.7E-03	10.0E-03	10.4E-03	12.1E-03	18.3E-03	15.7E-03	10.7E-03
55	6.4E-03	9.1E-03	10.1E-03	9.8E-03	14.1E-03	19.2E-03	15.5E-03	7.1E-03
56	6.8E-03	2.1E-03	12.3E-03	11.2E-03	12.3E-03	9.9E-03	13.4E-03	5.9E-03
57	7.3E-03	8.4E-03	12.1E-03	7.3E-03	12.9E-03	10.9E-03	11.5E-03	7.4E-03
58	2.4E-03	9.3E-03	8.3E-03	7.9E-03	13.2E-03	12.2E-03	13.6E-03	7.6E-03
59	7.1E-03	6.3E-03	8.6E-03	10.4E-03	12.9E-03	11.1E-03	13.7E-03	7.4E-03
60	7.9E-03	7.6E-03	11.4E-03	8.1E-03	14.7E-03	8.9E-03	12.0E-03	7.0E-03
Statistics								
Min	**1.2E-03**	2.1E-03	8.2E-03	7.3E-03	12.1E-03	8.9E-03	11.5E-03	5.9E-03
Max	**7.9E-03**	9.3E-03	12.3E-03	11.2E-03	17.0E-03	21.7E-03	15.7E-03	11.4E-03
Average	**5.8E-03**	7.2E-03	10.2E-03	9.4E-03	14.2E-03	15.4E-03	14.0E-03	8.4E-03
Std Deviation	**2.2E-03**	2.1E-03	1.6E-03	1.4E-03	1.8E-03	5.2E-03	1.5E-03	1.8E-03

Measurements

Idd3p	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	8.1E-03	6.0E-03	9.9E-03	9.2E-03	12.6E-03	10.5E-03	4.8E-03	6.7E-03
67_OUT_REF	7.3E-03	6.2E-03	10.4E-03	7.2E-03	13.2E-03	12.7E-03	8.4E-03	7.3E-03
OFF samples								
61	7.1E-03	9.3E-03	7.8E-03	6.7E-03	15.5E-03	19.0E-03	13.9E-03	11.0E-03
62	7.5E-03	9.1E-03	12.1E-03	8.7E-03	10.0E-03	17.9E-03	15.8E-03	9.7E-03
63	5.9E-03	8.7E-03	5.9E-03	11.0E-03	15.0E-03	17.4E-03	15.0E-03	9.0E-03
64	5.8E-03	8.8E-03	8.8E-03	10.9E-03	17.8E-03	17.4E-03	15.5E-03	8.4E-03
65	1.8E-03	6.0E-03	9.6E-03	10.4E-03	14.7E-03	15.7E-03	19.0E-03	8.9E-03
Statistics								
Min	1.8E-03	6.0E-03	5.9E-03	6.7E-03	10.0E-03	15.7E-03	13.9E-03	8.4E-03
Max	7.5E-03	9.3E-03	12.1E-03	11.0E-03	17.8E-03	19.0E-03	19.0E-03	11.0E-03
Average	5.6E-03	8.4E-03	8.9E-03	9.5E-03	14.6E-03	17.5E-03	15.8E-03	9.4E-03
Std Deviation	2.3E-03	1.4E-03	2.3E-03	1.9E-03	2.8E-03	1.2E-03	1.9E-03	1.0E-03

Parameter : Active standby current : Idd3n
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 30.0E-03
Spec limits are represented in bold lines on the graphic.



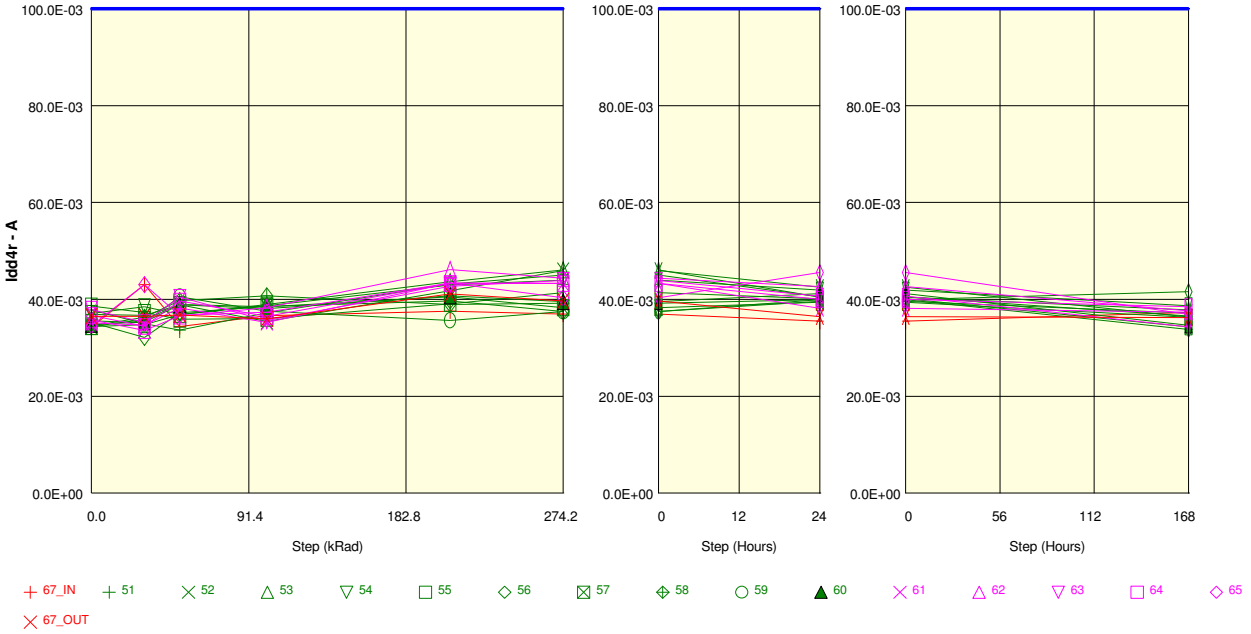
Measurements

Idd3n	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	14.4E-03	13.9E-03	14.9E-03	16.5E-03	19.7E-03	19.7E-03	15.7E-03	14.4E-03
67_OUT_REF	17.0E-03	13.6E-03	18.7E-03	16.2E-03	21.4E-03	21.8E-03	15.1E-03	16.5E-03
ON samples								
51	14.0E-03	16.0E-03	16.3E-03	17.9E-03	22.7E-03	20.4E-03	22.5E-03	16.7E-03
52	13.5E-03	13.7E-03	15.3E-03	17.4E-03	22.4E-03	27.1E-03	23.6E-03	18.4E-03
53	14.3E-03	17.4E-03	17.7E-03	15.7E-03	23.6E-03	27.4E-03	21.1E-03	16.9E-03
54	14.6E-03	15.0E-03	19.2E-03	17.0E-03	19.0E-03	26.4E-03	22.5E-03	16.4E-03
55	14.1E-03	17.5E-03	17.0E-03	18.1E-03	21.7E-03	17.6E-03	23.1E-03	17.1E-03
56	15.4E-03	14.3E-03	19.5E-03	18.0E-03	19.8E-03	16.8E-03	20.1E-03	13.7E-03
57	15.3E-03	15.9E-03	18.7E-03	15.4E-03	19.6E-03	18.3E-03	22.8E-03	15.0E-03
58	14.1E-03	16.9E-03	15.9E-03	15.9E-03	20.3E-03	21.4E-03	21.5E-03	15.3E-03
59	15.6E-03	15.2E-03	16.1E-03	19.0E-03	19.0E-03	17.8E-03	20.4E-03	14.8E-03
60	14.8E-03	15.2E-03	19.0E-03	14.8E-03	22.0E-03	16.5E-03	18.5E-03	15.6E-03
Statistics								
Min	13.5E-03	13.7E-03	15.3E-03	14.8E-03	19.0E-03	16.5E-03	18.5E-03	13.7E-03
Max	15.6E-03	17.5E-03	19.5E-03	19.0E-03	23.6E-03	27.4E-03	23.6E-03	18.4E-03
Average	14.6E-03	15.7E-03	17.4E-03	16.9E-03	21.0E-03	21.0E-03	21.6E-03	16.0E-03
Std Deviation	683.5E-06	1.3E-03	1.5E-03	1.4E-03	1.7E-03	4.4E-03	1.6E-03	1.4E-03

Measurements

Idd3n	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	14.4E-03	13.9E-03	14.9E-03	16.5E-03	19.7E-03	19.7E-03	15.7E-03	14.4E-03
67_OUT_REF	17.0E-03	13.6E-03	18.7E-03	16.2E-03	21.4E-03	21.8E-03	15.1E-03	16.5E-03
OFF samples								
61	15.2E-03	15.3E-03	15.5E-03	16.5E-03	23.6E-03	25.0E-03	20.1E-03	16.6E-03
62	15.9E-03	17.6E-03	19.2E-03	15.9E-03	17.8E-03	25.3E-03	23.6E-03	17.6E-03
63	13.8E-03	15.6E-03	13.6E-03	18.6E-03	21.5E-03	22.8E-03	22.2E-03	15.7E-03
64	13.4E-03	16.0E-03	16.2E-03	17.6E-03	25.1E-03	24.6E-03	21.1E-03	16.5E-03
65	14.5E-03	13.9E-03	19.2E-03	16.6E-03	23.1E-03	21.8E-03	25.2E-03	16.5E-03
Statistics								
Min	13.4E-03	13.9E-03	13.6E-03	15.9E-03	17.8E-03	21.8E-03	20.1E-03	15.7E-03
Max	15.9E-03	17.6E-03	19.2E-03	18.6E-03	25.1E-03	25.3E-03	25.2E-03	17.6E-03
Average	14.6E-03	15.7E-03	16.7E-03	17.0E-03	22.2E-03	23.9E-03	22.4E-03	16.6E-03
Std Deviation	1.0E-03	1.3E-03	2.4E-03	1.1E-03	2.8E-03	1.5E-03	2.0E-03	695.1E-06

Parameter : Burst read operating current : Idd4r
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 100.0E-03
Spec limits are represented in bold lines on the graphic.



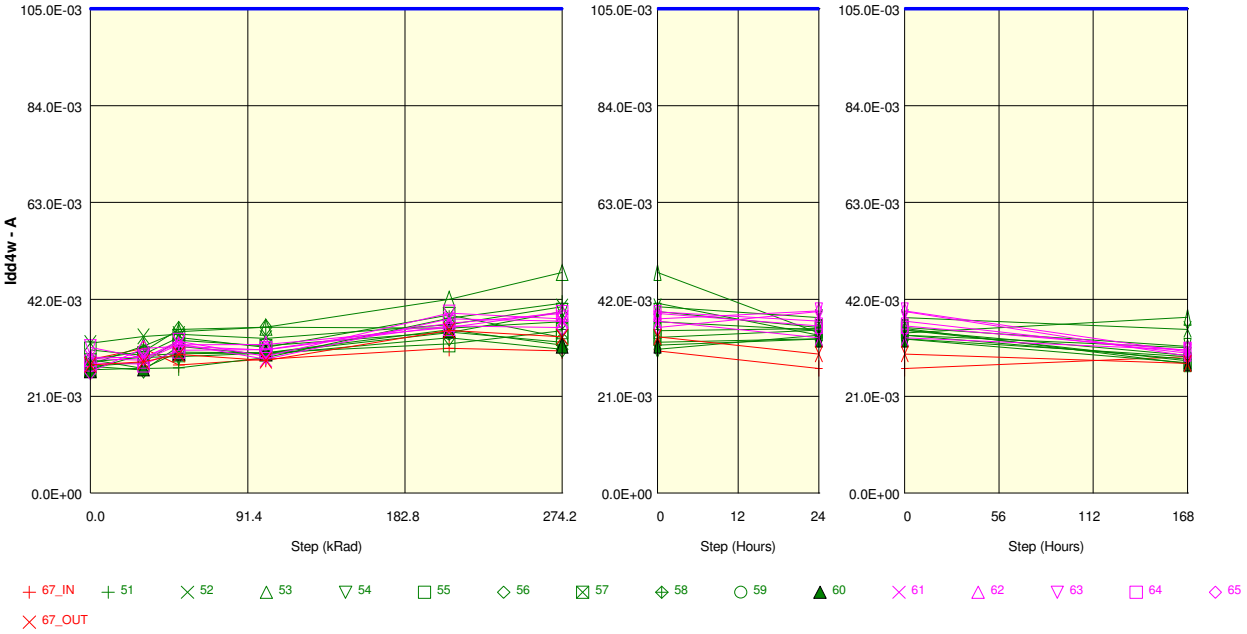
Measurements

Idd4r	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	34.2E-03	43.0E-03	34.4E-03	36.6E-03	37.6E-03	37.0E-03	35.5E-03	37.3E-03
67_OUT_REF	36.5E-03	36.5E-03	36.8E-03	36.0E-03	41.1E-03	39.7E-03	36.4E-03	36.3E-03
ON samples								
51	37.8E-03	35.0E-03	33.6E-03	37.2E-03	43.2E-03	45.1E-03	40.5E-03	36.6E-03
52	36.9E-03	36.7E-03	38.8E-03	35.5E-03	41.7E-03	46.0E-03	42.5E-03	36.4E-03
53	34.4E-03	34.8E-03	36.9E-03	38.9E-03	43.6E-03	46.1E-03	40.5E-03	37.8E-03
54	37.1E-03	38.5E-03	36.9E-03	38.6E-03	43.0E-03	43.9E-03	41.9E-03	38.6E-03
55	38.6E-03	37.3E-03	35.9E-03	36.1E-03	39.1E-03	41.4E-03	40.1E-03	34.3E-03
56	35.2E-03	32.1E-03	37.2E-03	38.5E-03	39.7E-03	37.5E-03	39.9E-03	41.6E-03
57	34.4E-03	35.8E-03	38.9E-03	38.5E-03	40.5E-03	38.3E-03	39.4E-03	36.3E-03
58	34.5E-03	36.3E-03	39.7E-03	40.7E-03	38.9E-03	39.2E-03	39.9E-03	33.8E-03
59	35.6E-03	35.2E-03	40.5E-03	37.6E-03	35.6E-03	37.5E-03	39.6E-03	37.2E-03
60	34.9E-03	35.3E-03	38.8E-03	38.1E-03	40.7E-03	39.5E-03	41.1E-03	34.7E-03
Statistics								
Min	34.4E-03	32.1E-03	33.6E-03	35.5E-03	35.6E-03	37.5E-03	39.4E-03	33.8E-03
Max	38.6E-03	38.5E-03	40.5E-03	40.7E-03	43.6E-03	46.1E-03	42.5E-03	41.6E-03
Average	35.9E-03	35.7E-03	37.7E-03	38.0E-03	40.6E-03	41.4E-03	40.5E-03	36.7E-03
Std Deviation	1.6E-03	1.7E-03	2.0E-03	1.5E-03	2.4E-03	3.5E-03	1.0E-03	2.3E-03

Measurements

Idd4r	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	34.2E-03	43.0E-03	34.4E-03	36.6E-03	37.6E-03	37.0E-03	35.5E-03	37.3E-03
67_OUT_REF	36.5E-03	36.5E-03	36.8E-03	36.0E-03	41.1E-03	39.7E-03	36.4E-03	36.3E-03
OFF samples								
61	35.2E-03	34.7E-03	38.2E-03	35.2E-03	43.4E-03	43.3E-03	38.1E-03	37.4E-03
62	35.8E-03	33.6E-03	36.6E-03	38.3E-03	46.1E-03	44.4E-03	42.7E-03	37.7E-03
63	37.9E-03	35.2E-03	40.4E-03	35.6E-03	42.7E-03	43.9E-03	40.6E-03	34.3E-03
64	36.7E-03	34.4E-03	39.6E-03	36.5E-03	43.3E-03	43.3E-03	40.0E-03	38.5E-03
65	34.6E-03	43.0E-03	36.7E-03	37.4E-03	43.4E-03	40.3E-03	45.5E-03	36.9E-03
Statistics								
Min	34.6E-03	33.6E-03	36.6E-03	35.2E-03	42.7E-03	40.3E-03	38.1E-03	34.3E-03
Max	37.9E-03	43.0E-03	40.4E-03	38.3E-03	46.1E-03	44.4E-03	45.5E-03	38.5E-03
Average	36.0E-03	36.2E-03	38.3E-03	36.6E-03	43.8E-03	43.0E-03	41.4E-03	36.9E-03
Std Deviation	1.3E-03	3.9E-03	1.7E-03	1.2E-03	1.3E-03	1.6E-03	2.8E-03	1.6E-03

Parameter : Burst write operating current : Idd4w
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 105.0E-03
Spec limits are represented in bold lines on the graphic.



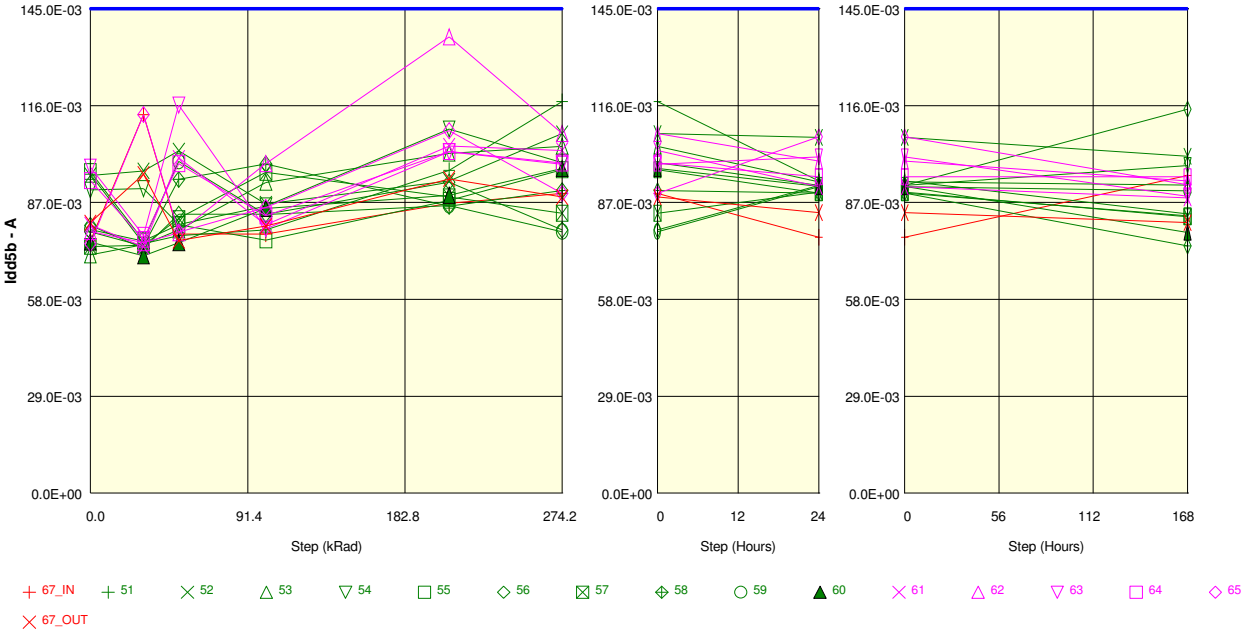
Measurements

Idd4w	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	28.9E-03	31.4E-03	27.8E-03	29.0E-03	31.4E-03	30.8E-03	27.0E-03	29.6E-03
67_OUT_REF	27.8E-03	28.4E-03	30.1E-03	28.7E-03	35.2E-03	33.8E-03	30.2E-03	28.1E-03
ON samples								
51	28.9E-03	27.0E-03	27.2E-03	29.4E-03	37.9E-03	41.2E-03	34.2E-03	29.0E-03
52	32.5E-03	34.0E-03	34.4E-03	33.5E-03	36.5E-03	40.4E-03	38.0E-03	35.5E-03
53	27.9E-03	31.9E-03	35.0E-03	36.0E-03	42.0E-03	47.8E-03	34.7E-03	38.1E-03
54	28.5E-03	29.4E-03	29.5E-03	30.3E-03	34.8E-03	39.4E-03	35.9E-03	31.8E-03
55	31.0E-03	29.8E-03	30.2E-03	30.4E-03	32.3E-03	35.2E-03	35.7E-03	28.0E-03
56	27.5E-03	26.6E-03	31.8E-03	30.0E-03	33.6E-03	31.2E-03	34.2E-03	31.5E-03
57	26.8E-03	30.0E-03	33.7E-03	31.6E-03	38.6E-03	33.7E-03	35.3E-03	28.7E-03
58	28.9E-03	30.6E-03	35.5E-03	36.0E-03	35.8E-03	37.2E-03	35.3E-03	29.8E-03
59	27.5E-03	28.3E-03	33.1E-03	31.9E-03	34.9E-03	32.7E-03	33.4E-03	29.6E-03
60	26.7E-03	27.1E-03	30.5E-03	30.4E-03	35.4E-03	32.0E-03	33.4E-03	28.3E-03
Statistics								
Min	26.7E-03	26.6E-03	27.2E-03	29.4E-03	32.3E-03	31.2E-03	33.4E-03	28.0E-03
Max	32.5E-03	34.0E-03	35.5E-03	36.0E-03	42.0E-03	47.8E-03	38.0E-03	38.1E-03
Average	28.6E-03	29.5E-03	32.1E-03	31.9E-03	36.2E-03	37.1E-03	35.0E-03	31.0E-03
Std Deviation	1.9E-03	2.3E-03	2.7E-03	2.4E-03	2.8E-03	5.2E-03	1.4E-03	3.3E-03

Measurements

Idd4w	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	28.9E-03	31.4E-03	27.8E-03	29.0E-03	31.4E-03	30.8E-03	27.0E-03	29.6E-03
67_OUT_REF	27.8E-03	28.4E-03	30.1E-03	28.7E-03	35.2E-03	33.8E-03	30.2E-03	28.1E-03
OFF samples								
61	29.4E-03	29.4E-03	32.3E-03	29.0E-03	37.7E-03	37.3E-03	33.6E-03	31.0E-03
62	29.1E-03	28.8E-03	32.1E-03	32.2E-03	35.9E-03	39.2E-03	37.3E-03	30.3E-03
63	31.6E-03	29.3E-03	32.9E-03	29.7E-03	39.0E-03	37.8E-03	39.5E-03	30.6E-03
64	28.2E-03	28.0E-03	30.9E-03	31.1E-03	36.8E-03	38.9E-03	36.3E-03	30.9E-03
65	26.2E-03	31.4E-03	31.8E-03	31.0E-03	36.3E-03	35.9E-03	39.4E-03	29.7E-03
Statistics								
Min	26.2E-03	28.0E-03	30.9E-03	29.0E-03	35.9E-03	35.9E-03	33.6E-03	29.7E-03
Max	31.6E-03	31.4E-03	32.9E-03	32.2E-03	39.0E-03	39.2E-03	39.5E-03	31.0E-03
Average	28.9E-03	29.4E-03	32.0E-03	30.6E-03	37.1E-03	37.8E-03	37.2E-03	30.5E-03
Std Deviation	1.9E-03	1.3E-03	723.0E-06	1.3E-03	1.3E-03	1.4E-03	2.4E-03	521.7E-06

Parameter : Burst auto refresh current : Idd5b
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 145.0E-03
Spec limits are represented in bold lines on the graphic.



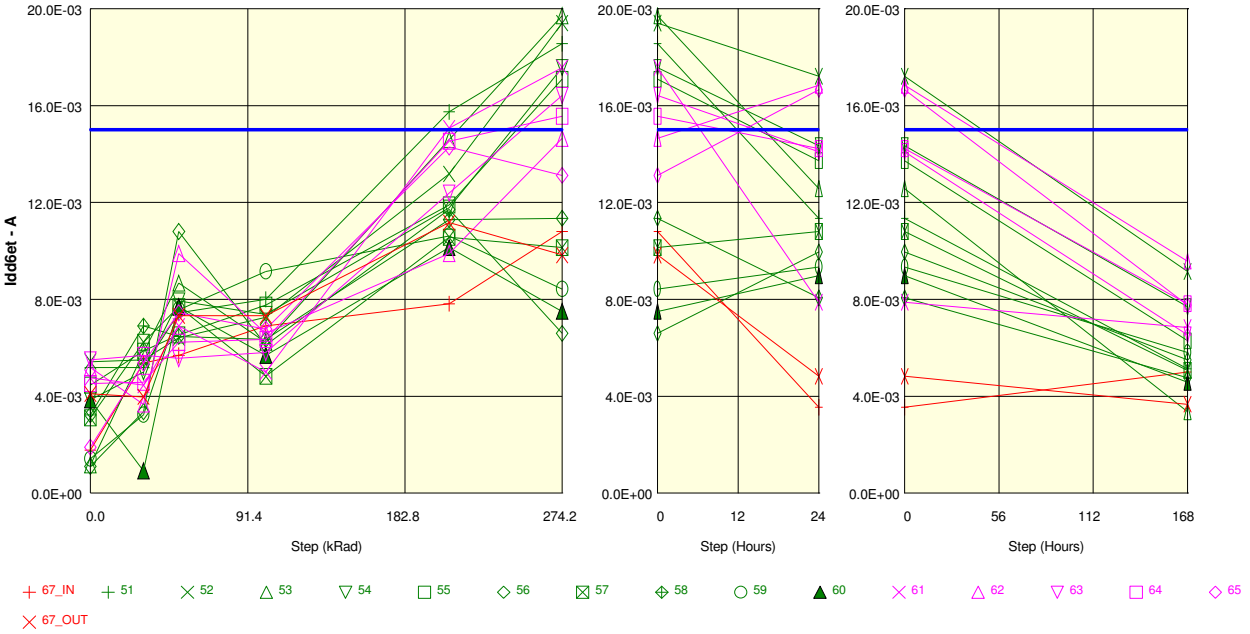
Measurements

Idd5b	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	75.4E-03	113.3E-03	77.6E-03	77.5E-03	86.7E-03	89.7E-03	76.6E-03	95.0E-03
67_OUT_REF	80.9E-03	95.5E-03	75.6E-03	79.9E-03	94.1E-03	88.6E-03	84.0E-03	81.0E-03
ON samples								
51	95.5E-03	74.7E-03	77.1E-03	78.7E-03	96.6E-03	117.2E-03	93.5E-03	83.6E-03
52	95.1E-03	96.5E-03	102.5E-03	86.6E-03	93.4E-03	107.6E-03	106.5E-03	100.9E-03
53	71.3E-03	74.4E-03	78.7E-03	93.0E-03	101.8E-03	103.9E-03	93.2E-03	92.2E-03
54	90.8E-03	91.2E-03	80.4E-03	85.9E-03	109.0E-03	98.9E-03	92.2E-03	98.0E-03
55	96.3E-03	75.5E-03	80.3E-03	75.8E-03	87.6E-03	96.8E-03	89.8E-03	82.9E-03
56	80.2E-03	73.2E-03	83.6E-03	83.6E-03	93.1E-03	78.7E-03	92.2E-03	114.9E-03
57	73.9E-03	74.2E-03	82.2E-03	96.0E-03	88.7E-03	83.8E-03	90.1E-03	82.8E-03
58	78.2E-03	73.9E-03	93.9E-03	98.6E-03	85.9E-03	90.6E-03	89.8E-03	74.0E-03
59	78.9E-03	75.4E-03	99.2E-03	83.4E-03	86.1E-03	78.2E-03	91.7E-03	90.5E-03
60	75.1E-03	71.0E-03	75.0E-03	85.2E-03	89.2E-03	97.2E-03	91.8E-03	78.1E-03
Statistics								
Min	71.3E-03	71.0E-03	75.0E-03	75.8E-03	85.9E-03	78.2E-03	89.8E-03	74.0E-03
Max	96.3E-03	96.5E-03	102.5E-03	98.6E-03	109.0E-03	117.2E-03	106.5E-03	114.9E-03
Average	83.5E-03	78.0E-03	85.3E-03	86.7E-03	93.2E-03	95.3E-03	93.1E-03	89.8E-03
Std Deviation	9.8E-03	8.5E-03	9.7E-03	7.2E-03	7.5E-03	12.7E-03	4.9E-03	12.3E-03

Measurements

Idd5b	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	75.4E-03	113.3E-03	77.6E-03	77.5E-03	86.7E-03	89.7E-03	76.6E-03	95.0E-03
67_OUT_REF	80.9E-03	95.5E-03	75.6E-03	79.9E-03	94.1E-03	88.6E-03	84.0E-03	81.0E-03
OFF samples								
61	80.4E-03	73.8E-03	100.3E-03	80.4E-03	103.9E-03	102.6E-03	91.7E-03	88.3E-03
62	78.3E-03	75.0E-03	77.9E-03	98.7E-03	136.6E-03	107.6E-03	99.4E-03	93.5E-03
63	97.6E-03	77.2E-03	116.2E-03	79.1E-03	102.2E-03	98.5E-03	100.7E-03	88.9E-03
64	93.6E-03	76.0E-03	98.6E-03	83.0E-03	102.3E-03	98.8E-03	94.7E-03	94.7E-03
65	74.7E-03	113.3E-03	78.2E-03	85.6E-03	108.5E-03	89.7E-03	106.6E-03	92.3E-03
Statistics								
Min	74.7E-03	73.8E-03	77.9E-03	79.1E-03	102.2E-03	89.7E-03	91.7E-03	88.3E-03
Max	97.6E-03	113.3E-03	116.2E-03	98.7E-03	136.6E-03	107.6E-03	106.6E-03	94.7E-03
Average	84.9E-03	83.1E-03	94.2E-03	85.4E-03	110.7E-03	99.4E-03	98.6E-03	91.6E-03
Std Deviation	10.1E-03	17.0E-03	16.3E-03	7.9E-03	14.7E-03	6.6E-03	5.7E-03	2.8E-03

Parameter : Extended temperature self refresh : Idd6et
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 15.0E-03
Spec limits are represented in bold lines on the graphic.



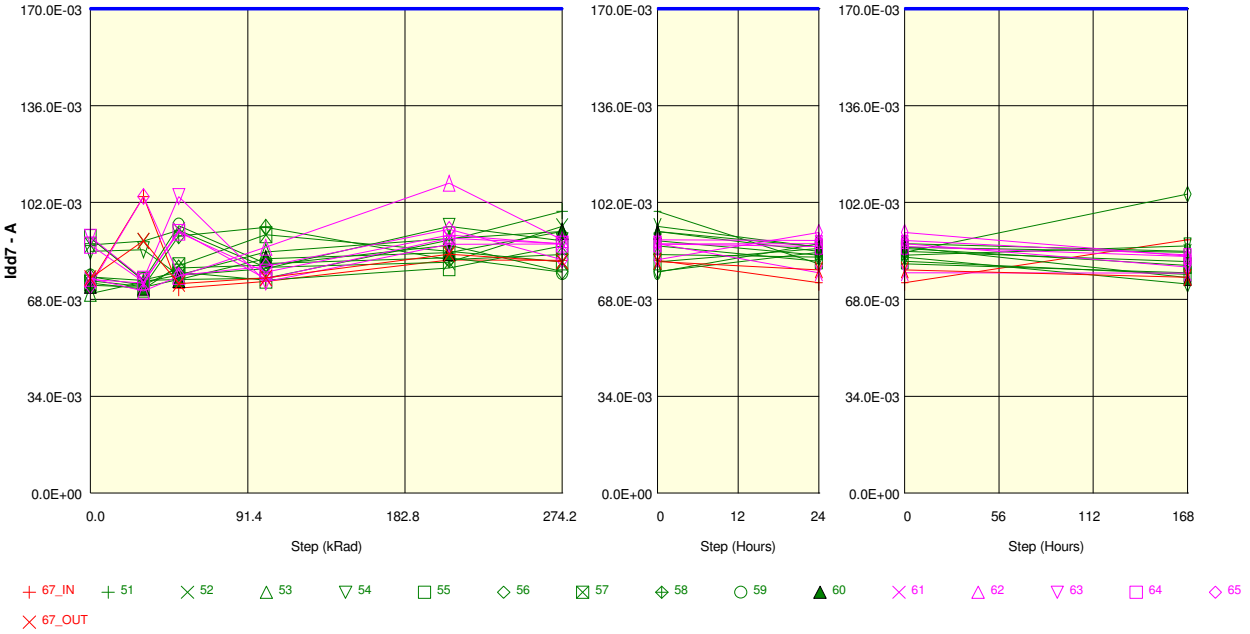
Measurements

Idd6et	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.8E-03	5.4E-03	5.7E-03	6.9E-03	7.8E-03	10.8E-03	3.5E-03	5.0E-03
67_OUT_REF	4.1E-03	4.0E-03	7.3E-03	7.3E-03	11.2E-03	9.8E-03	4.8E-03	3.7E-03
ON samples								
51	5.2E-03	5.2E-03	7.4E-03	8.0E-03	**15.7E-03**	**18.6E-03**	11.4E-03	5.1E-03
52	5.4E-03	5.5E-03	6.4E-03	7.3E-03	13.2E-03	**19.4E-03**	**17.2E-03**	9.2E-03
53	1.2E-03	5.8E-03	8.7E-03	6.2E-03	14.6E-03	**19.7E-03**	12.6E-03	3.4E-03
54	3.8E-03	5.0E-03	7.9E-03	7.4E-03	11.8E-03	**17.6E-03**	14.3E-03	7.7E-03
55	4.5E-03	5.9E-03	6.5E-03	7.8E-03	11.9E-03	**17.1E-03**	13.7E-03	6.3E-03
56	1.1E-03	3.4E-03	10.8E-03	6.1E-03	11.7E-03	6.6E-03	9.9E-03	5.5E-03
57	3.1E-03	6.2E-03	7.7E-03	4.8E-03	10.6E-03	10.1E-03	10.8E-03	5.1E-03
58	3.2E-03	6.9E-03	6.5E-03	6.3E-03	11.3E-03	11.4E-03	8.1E-03	4.8E-03
59	1.4E-03	3.2E-03	7.6E-03	9.2E-03	10.6E-03	8.4E-03	9.3E-03	5.8E-03
60	3.8E-03	915.5E-06	7.7E-03	5.7E-03	10.1E-03	7.5E-03	9.0E-03	4.6E-03
Statistics								
Min	**1.1E-03**	915.5E-06	6.4E-03	4.8E-03	10.1E-03	6.6E-03	8.1E-03	3.4E-03
Max	**5.4E-03**	6.9E-03	10.8E-03	9.2E-03	15.7E-03	19.7E-03	17.2E-03	9.2E-03
Average	**3.3E-03**	4.8E-03	7.7E-03	6.9E-03	12.2E-03	13.6E-03	11.6E-03	5.7E-03
Std Deviation	**1.6E-03**	1.8E-03	1.3E-03	1.3E-03	1.8E-03	5.3E-03	2.8E-03	1.7E-03

Measurements

Idd6et	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.8E-03	5.4E-03	5.7E-03	6.9E-03	7.8E-03	10.8E-03	3.5E-03	5.0E-03
67_OUT_REF	4.1E-03	4.0E-03	7.3E-03	7.3E-03	11.2E-03	9.8E-03	4.8E-03	3.7E-03
OFF samples								
61	4.8E-03	4.5E-03	6.9E-03	5.0E-03	**15.1E-03**	**17.6E-03**	7.9E-03	6.8E-03
62	5.2E-03	3.7E-03	9.9E-03	6.6E-03	9.9E-03	14.6E-03	**16.8E-03**	9.6E-03
63	5.5E-03	5.7E-03	5.6E-03	5.8E-03	12.4E-03	**16.4E-03**	14.1E-03	6.5E-03
64	4.5E-03	4.6E-03	6.2E-03	6.3E-03	14.5E-03	**15.6E-03**	14.2E-03	7.8E-03
65	1.9E-03	5.4E-03	7.4E-03	6.8E-03	14.3E-03	13.1E-03	**16.7E-03**	7.8E-03
Statistics								
Min	**1.9E-03**	3.7E-03	5.6E-03	5.0E-03	9.9E-03	13.1E-03	7.9E-03	6.5E-03
Max	**5.5E-03**	5.7E-03	9.9E-03	6.8E-03	15.1E-03	17.6E-03	16.8E-03	9.6E-03
Average	**4.4E-03**	4.7E-03	7.2E-03	6.1E-03	13.2E-03	15.5E-03	13.9E-03	7.7E-03
Std Deviation	**1.4E-03**	797.4E-06	1.7E-03	715.7E-06	2.1E-03	1.7E-03	3.6E-03	1.2E-03

Parameter : All banks interleaved read current : Idd7
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 170.0E-03
Spec limits are represented in bold lines on the graphic.



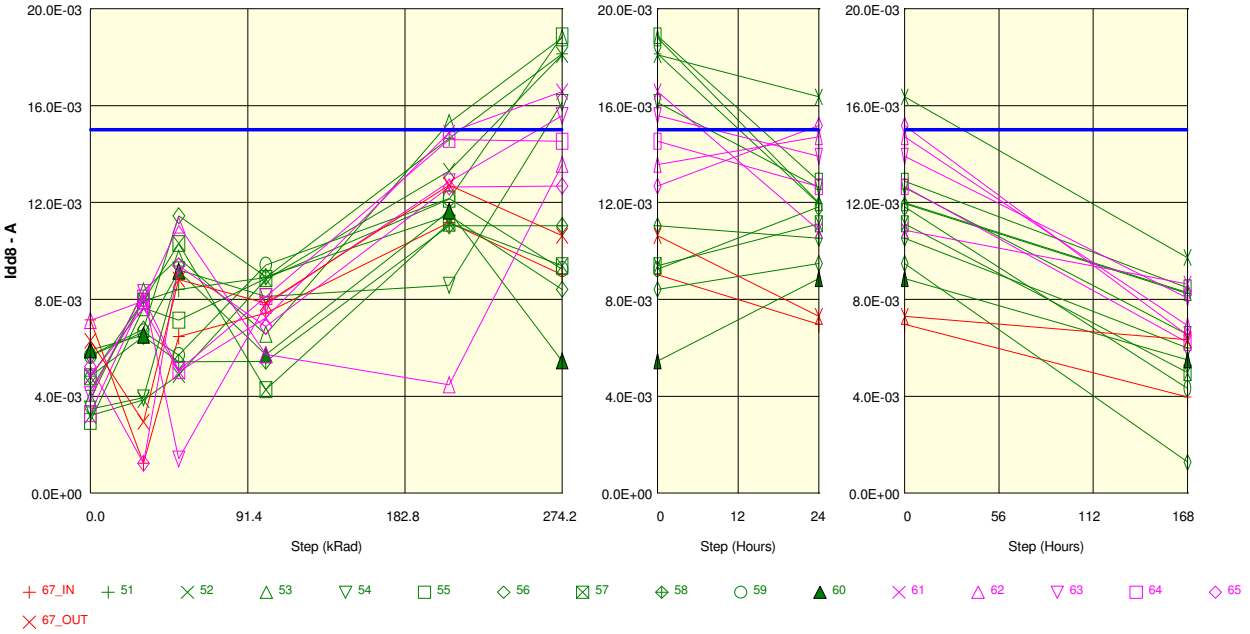
Measurements

Idd7	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	73.4E-03	104.1E-03	72.0E-03	74.3E-03	81.8E-03	81.7E-03	73.9E-03	88.9E-03
67_OUT_REF	75.4E-03	88.6E-03	73.5E-03	75.6E-03	83.9E-03	81.3E-03	78.3E-03	75.7E-03
ON samples								
51	89.6E-03	74.6E-03	75.0E-03	75.4E-03	88.7E-03	99.0E-03	80.5E-03	77.3E-03
52	87.1E-03	88.4E-03	92.2E-03	79.2E-03	81.0E-03	93.6E-03	86.3E-03	84.5E-03
53	70.1E-03	74.0E-03	76.6E-03	84.7E-03	89.4E-03	91.8E-03	84.8E-03	81.2E-03
54	84.8E-03	85.4E-03	76.4E-03	78.9E-03	93.6E-03	88.5E-03	83.4E-03	86.7E-03
55	89.7E-03	74.8E-03	77.6E-03	74.7E-03	79.0E-03	86.8E-03	81.4E-03	76.8E-03
56	76.0E-03	73.0E-03	79.0E-03	80.1E-03	87.0E-03	77.8E-03	84.5E-03	104.9E-03
57	73.7E-03	71.7E-03	79.7E-03	90.7E-03	84.8E-03	81.1E-03	85.9E-03	79.8E-03
58	74.5E-03	72.6E-03	90.3E-03	93.3E-03	82.0E-03	83.7E-03	82.8E-03	73.4E-03
59	75.8E-03	74.6E-03	93.8E-03	80.6E-03	82.6E-03	77.5E-03	87.6E-03	84.8E-03
60	73.0E-03	72.3E-03	75.0E-03	82.3E-03	84.4E-03	91.9E-03	86.5E-03	75.6E-03
Statistics								
Min	70.1E-03	71.7E-03	75.0E-03	74.7E-03	79.0E-03	77.5E-03	80.5E-03	73.4E-03
Max	89.7E-03	88.4E-03	93.8E-03	93.3E-03	93.6E-03	99.0E-03	87.6E-03	104.9E-03
Average	79.4E-03	76.1E-03	81.6E-03	82.0E-03	85.2E-03	87.2E-03	84.4E-03	82.5E-03
Std Deviation	7.5E-03	5.8E-03	7.5E-03	6.0E-03	4.4E-03	7.1E-03	2.3E-03	9.0E-03

Measurements

Idd7	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	73.4E-03	104.1E-03	72.0E-03	74.3E-03	81.8E-03	81.7E-03	73.9E-03	88.9E-03
67_OUT_REF	75.4E-03	88.6E-03	73.5E-03	75.6E-03	83.9E-03	81.3E-03	78.3E-03	75.7E-03
OFF samples								
61	75.0E-03	73.7E-03	92.1E-03	75.3E-03	89.4E-03	87.6E-03	77.3E-03	77.2E-03
62	75.4E-03	70.9E-03	76.1E-03	86.2E-03	108.8E-03	89.0E-03	88.6E-03	83.6E-03
63	89.8E-03	75.1E-03	104.1E-03	74.2E-03	87.3E-03	87.4E-03	87.6E-03	79.3E-03
64	87.0E-03	74.2E-03	91.6E-03	77.6E-03	90.6E-03	87.4E-03	86.6E-03	83.1E-03
65	72.8E-03	104.1E-03	76.4E-03	79.6E-03	92.5E-03	81.9E-03	91.6E-03	83.1E-03
Statistics								
Min	72.8E-03	70.9E-03	76.1E-03	74.2E-03	87.3E-03	81.9E-03	77.3E-03	77.2E-03
Max	89.8E-03	104.1E-03	104.1E-03	86.2E-03	108.8E-03	89.0E-03	91.6E-03	83.6E-03
Average	80.0E-03	79.6E-03	88.1E-03	78.6E-03	93.7E-03	86.7E-03	86.3E-03	81.3E-03
Std Deviation	7.8E-03	13.8E-03	11.9E-03	4.8E-03	8.6E-03	2.7E-03	5.4E-03	2.8E-03

Parameter : Reset current : Idd8
Test conditions : VilAC160. VihAC160. RST=0V or VDDQ
Unit : A
Spec Limit Max : 15.0E-03
Spec limits are represented in bold lines on the graphic.



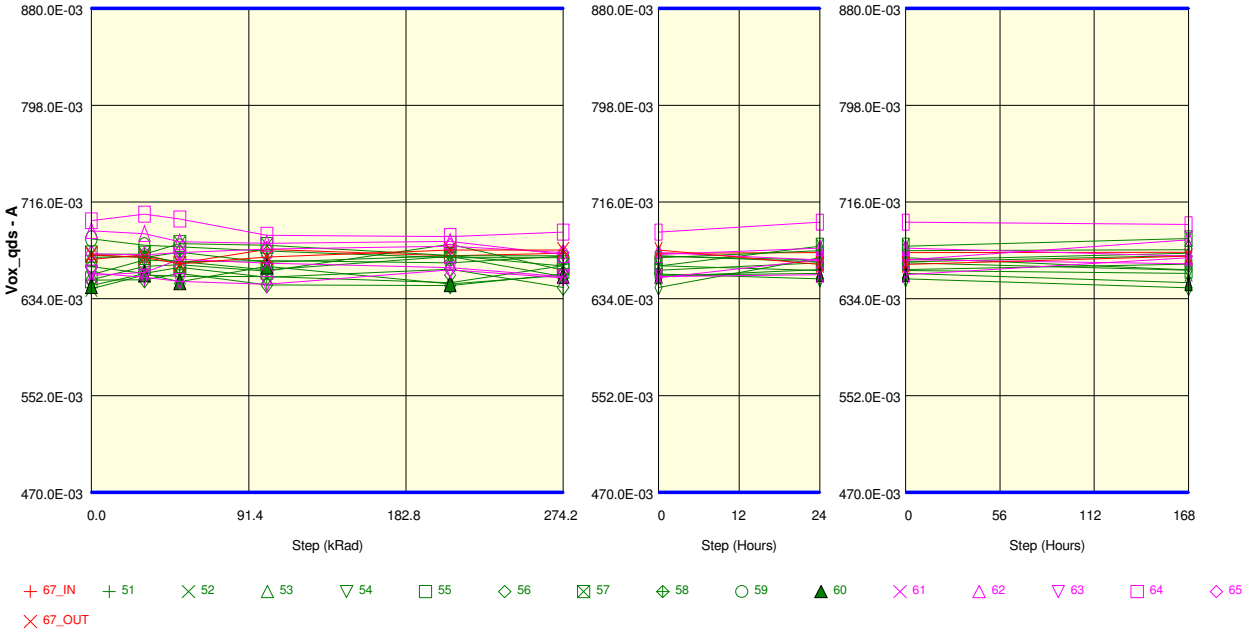
Measurements

Idd8	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	7.2E-03	1.2E-03	6.5E-03	7.4E-03	11.2E-03	9.0E-03	7.0E-03	4.0E-03
67_OUT_REF	6.3E-03	2.9E-03	8.8E-03	7.8E-03	12.7E-03	10.6E-03	7.3E-03	6.3E-03
ON samples								
51	4.2E-03	7.9E-03	8.4E-03	8.9E-03	14.7E-03	**18.1E-03**	12.0E-03	8.2E-03
52	3.2E-03	3.8E-03	4.9E-03	8.8E-03	13.3E-03	**18.1E-03**	**16.4E-03**	9.7E-03
53	3.9E-03	8.3E-03	9.7E-03	6.6E-03	**15.3E-03**	**18.8E-03**	12.0E-03	8.3E-03
54	3.5E-03	3.9E-03	9.2E-03	8.1E-03	8.6E-03	**16.1E-03**	12.6E-03	6.5E-03
55	3.0E-03	7.6E-03	7.1E-03	8.9E-03	12.1E-03	**18.9E-03**	12.9E-03	8.5E-03
56	5.7E-03	6.8E-03	11.4E-03	8.9E-03	11.5E-03	8.4E-03	9.5E-03	1.3E-03
57	4.8E-03	7.9E-03	10.3E-03	4.3E-03	11.1E-03	9.4E-03	11.1E-03	5.0E-03
58	4.8E-03	6.5E-03	5.4E-03	5.4E-03	11.0E-03	11.0E-03	10.5E-03	6.0E-03
59	5.7E-03	6.7E-03	5.7E-03	9.4E-03	12.2E-03	9.2E-03	11.8E-03	4.3E-03
60	5.9E-03	6.5E-03	9.2E-03	5.7E-03	11.6E-03	5.5E-03	8.9E-03	5.5E-03
Statistics								
Min	**3.0E-03**	3.8E-03	4.9E-03	4.3E-03	8.6E-03	5.5E-03	8.9E-03	1.3E-03
Max	**5.9E-03**	8.3E-03	11.4E-03	9.4E-03	15.3E-03	18.9E-03	16.4E-03	9.7E-03
Average	**4.5E-03**	6.6E-03	8.1E-03	7.5E-03	12.1E-03	13.4E-03	11.8E-03	6.3E-03
Std Deviation	**1.1E-03**	1.6E-03	2.2E-03	1.8E-03	1.9E-03	5.1E-03	2.1E-03	2.5E-03

Measurements

Idd8	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	7.2E-03	1.2E-03	6.5E-03	7.4E-03	11.2E-03	9.0E-03	7.0E-03	4.0E-03
67_OUT_REF	6.3E-03	2.9E-03	8.8E-03	7.8E-03	12.7E-03	10.6E-03	7.3E-03	6.3E-03
OFF samples								
61	4.8E-03	7.7E-03	5.0E-03	7.2E-03	14.9E-03	**16.6E-03**	10.9E-03	8.6E-03
62	7.1E-03	7.9E-03	11.1E-03	5.7E-03	4.5E-03	13.6E-03	14.7E-03	6.9E-03
63	4.1E-03	8.3E-03	1.4E-03	7.8E-03	12.9E-03	**15.6E-03**	13.9E-03	8.0E-03
64	3.3E-03	8.0E-03	5.1E-03	8.1E-03	14.6E-03	14.5E-03	12.7E-03	6.2E-03
65	5.2E-03	1.2E-03	9.4E-03	6.9E-03	12.6E-03	12.7E-03	**15.2E-03**	6.5E-03
Statistics								
Min	**3.3E-03**	1.2E-03	1.4E-03	5.7E-03	4.5E-03	12.7E-03	10.9E-03	6.2E-03
Max	**7.1E-03**	8.3E-03	11.1E-03	8.1E-03	14.9E-03	16.6E-03	15.2E-03	8.6E-03
Average	**4.9E-03**	6.6E-03	6.4E-03	7.1E-03	11.9E-03	14.6E-03	13.5E-03	7.3E-03
Std Deviation	**1.4E-03**	3.0E-03	3.8E-03	924.4E-06	4.3E-03	1.6E-03	1.7E-03	1.0E-03

Parameter : Differential cross point voltage : Vox_qds
Test conditions : VrefDQ=0.675V
Unit : A
Spec Limit Min : 470.0E-03
Spec Limit Max : 880.0E-03
Spec limits are represented in bold lines on the graphic.



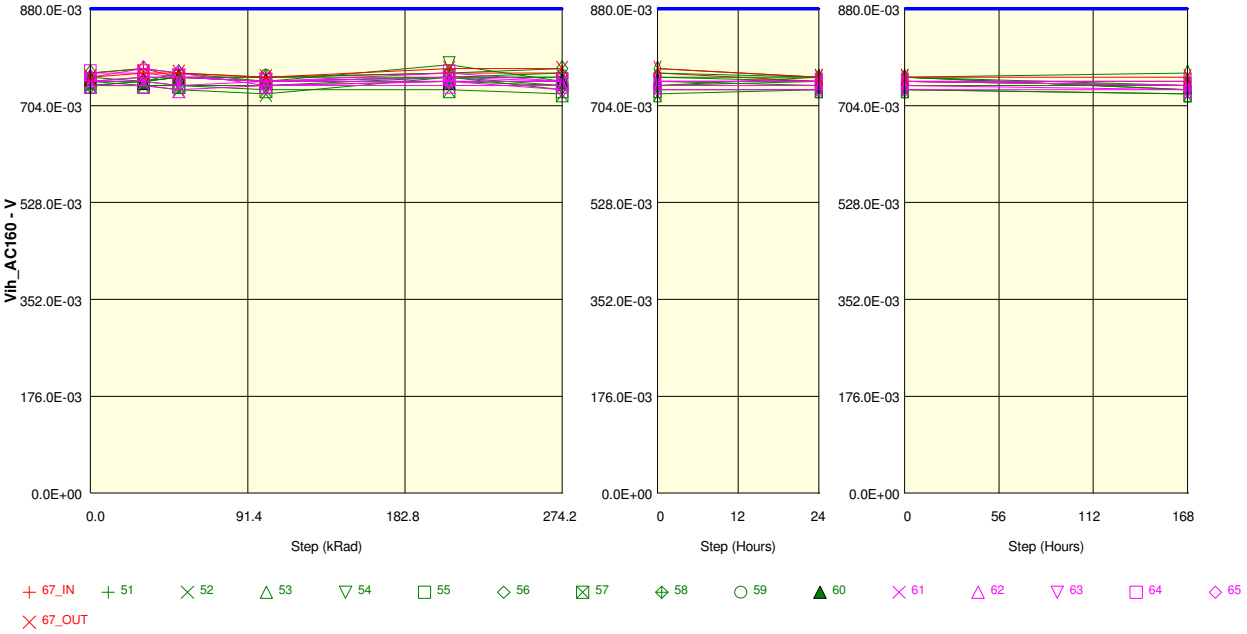
Measurements

Vox_qds	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	667.7E-03	671.2E-03	664.1E-03	675.7E-03	670.6E-03	672.6E-03	673.2E-03	673.5E-03
67_OUT_REF	671.2E-03	669.0E-03	663.6E-03	669.4E-03	675.4E-03	675.2E-03	663.2E-03	670.2E-03
ON samples								
51	671.0E-03	669.2E-03	673.3E-03	665.2E-03	670.5E-03	670.3E-03	665.3E-03	670.7E-03
52	642.5E-03	654.1E-03	653.2E-03	653.0E-03	647.8E-03	662.1E-03	658.0E-03	655.5E-03
53	669.2E-03	669.8E-03	665.3E-03	666.4E-03	664.5E-03	670.0E-03	666.9E-03	672.7E-03
54	654.4E-03	666.8E-03	665.7E-03	658.3E-03	669.7E-03	652.9E-03	658.8E-03	663.3E-03
55	650.3E-03	661.6E-03	662.8E-03	657.5E-03	680.3E-03	658.0E-03	664.4E-03	658.1E-03
56	661.1E-03	655.3E-03	660.7E-03	652.2E-03	659.2E-03	643.8E-03	668.9E-03	658.5E-03
57	671.9E-03	671.8E-03	680.8E-03	679.2E-03	670.7E-03	661.9E-03	678.6E-03	685.1E-03
58	649.9E-03	650.2E-03	655.6E-03	645.7E-03	645.1E-03	654.9E-03	650.9E-03	643.2E-03
59	684.8E-03	679.2E-03	678.0E-03	674.6E-03	668.8E-03	668.8E-03	674.8E-03	675.7E-03
60	645.1E-03	655.1E-03	648.4E-03	661.6E-03	646.7E-03	653.8E-03	655.3E-03	647.6E-03
Statistics								
Min	642.5E-03	650.2E-03	648.4E-03	645.7E-03	645.1E-03	643.8E-03	650.9E-03	643.2E-03
Max	684.8E-03	679.2E-03	680.8E-03	679.2E-03	680.3E-03	670.3E-03	678.6E-03	685.1E-03
Average	660.0E-03	663.3E-03	664.4E-03	661.4E-03	662.3E-03	659.7E-03	664.2E-03	663.0E-03
Std Deviation	13.8E-03	9.5E-03	10.6E-03	10.3E-03	12.1E-03	8.6E-03	8.7E-03	13.0E-03

Measurements

Vox_qds	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	667.7E-03	671.2E-03	664.1E-03	675.7E-03	670.6E-03	672.6E-03	673.2E-03	673.5E-03
67_OUT_REF	671.2E-03	669.0E-03	663.6E-03	669.4E-03	675.4E-03	675.2E-03	663.2E-03	670.2E-03
OFF samples								
61	653.9E-03	656.4E-03	667.6E-03	664.0E-03	660.3E-03	652.9E-03	654.4E-03	668.8E-03
62	691.7E-03	689.3E-03	682.3E-03	681.1E-03	682.6E-03	671.6E-03	676.9E-03	670.0E-03
63	655.9E-03	652.5E-03	648.6E-03	646.5E-03	658.5E-03	651.6E-03	667.1E-03	663.7E-03
64	700.2E-03	705.6E-03	701.7E-03	687.7E-03	686.8E-03	690.5E-03	698.9E-03	697.0E-03
65	672.1E-03	671.2E-03	673.1E-03	676.2E-03	678.7E-03	673.0E-03	666.8E-03	684.0E-03
Statistics								
Min	653.9E-03	652.5E-03	648.6E-03	646.5E-03	658.5E-03	651.6E-03	654.4E-03	663.7E-03
Max	700.2E-03	705.6E-03	701.7E-03	687.7E-03	686.8E-03	690.5E-03	698.9E-03	697.0E-03
Average	674.8E-03	675.0E-03	674.6E-03	671.1E-03	673.4E-03	667.9E-03	672.8E-03	676.7E-03
Std Deviation	20.8E-03	22.4E-03	19.5E-03	16.3E-03	13.1E-03	16.1E-03	16.6E-03	13.6E-03

Parameter : Input High Voltage : Vih_AC160
Test conditions : Except CKE. RESET.ODT & differential pin
Unit : V
Spec Limit Max : 880.0E-03
Spec limits are represented in bold lines on the graphic.



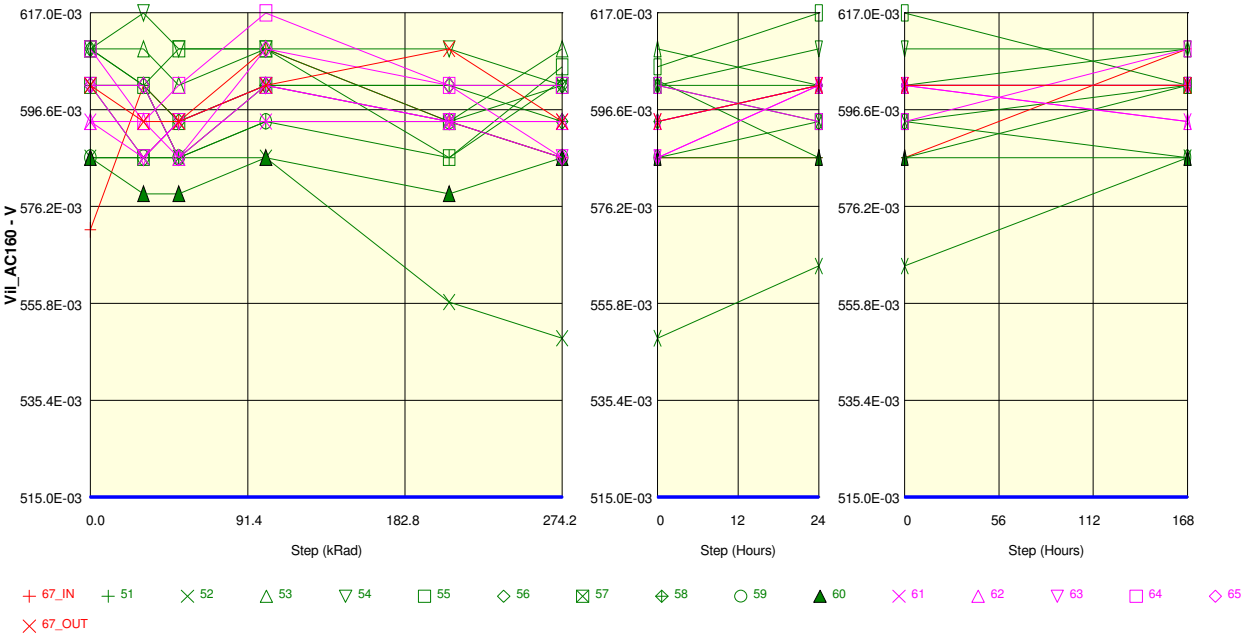
Measurements

Vih_AC160	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	763.5E-03	771.1E-03	755.9E-03	755.9E-03	763.5E-03	763.5E-03	748.2E-03	748.2E-03
67_OUT_REF	755.9E-03	763.5E-03	763.5E-03	755.9E-03	771.1E-03	771.1E-03	755.9E-03	755.9E-03
ON samples								
51	748.2E-03	748.2E-03	763.5E-03	748.2E-03	755.9E-03	763.5E-03	755.9E-03	733.0E-03
52	740.6E-03	740.6E-03	733.0E-03	725.4E-03	755.9E-03	740.6E-03	755.9E-03	733.0E-03
53	740.6E-03	748.2E-03	755.9E-03	748.2E-03	755.9E-03	755.9E-03	755.9E-03	740.6E-03
54	748.2E-03	748.2E-03	755.9E-03	748.2E-03	778.7E-03	748.2E-03	748.2E-03	740.6E-03
55	748.2E-03	740.6E-03	740.6E-03	740.6E-03	755.9E-03	733.0E-03	733.0E-03	725.4E-03
56	763.5E-03	771.1E-03	763.5E-03	755.9E-03	763.5E-03	771.1E-03	755.9E-03	763.5E-03
57	740.6E-03	740.6E-03	740.6E-03	733.0E-03	733.0E-03	725.4E-03	733.0E-03	725.4E-03
58	740.6E-03	748.2E-03	740.6E-03	740.6E-03	748.2E-03	740.6E-03	748.2E-03	748.2E-03
59	748.2E-03	755.9E-03	755.9E-03	755.9E-03	755.9E-03	755.9E-03	748.2E-03	740.6E-03
60	755.9E-03	748.2E-03	755.9E-03	748.2E-03	748.2E-03	748.2E-03	740.6E-03	740.6E-03
Statistics								
Min	740.6E-03	740.6E-03	733.0E-03	725.4E-03	733.0E-03	725.4E-03	733.0E-03	725.4E-03
Max	763.5E-03	771.1E-03	763.5E-03	755.9E-03	778.7E-03	771.1E-03	755.9E-03	763.5E-03
Average	747.5E-03	749.0E-03	750.5E-03	744.4E-03	755.1E-03	748.2E-03	747.5E-03	739.1E-03
Std Deviation	7.6E-03	9.1E-03	10.8E-03	9.7E-03	11.6E-03	13.9E-03	9.1E-03	11.2E-03

Measurements

Vih_AC160	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	763.5E-03	771.1E-03	755.9E-03	755.9E-03	763.5E-03	763.5E-03	748.2E-03	748.2E-03
67_OUT_REF	755.9E-03	763.5E-03	763.5E-03	755.9E-03	771.1E-03	771.1E-03	755.9E-03	755.9E-03
OFF samples								
61	748.2E-03	748.2E-03	740.6E-03	748.2E-03	755.9E-03	748.2E-03	748.2E-03	740.6E-03
62	740.6E-03	740.6E-03	733.0E-03	740.6E-03	740.6E-03	740.6E-03	740.6E-03	733.0E-03
63	748.2E-03	755.9E-03	755.9E-03	748.2E-03	748.2E-03	748.2E-03	748.2E-03	740.6E-03
64	763.5E-03	763.5E-03	755.9E-03	748.2E-03	763.5E-03	748.2E-03	748.2E-03	748.2E-03
65	755.9E-03	771.1E-03	763.5E-03	740.6E-03	748.2E-03	733.0E-03	733.0E-03	733.0E-03
Statistics								
Min	740.6E-03	740.6E-03	733.0E-03	740.6E-03	740.6E-03	733.0E-03	733.0E-03	733.0E-03
Max	763.5E-03	771.1E-03	763.5E-03	748.2E-03	763.5E-03	748.2E-03	748.2E-03	748.2E-03
Average	751.3E-03	755.9E-03	749.8E-03	745.2E-03	751.3E-03	743.7E-03	743.7E-03	739.1E-03
Std Deviation	8.7E-03	12.0E-03	12.5E-03	4.2E-03	8.7E-03	6.8E-03	6.8E-03	6.4E-03

Parameter : Input Low Voltage : Vil_AC160
Test conditions : Except CKE. RESET.ODT & differential pin
Unit : V
Spec Limit Min : 515.0E-03
Spec limits are represented in bold lines on the graphic.



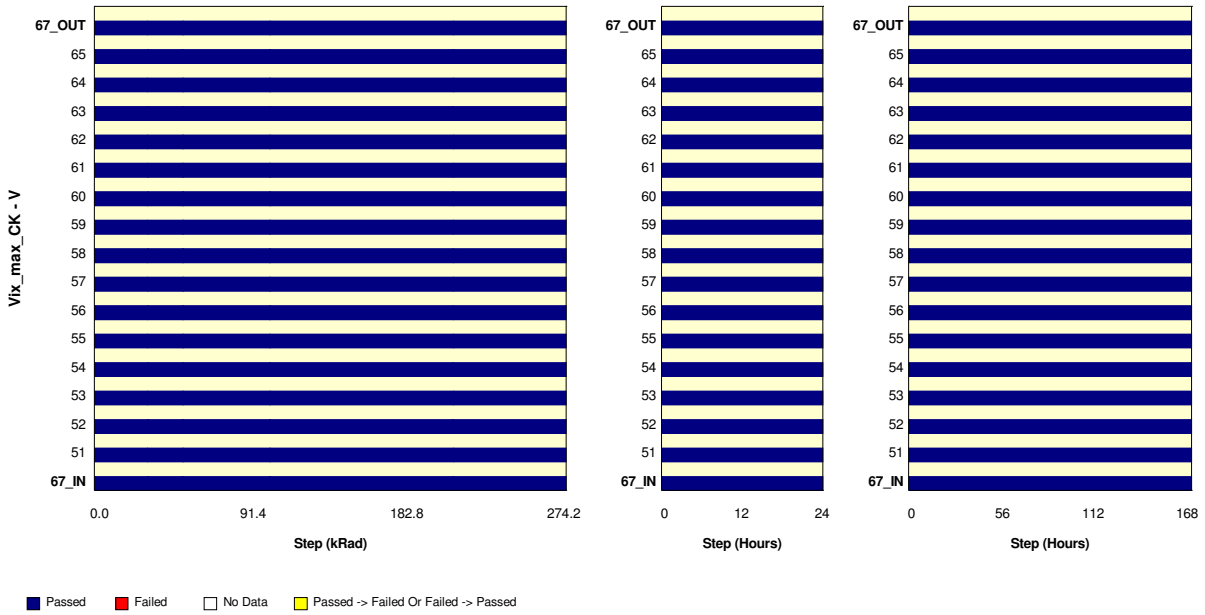
Measurements

Vil_AC160	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	571.3E-03	601.8E-03	594.1E-03	609.4E-03	594.1E-03	586.5E-03	586.5E-03	609.4E-03
67_OUT_REF	601.8E-03	594.1E-03	594.1E-03	601.8E-03	609.4E-03	594.1E-03	601.8E-03	601.8E-03
ON samples								
51	601.8E-03	601.8E-03	586.5E-03	594.1E-03	586.5E-03	602.7E-03	586.5E-03	601.8E-03
52	586.5E-03	586.5E-03	586.5E-03	586.5E-03	556.1E-03	548.4E-03	563.7E-03	586.5E-03
53	609.4E-03	609.4E-03	601.8E-03	609.4E-03	594.1E-03	609.4E-03	601.8E-03	609.4E-03
54	609.4E-03	617.0E-03	609.4E-03	609.4E-03	609.4E-03	601.8E-03	609.4E-03	609.4E-03
55	609.4E-03	601.8E-03	609.4E-03	609.4E-03	586.5E-03	605.7E-03	617.0E-03	601.8E-03
56	601.8E-03	601.8E-03	594.1E-03	601.8E-03	601.8E-03	601.8E-03	601.8E-03	601.8E-03
57	601.8E-03	586.5E-03	594.1E-03	601.8E-03	594.1E-03	601.8E-03	594.1E-03	601.8E-03
58	609.4E-03	601.8E-03	586.5E-03	601.8E-03	601.8E-03	594.1E-03	601.8E-03	601.8E-03
59	586.5E-03	586.5E-03	586.5E-03	594.1E-03	594.1E-03	586.5E-03	594.1E-03	586.5E-03
60	586.5E-03	578.9E-03	578.9E-03	586.5E-03	578.9E-03	586.5E-03	586.5E-03	586.5E-03
Statistics								
Min	586.5E-03	578.9E-03	578.9E-03	586.5E-03	556.1E-03	548.4E-03	563.7E-03	586.5E-03
Max	609.4E-03	617.0E-03	609.4E-03	609.4E-03	609.4E-03	609.4E-03	617.0E-03	609.4E-03
Average	600.2E-03	597.2E-03	593.4E-03	599.5E-03	590.3E-03	593.9E-03	595.7E-03	598.7E-03
Std Deviation	10.0E-03	12.0E-03	10.4E-03	8.8E-03	14.9E-03	17.7E-03	14.7E-03	8.9E-03

Measurements

Vil_AC160	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	571.3E-03	601.8E-03	594.1E-03	609.4E-03	594.1E-03	586.5E-03	586.5E-03	609.4E-03
67_OUT_REF	601.8E-03	594.1E-03	594.1E-03	601.8E-03	609.4E-03	594.1E-03	601.8E-03	601.8E-03
OFF samples								
61	594.1E-03	586.5E-03	594.1E-03	594.1E-03	594.1E-03	594.1E-03	601.8E-03	594.1E-03
62	594.1E-03	594.1E-03	586.5E-03	601.8E-03	594.1E-03	594.1E-03	601.8E-03	594.1E-03
63	601.8E-03	586.5E-03	594.1E-03	601.8E-03	594.1E-03	586.5E-03	601.8E-03	601.8E-03
64	609.4E-03	594.1E-03	601.8E-03	617.0E-03	601.8E-03	601.8E-03	594.1E-03	609.4E-03
65	601.8E-03	601.8E-03	586.5E-03	609.4E-03	601.8E-03	586.5E-03	601.8E-03	601.8E-03
Statistics								
Min	594.1E-03	586.5E-03	586.5E-03	594.1E-03	594.1E-03	586.5E-03	594.1E-03	594.1E-03
Max	609.4E-03	601.8E-03	601.8E-03	617.0E-03	601.8E-03	601.8E-03	601.8E-03	609.4E-03
Average	600.2E-03	592.6E-03	592.6E-03	604.8E-03	597.2E-03	592.6E-03	600.2E-03	600.2E-03
Std Deviation	6.4E-03	6.4E-03	6.4E-03	8.7E-03	4.2E-03	6.4E-03	3.4E-03	6.4E-03

Parameter : Differential cross_point voltage : Vix_max_CK
Test conditions : GoNOGO
Unit : V
Spec Limit Min : 525.0E-03
Spec Limit Max : 825.0E-03
Spec limits are represented in bold lines on the graphic.



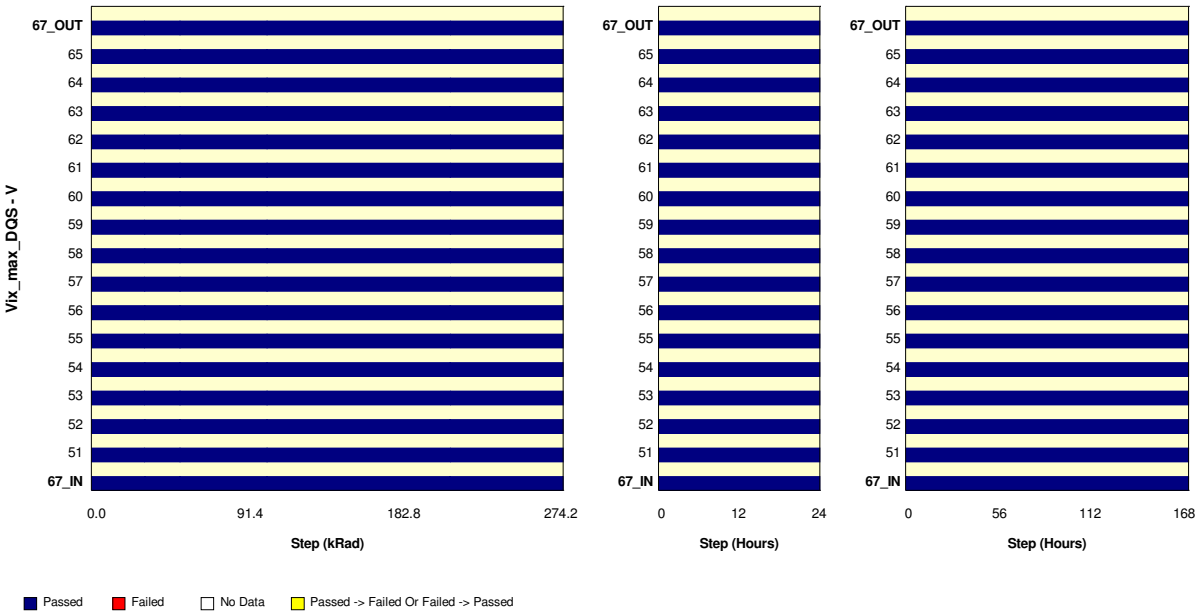
Measurements

Vix_max_CK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_max_CK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Differential cross_point voltage : Vix_max_DQS
Test conditions : GoNOGO
Unit : V
Spec Limit Min : 525.0E-03
Spec Limit Max : 825.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vix_max_DQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_max_DQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Output low leakage Current : Iozl<DQ[0]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-34.2E-09	-31.7E-09	-31.7E-09	-31.7E-09	-31.7E-09	-29.3E-09	-36.6E-09	-28.1E-09
67_OUT_REF	-31.7E-09	-36.6E-09	-34.2E-09	-26.9E-09	-35.4E-09	-33.0E-09	-33.0E-09	-33.0E-09
ON samples								
51	-31.7E-09	-24.4E-09	-34.2E-09	-31.7E-09	-30.5E-09	-30.5E-09	-35.4E-09	-35.4E-09
52	-33.0E-09	-31.7E-09	-26.9E-09	-31.7E-09	-31.7E-09	-33.0E-09	-25.6E-09	-31.7E-09
53	-31.7E-09	-26.9E-09	-30.5E-09	-26.9E-09	-33.0E-09	-30.5E-09	-35.4E-09	-29.3E-09
54	-30.5E-09	-29.3E-09	-31.7E-09	-33.0E-09	-33.0E-09	-34.2E-09	-31.7E-09	-36.6E-09
55	-31.7E-09	-30.5E-09	-29.3E-09	-25.6E-09	-28.1E-09	-33.0E-09	-31.7E-09	-28.1E-09
56	-31.7E-09	-29.3E-09	-30.5E-09	-33.0E-09	-33.0E-09	-28.1E-09	-35.4E-09	-30.5E-09
57	-36.6E-09	-29.3E-09	-30.5E-09	-31.7E-09	-34.2E-09	-37.8E-09	-30.5E-09	-30.5E-09
58	-29.3E-09	-31.7E-09	-31.7E-09	-25.6E-09	-35.4E-09	-34.2E-09	-35.4E-09	-28.1E-09
59	-34.2E-09	-30.5E-09	-31.7E-09	-29.3E-09	-35.4E-09	-36.6E-09	-37.8E-09	-33.0E-09
60	-29.3E-09	-35.4E-09	-34.2E-09	-33.0E-09	-33.0E-09	-30.5E-09	-28.1E-09	-28.1E-09
Statistics								
Min	-36.6E-09	-35.4E-09	-34.2E-09	-33.0E-09	-35.4E-09	-37.8E-09	-37.8E-09	-36.6E-09
Max	-29.3E-09	-24.4E-09	-26.9E-09	-25.6E-09	-28.1E-09	-28.1E-09	-25.6E-09	-28.1E-09
Average	-32.0E-09	-29.9E-09	-31.1E-09	-30.2E-09	-32.7E-09	-32.8E-09	-32.7E-09	-31.1E-09
Std Deviation	2.2E-09	2.9E-09	2.2E-09	3.0E-09	2.2E-09	3.0E-09	3.9E-09	3.1E-09

Measurements

Iozl<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-34.2E-09	-31.7E-09	-31.7E-09	-31.7E-09	-31.7E-09	-29.3E-09	-36.6E-09	-28.1E-09
67_OUT_REF	-31.7E-09	-36.6E-09	-34.2E-09	-26.9E-09	-35.4E-09	-33.0E-09	-33.0E-09	-33.0E-09
OFF samples								
61	-29.3E-09	-28.1E-09	-31.7E-09	-35.4E-09	-35.4E-09	-29.3E-09	-37.8E-09	-33.0E-09
62	-29.3E-09	-34.2E-09	-28.1E-09	-31.7E-09	-30.5E-09	-31.7E-09	-31.7E-09	-29.3E-09
63	-30.5E-09	-31.7E-09	-31.7E-09	-36.6E-09	-31.7E-09	-30.5E-09	-36.6E-09	-37.8E-09
64	-33.0E-09	-34.2E-09	-29.3E-09	-29.3E-09	-30.5E-09	-33.0E-09	-28.1E-09	-34.2E-09
65	-33.0E-09	-31.7E-09	-31.7E-09	-35.4E-09	-29.3E-09	-35.4E-09	-34.2E-09	-33.0E-09
Statistics								
Min	-33.0E-09	-34.2E-09	-31.7E-09	-36.6E-09	-35.4E-09	-35.4E-09	-37.8E-09	-37.8E-09
Max	-29.3E-09	-28.1E-09	-28.1E-09	-29.3E-09	-29.3E-09	-29.3E-09	-28.1E-09	-29.3E-09
Average	-31.0E-09	-32.0E-09	-30.5E-09	-33.7E-09	-31.5E-09	-32.0E-09	-33.7E-09	-33.4E-09
Std Deviation	1.9E-09	2.5E-09	1.7E-09	3.1E-09	2.3E-09	2.3E-09	3.9E-09	3.1E-09

Parameter : Output low leakage Current : Iozl<DQ[1]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-14.6E-09	-11.0E-09	-14.6E-09	-9.8E-09	-9.8E-09	-8.5E-09	-11.0E-09
67_OUT_REF	-11.0E-09	-13.4E-09	-14.6E-09	-13.4E-09	-14.6E-09	-13.4E-09	-11.0E-09	-13.4E-09
ON samples								
51	-7.3E-09	-3.7E-09	-11.0E-09	-9.8E-09	-12.2E-09	-14.6E-09	-11.0E-09	-14.6E-09
52	-9.8E-09	-9.8E-09	-9.8E-09	-14.6E-09	-8.5E-09	-9.8E-09	-11.0E-09	-13.4E-09
53	-11.0E-09	-11.0E-09	-13.4E-09	-8.5E-09	-12.2E-09	-8.5E-09	-11.0E-09	-9.8E-09
54	-14.6E-09	-13.4E-09	-11.0E-09	-12.2E-09	-12.2E-09	-9.8E-09	-9.8E-09	-12.2E-09
55	-8.5E-09	-6.1E-09	-14.6E-09	-8.5E-09	-9.8E-09	-13.4E-09	-7.3E-09	-7.3E-09
56	-7.3E-09	-15.9E-09	-12.2E-09	-8.5E-09	-11.0E-09	-14.6E-09	-9.8E-09	-14.6E-09
57	-12.2E-09	-12.2E-09	-17.1E-09	-12.2E-09	-11.0E-09	-13.4E-09	-9.8E-09	-13.4E-09
58	-4.9E-09	-11.0E-09	-13.4E-09	-8.5E-09	-9.8E-09	-8.5E-09	-9.8E-09	-11.0E-09
59	-14.6E-09	-14.6E-09	-15.9E-09	-6.1E-09	-8.5E-09	-12.2E-09	-8.5E-09	-9.8E-09
60	-13.4E-09	-17.1E-09	-12.2E-09	-14.6E-09	-12.2E-09	-14.6E-09	-14.6E-09	-12.2E-09
Statistics								
Min	-14.6E-09	-17.1E-09	-17.1E-09	-14.6E-09	-12.2E-09	-14.6E-09	-14.6E-09	-14.6E-09
Max	-4.9E-09	-3.7E-09	-9.8E-09	-6.1E-09	-8.5E-09	-8.5E-09	-7.3E-09	-7.3E-09
Average	-10.4E-09	-11.5E-09	-13.1E-09	-10.4E-09	-10.7E-09	-12.0E-09	-10.3E-09	-11.8E-09
Std Deviation	3.4E-09	4.2E-09	2.3E-09	2.9E-09	1.5E-09	2.6E-09	1.9E-09	2.4E-09

Measurements

Iozl<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-14.6E-09	-11.0E-09	-14.6E-09	-9.8E-09	-9.8E-09	-8.5E-09	-11.0E-09
67_OUT_REF	-11.0E-09	-13.4E-09	-14.6E-09	-13.4E-09	-14.6E-09	-13.4E-09	-11.0E-09	-13.4E-09
OFF samples								
61	-7.3E-09	-13.4E-09	-12.2E-09	-8.5E-09	-11.0E-09	-14.6E-09	-12.2E-09	-13.4E-09
62	-7.3E-09	-6.1E-09	-13.4E-09	-11.0E-09	-7.3E-09	-15.9E-09	-12.2E-09	-12.2E-09
63	-9.8E-09	-7.3E-09	-14.6E-09	-17.1E-09	-13.4E-09	-11.0E-09	-7.3E-09	-7.3E-09
64	-7.3E-09	-12.2E-09	-15.9E-09	-7.3E-09	-12.2E-09	-9.8E-09	-7.3E-09	-11.0E-09
65	-6.1E-09	-14.6E-09	-9.8E-09	-8.5E-09	-9.8E-09	-9.8E-09	-4.9E-09	-6.1E-09
Statistics								
Min	-9.8E-09	-14.6E-09	-15.9E-09	-17.1E-09	-13.4E-09	-15.9E-09	-12.2E-09	-13.4E-09
Max	-6.1E-09	-6.1E-09	-9.8E-09	-7.3E-09	-7.3E-09	-9.8E-09	-4.9E-09	-6.1E-09
Average	-7.6E-09	-10.7E-09	-13.2E-09	-10.5E-09	-10.7E-09	-12.2E-09	-8.8E-09	-10.0E-09
Std Deviation	1.3E-09	3.8E-09	2.3E-09	3.9E-09	2.3E-09	2.9E-09	3.3E-09	3.2E-09

Parameter : Output low leakage Current : Iozl<DQ[2]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-24.4E-09	-24.4E-09	-23.2E-09	-25.6E-09	-19.5E-09	-25.6E-09	-30.5E-09	-30.5E-09
67_OUT_REF	-25.6E-09	-23.2E-09	-25.6E-09	-28.1E-09	-20.8E-09	-23.2E-09	-23.2E-09	-23.2E-09
ON samples								
51	-23.2E-09	-19.5E-09	-20.8E-09	-25.6E-09	-23.2E-09	-22.0E-09	-28.1E-09	-23.2E-09
52	-20.8E-09	-23.2E-09	-23.2E-09	-22.0E-09	-25.6E-09	-28.1E-09	-29.3E-09	-26.9E-09
53	-25.6E-09	-25.6E-09	-20.8E-09	-20.8E-09	-23.2E-09	-22.0E-09	-24.4E-09	-24.4E-09
54	-22.0E-09	-19.5E-09	-28.1E-09	-22.0E-09	-25.6E-09	-24.4E-09	-24.4E-09	-28.1E-09
55	-24.4E-09	-24.4E-09	-19.5E-09	-19.5E-09	-26.9E-09	-25.6E-09	-28.1E-09	-26.9E-09
56	-24.4E-09	-25.6E-09	-19.5E-09	-19.5E-09	-25.6E-09	-23.2E-09	-31.7E-09	-24.4E-09
57	-25.6E-09	-25.6E-09	-28.1E-09	-22.0E-09	-24.4E-09	-30.5E-09	-28.1E-09	-22.0E-09
58	-26.9E-09	-24.4E-09	-22.0E-09	-26.9E-09	-23.2E-09	-23.2E-09	-25.6E-09	-26.9E-09
59	-26.9E-09	-23.2E-09	-23.2E-09	-26.9E-09	-24.4E-09	-24.4E-09	-28.1E-09	-22.0E-09
60	-25.6E-09	-19.5E-09	-25.6E-09	-23.2E-09	-23.2E-09	-24.4E-09	-24.4E-09	-26.9E-09
Statistics								
Min	-26.9E-09	-25.6E-09	-28.1E-09	-26.9E-09	-26.9E-09	-30.5E-09	-31.7E-09	-28.1E-09
Max	-20.8E-09	-19.5E-09	-19.5E-09	-19.5E-09	-23.2E-09	-22.0E-09	-24.4E-09	-22.0E-09
Average	-24.5E-09	-23.1E-09	-23.1E-09	-22.8E-09	-24.5E-09	-24.8E-09	-27.2E-09	-25.1E-09
Std Deviation	2.0E-09	2.6E-09	3.2E-09	2.8E-09	1.3E-09	2.7E-09	2.4E-09	2.2E-09

Measurements

Iozl<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-24.4E-09	-24.4E-09	-23.2E-09	-25.6E-09	-19.5E-09	-25.6E-09	-30.5E-09	-30.5E-09
67_OUT_REF	-25.6E-09	-23.2E-09	-25.6E-09	-28.1E-09	-20.8E-09	-23.2E-09	-23.2E-09	-23.2E-09
OFF samples								
61	-23.2E-09	-26.9E-09	-22.0E-09	-20.8E-09	-23.2E-09	-24.4E-09	-23.2E-09	-20.8E-09
62	-23.2E-09	-24.4E-09	-23.2E-09	-18.3E-09	-25.6E-09	-24.4E-09	-25.6E-09	-25.6E-09
63	-26.9E-09	-26.9E-09	-26.9E-09	-22.0E-09	-26.9E-09	-22.0E-09	-26.9E-09	-25.6E-09
64	-25.6E-09	-26.9E-09	-22.0E-09	-22.0E-09	-24.4E-09	-23.2E-09	-30.5E-09	-29.3E-09
65	-22.0E-09	-24.4E-09	-19.5E-09	-19.5E-09	-23.2E-09	-23.2E-09	-28.1E-09	-24.4E-09
Statistics								
Min	-26.9E-09	-26.9E-09	-26.9E-09	-22.0E-09	-26.9E-09	-24.4E-09	-30.5E-09	-29.3E-09
Max	-22.0E-09	-24.4E-09	-19.5E-09	-18.3E-09	-23.2E-09	-22.0E-09	-23.2E-09	-20.8E-09
Average	-24.2E-09	-25.9E-09	-22.7E-09	-20.5E-09	-24.7E-09	-23.4E-09	-26.9E-09	-25.1E-09
Std Deviation	2.0E-09	1.3E-09	2.7E-09	1.6E-09	1.6E-09	1.0E-09	2.7E-09	3.1E-09

Parameter : Output low leakage Current : Iozl<DQ[3]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-39.1E-09	-35.4E-09	-31.7E-09	-40.3E-09	-36.6E-09	-36.6E-09	-34.2E-09	-31.7E-09
67_OUT_REF	-33.0E-09	-40.3E-09	-37.8E-09	-37.8E-09	-40.3E-09	-35.4E-09	-36.6E-09	-35.4E-09
ON samples								
51	-31.7E-09	-37.8E-09	-40.3E-09	-30.5E-09	-39.1E-09	-37.8E-09	-29.3E-09	-34.2E-09
52	-39.1E-09	-34.2E-09	-37.8E-09	-30.5E-09	-37.8E-09	-41.5E-09	-30.5E-09	-34.2E-09
53	-37.8E-09	-33.0E-09	-40.3E-09	-37.8E-09	-41.5E-09	-39.1E-09	-36.6E-09	-37.8E-09
54	-37.8E-09	-41.5E-09	-40.3E-09	-40.3E-09	-40.3E-09	-35.4E-09	-39.1E-09	-33.0E-09
55	-33.0E-09	-41.5E-09	-39.1E-09	-34.2E-09	-40.3E-09	-37.8E-09	-33.0E-09	-30.5E-09
56	-34.2E-09	-41.5E-09	-40.3E-09	-37.8E-09	-40.3E-09	-43.9E-09	-33.0E-09	-33.0E-09
57	-40.3E-09	-35.4E-09	-41.5E-09	-37.8E-09	-39.1E-09	-35.4E-09	-35.4E-09	-39.1E-09
58	-31.7E-09	-39.1E-09	-34.2E-09	-33.0E-09	-35.4E-09	-42.7E-09	-39.1E-09	-33.0E-09
59	-36.6E-09	-33.0E-09	-36.6E-09	-40.3E-09	-40.3E-09	-43.9E-09	-30.5E-09	-34.2E-09
60	-37.8E-09	-35.4E-09	-39.1E-09	-40.3E-09	-39.1E-09	-41.5E-09	-31.7E-09	-30.5E-09
Statistics								
Min	-40.3E-09	-41.5E-09	-41.5E-09	-40.3E-09	-41.5E-09	-43.9E-09	-39.1E-09	-39.1E-09
Max	-31.7E-09	-33.0E-09	-34.2E-09	-30.5E-09	-35.4E-09	-35.4E-09	-29.3E-09	-30.5E-09
Average	-36.0E-09	-37.2E-09	-38.9E-09	-36.3E-09	-39.3E-09	-39.9E-09	-33.8E-09	-33.9E-09
Std Deviation	3.1E-09	3.5E-09	2.2E-09	3.9E-09	1.7E-09	3.3E-09	3.5E-09	2.7E-09

Measurements

Iozl<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-39.1E-09	-35.4E-09	-31.7E-09	-40.3E-09	-36.6E-09	-36.6E-09	-34.2E-09	-31.7E-09
67_OUT_REF	-33.0E-09	-40.3E-09	-37.8E-09	-37.8E-09	-40.3E-09	-35.4E-09	-36.6E-09	-35.4E-09
OFF samples								
61	-34.2E-09	-33.0E-09	-36.6E-09	-37.8E-09	-36.6E-09	-34.2E-09	-28.1E-09	-34.2E-09
62	-35.4E-09	-34.2E-09	-36.6E-09	-39.1E-09	-42.7E-09	-40.3E-09	-31.7E-09	-37.8E-09
63	-36.6E-09	-40.3E-09	-37.8E-09	-39.1E-09	-42.7E-09	-43.9E-09	-31.7E-09	-33.0E-09
64	-36.6E-09	-40.3E-09	-36.6E-09	-30.5E-09	-39.1E-09	-40.3E-09	-35.4E-09	-35.4E-09
65	-34.2E-09	-35.4E-09	-40.3E-09	-35.4E-09	-34.2E-09	-34.2E-09	-39.1E-09	-33.0E-09
Statistics								
Min	-36.6E-09	-40.3E-09	-40.3E-09	-39.1E-09	-42.7E-09	-43.9E-09	-39.1E-09	-37.8E-09
Max	-34.2E-09	-33.0E-09	-36.6E-09	-30.5E-09	-34.2E-09	-34.2E-09	-28.1E-09	-33.0E-09
Average	-35.4E-09	-36.6E-09	-37.6E-09	-36.4E-09	-39.1E-09	-38.6E-09	-33.2E-09	-34.7E-09
Std Deviation	1.2E-09	3.5E-09	1.6E-09	3.6E-09	3.8E-09	4.3E-09	4.2E-09	2.0E-09

Parameter : Output low leakage Current : Iozl<DQ[4]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-30.5E-09	-25.6E-09	-30.5E-09	-29.3E-09	-30.5E-09	-28.1E-09	-25.6E-09	-25.6E-09
67_OUT_REF	-29.3E-09	-29.3E-09	-26.9E-09	-33.0E-09	-30.5E-09	-29.3E-09	-23.2E-09	-29.3E-09
ON samples								
51	-29.3E-09	-25.6E-09	-31.7E-09	-28.1E-09	-26.9E-09	-28.1E-09	-25.6E-09	-30.5E-09
52	-26.9E-09	-24.4E-09	-34.2E-09	-29.3E-09	-25.6E-09	-29.3E-09	-28.1E-09	-25.6E-09
53	-30.5E-09	-30.5E-09	-22.0E-09	-26.9E-09	-33.0E-09	-34.2E-09	-30.5E-09	-29.3E-09
54	-25.6E-09	-30.5E-09	-29.3E-09	-34.2E-09	-34.2E-09	-25.6E-09	-26.9E-09	-30.5E-09
55	-25.6E-09	-33.0E-09	-33.0E-09	-31.7E-09	-29.3E-09	-28.1E-09	-28.1E-09	-28.1E-09
56	-25.6E-09	-30.5E-09	-33.0E-09	-31.7E-09	-31.7E-09	-29.3E-09	-29.3E-09	-26.9E-09
57	-25.6E-09	-24.4E-09	-30.5E-09	-29.3E-09	-31.7E-09	-33.0E-09	-34.2E-09	-24.4E-09
58	-30.5E-09	-24.4E-09	-30.5E-09	-31.7E-09	-26.9E-09	-28.1E-09	-26.9E-09	-30.5E-09
59	-29.3E-09	-31.7E-09	-28.1E-09	-31.7E-09	-29.3E-09	-28.1E-09	-34.2E-09	-26.9E-09
60	-28.1E-09	-30.5E-09	-28.1E-09	-33.0E-09	-35.4E-09	-26.9E-09	-28.1E-09	-29.3E-09
Statistics								
Min	-30.5E-09	-33.0E-09	-34.2E-09	-34.2E-09	-35.4E-09	-34.2E-09	-34.2E-09	-30.5E-09
Max	-25.6E-09	-24.4E-09	-22.0E-09	-26.9E-09	-25.6E-09	-25.6E-09	-25.6E-09	-24.4E-09
Average	-27.7E-09	-28.6E-09	-30.0E-09	-30.8E-09	-30.4E-09	-29.1E-09	-29.2E-09	-28.2E-09
Std Deviation	2.1E-09	3.4E-09	3.5E-09	2.3E-09	3.3E-09	2.6E-09	3.0E-09	2.2E-09

Measurements

Iozl<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-30.5E-09	-25.6E-09	-30.5E-09	-29.3E-09	-30.5E-09	-28.1E-09	-25.6E-09	-25.6E-09
67_OUT_REF	-29.3E-09	-29.3E-09	-26.9E-09	-33.0E-09	-30.5E-09	-29.3E-09	-23.2E-09	-29.3E-09
OFF samples								
61	-28.1E-09	-23.2E-09	-26.9E-09	-35.4E-09	-30.5E-09	-29.3E-09	-30.5E-09	-24.4E-09
62	-33.0E-09	-29.3E-09	-28.1E-09	-28.1E-09	-30.5E-09	-29.3E-09	-31.7E-09	-29.3E-09
63	-30.5E-09	-26.9E-09	-33.0E-09	-35.4E-09	-33.0E-09	-30.5E-09	-25.6E-09	-26.9E-09
64	-34.2E-09	-34.2E-09	-28.1E-09	-30.5E-09	-31.7E-09	-24.4E-09	-30.5E-09	-29.3E-09
65	-30.5E-09	-25.6E-09	-28.1E-09	-26.9E-09	-29.3E-09	-34.2E-09	-31.7E-09	-24.4E-09
Statistics								
Min	-34.2E-09	-34.2E-09	-33.0E-09	-35.4E-09	-33.0E-09	-34.2E-09	-31.7E-09	-29.3E-09
Max	-28.1E-09	-23.2E-09	-26.9E-09	-26.9E-09	-29.3E-09	-24.4E-09	-25.6E-09	-24.4E-09
Average	-31.3E-09	-27.8E-09	-28.8E-09	-31.2E-09	-31.0E-09	-29.5E-09	-30.0E-09	-26.9E-09
Std Deviation	2.4E-09	4.2E-09	2.4E-09	4.0E-09	1.4E-09	3.5E-09	2.5E-09	2.4E-09

Parameter : Output low leakage Current : Iozl<DQ[5]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-25.6E-09	-23.2E-09	-29.3E-09	-24.4E-09	-26.9E-09	-25.6E-09	-29.3E-09
67_OUT_REF	-25.6E-09	-30.5E-09	-23.2E-09	-25.6E-09	-24.4E-09	-24.4E-09	-30.5E-09	-28.1E-09
ON samples								
51	-29.3E-09	-29.3E-09	-30.5E-09	-23.2E-09	-26.9E-09	-22.0E-09	-29.3E-09	-25.6E-09
52	-26.9E-09	-25.6E-09	-26.9E-09	-25.6E-09	-26.9E-09	-26.9E-09	-25.6E-09	-33.0E-09
53	-24.4E-09	-28.1E-09	-28.1E-09	-31.7E-09	-26.9E-09	-24.4E-09	-34.2E-09	-28.1E-09
54	-23.2E-09	-25.6E-09	-29.3E-09	-31.7E-09	-23.2E-09	-29.3E-09	-28.1E-09	-25.6E-09
55	-20.8E-09	-22.0E-09	-24.4E-09	-20.8E-09	-24.4E-09	-25.6E-09	-23.2E-09	-26.9E-09
56	-25.6E-09	-28.1E-09	-24.4E-09	-29.3E-09	-25.6E-09	-22.0E-09	-29.3E-09	-25.6E-09
57	-29.3E-09	-29.3E-09	-28.1E-09	-31.7E-09	-31.7E-09	-28.1E-09	-30.5E-09	-28.1E-09
58	-28.1E-09	-30.5E-09	-26.9E-09	-28.1E-09	-24.4E-09	-23.2E-09	-24.4E-09	-24.4E-09
59	-28.1E-09	-28.1E-09	-25.6E-09	-29.3E-09	-24.4E-09	-26.9E-09	-24.4E-09	-24.4E-09
60	-23.2E-09	-25.6E-09	-25.6E-09	-28.1E-09	-28.1E-09	-20.8E-09	-24.4E-09	-23.2E-09
Statistics								
Min	-29.3E-09	-30.5E-09	-30.5E-09	-31.7E-09	-31.7E-09	-29.3E-09	-34.2E-09	-33.0E-09
Max	-20.8E-09	-22.0E-09	-24.4E-09	-20.8E-09	-23.2E-09	-20.8E-09	-23.2E-09	-23.2E-09
Average	-25.9E-09	-27.2E-09	-27.0E-09	-28.0E-09	-26.2E-09	-24.9E-09	-27.3E-09	-26.5E-09
Std Deviation	2.9E-09	2.5E-09	2.0E-09	3.7E-09	2.5E-09	2.9E-09	3.5E-09	2.8E-09

Measurements

Iozl<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-25.6E-09	-23.2E-09	-29.3E-09	-24.4E-09	-26.9E-09	-25.6E-09	-29.3E-09
67_OUT_REF	-25.6E-09	-30.5E-09	-23.2E-09	-25.6E-09	-24.4E-09	-24.4E-09	-30.5E-09	-28.1E-09
OFF samples								
61	-20.8E-09	-33.0E-09	-24.4E-09	-24.4E-09	-26.9E-09	-25.6E-09	-33.0E-09	-33.0E-09
62	-24.4E-09	-28.1E-09	-22.0E-09	-23.2E-09	-25.6E-09	-26.9E-09	-28.1E-09	-30.5E-09
63	-22.0E-09	-22.0E-09	-25.6E-09	-24.4E-09	-28.1E-09	-26.9E-09	-22.0E-09	-29.3E-09
64	-24.4E-09	-31.7E-09	-28.1E-09	-22.0E-09	-25.6E-09	-25.6E-09	-20.8E-09	-31.7E-09
65	-30.5E-09	-25.6E-09	-25.6E-09	-22.0E-09	-24.4E-09	-25.6E-09	-33.0E-09	-23.2E-09
Statistics								
Min	-30.5E-09	-33.0E-09	-28.1E-09	-24.4E-09	-28.1E-09	-26.9E-09	-33.0E-09	-33.0E-09
Max	-20.8E-09	-22.0E-09	-22.0E-09	-22.0E-09	-24.4E-09	-25.6E-09	-20.8E-09	-23.2E-09
Average	-24.4E-09	-28.1E-09	-25.1E-09	-23.2E-09	-26.1E-09	-26.1E-09	-27.3E-09	-29.5E-09
Std Deviation	3.8E-09	4.5E-09	2.2E-09	1.2E-09	1.4E-09	668.2E-12	5.8E-09	3.8E-09

Parameter : Output low leakage Current : Iozl<DQ[6]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozl<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-25.6E-09	-19.5E-09	-28.1E-09	-28.1E-09	-22.0E-09	-29.3E-09	-25.6E-09	-26.9E-09
67_OUT_REF	-22.0E-09	-26.9E-09	-28.1E-09	-23.2E-09	-26.9E-09	-22.0E-09	-25.6E-09	-30.5E-09
ON samples								
51	-30.5E-09	-28.1E-09	-26.9E-09	-24.4E-09	-24.4E-09	-22.0E-09	-29.3E-09	-24.4E-09
52	-23.2E-09	-23.2E-09	-24.4E-09	-26.9E-09	-22.0E-09	-25.6E-09	-24.4E-09	-25.6E-09
53	-26.9E-09	-30.5E-09	-22.0E-09	-26.9E-09	-26.9E-09	-20.8E-09	-26.9E-09	-26.9E-09
54	-26.9E-09	-30.5E-09	-29.3E-09	-24.4E-09	-28.1E-09	-26.9E-09	-28.1E-09	-29.3E-09
55	-22.0E-09	-28.1E-09	-25.6E-09	-28.1E-09	-25.6E-09	-19.5E-09	-31.7E-09	-25.6E-09
56	-23.2E-09	-26.9E-09	-24.4E-09	-25.6E-09	-24.4E-09	-25.6E-09	-25.6E-09	-22.0E-09
57	-28.1E-09	-23.2E-09	-30.5E-09	-29.3E-09	-24.4E-09	-19.5E-09	-33.0E-09	-26.9E-09
58	-29.3E-09	-29.3E-09	-29.3E-09	-26.9E-09	-22.0E-09	-20.8E-09	-23.2E-09	-26.9E-09
59	-24.4E-09	-28.1E-09	-26.9E-09	-24.4E-09	-25.6E-09	-19.5E-09	-26.9E-09	-26.9E-09
60	-25.6E-09	-29.3E-09	-26.9E-09	-25.6E-09	-25.6E-09	-25.6E-09	-25.6E-09	-24.4E-09
Statistics								
Min	-30.5E-09	-30.5E-09	-30.5E-09	-29.3E-09	-28.1E-09	-26.9E-09	-33.0E-09	-29.3E-09
Max	-22.0E-09	-23.2E-09	-22.0E-09	-24.4E-09	-22.0E-09	-19.5E-09	-23.2E-09	-22.0E-09
Average	-26.0E-09	-27.7E-09	-26.6E-09	-26.2E-09	-24.9E-09	-22.6E-09	-27.5E-09	-25.9E-09
Std Deviation	2.8E-09	2.6E-09	2.6E-09	1.7E-09	1.9E-09	3.0E-09	3.1E-09	2.0E-09

Measurements

Iozl<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-25.6E-09	-19.5E-09	-28.1E-09	-28.1E-09	-22.0E-09	-29.3E-09	-25.6E-09	-26.9E-09
67_OUT_REF	-22.0E-09	-26.9E-09	-28.1E-09	-23.2E-09	-26.9E-09	-22.0E-09	-25.6E-09	-30.5E-09
OFF samples								
61	-25.6E-09	-25.6E-09	-24.4E-09	-30.5E-09	-26.9E-09	-20.8E-09	-23.2E-09	-28.1E-09
62	-20.8E-09	-29.3E-09	-29.3E-09	-24.4E-09	-23.2E-09	-28.1E-09	-30.5E-09	-24.4E-09
63	-22.0E-09	-22.0E-09	-26.9E-09	-31.7E-09	-24.4E-09	-29.3E-09	-25.6E-09	-24.4E-09
64	-29.3E-09	-28.1E-09	-19.5E-09	-24.4E-09	-23.2E-09	-24.4E-09	-28.1E-09	-31.7E-09
65	-30.5E-09	-19.5E-09	-19.5E-09	-26.9E-09	-26.9E-09	-26.9E-09	-29.3E-09	-26.9E-09
Statistics								
Min	-30.5E-09	-29.3E-09	-29.3E-09	-31.7E-09	-26.9E-09	-29.3E-09	-30.5E-09	-31.7E-09
Max	-20.8E-09	-19.5E-09	-19.5E-09	-24.4E-09	-23.2E-09	-20.8E-09	-23.2E-09	-24.4E-09
Average	-25.6E-09	-24.9E-09	-23.9E-09	-27.6E-09	-24.9E-09	-25.9E-09	-27.3E-09	-27.1E-09
Std Deviation	4.3E-09	4.1E-09	4.4E-09	3.4E-09	1.9E-09	3.4E-09	2.9E-09	3.0E-09

Parameter : Output low leakage Current : Iozl<DQ[7]>
Test conditions : Vout=0V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

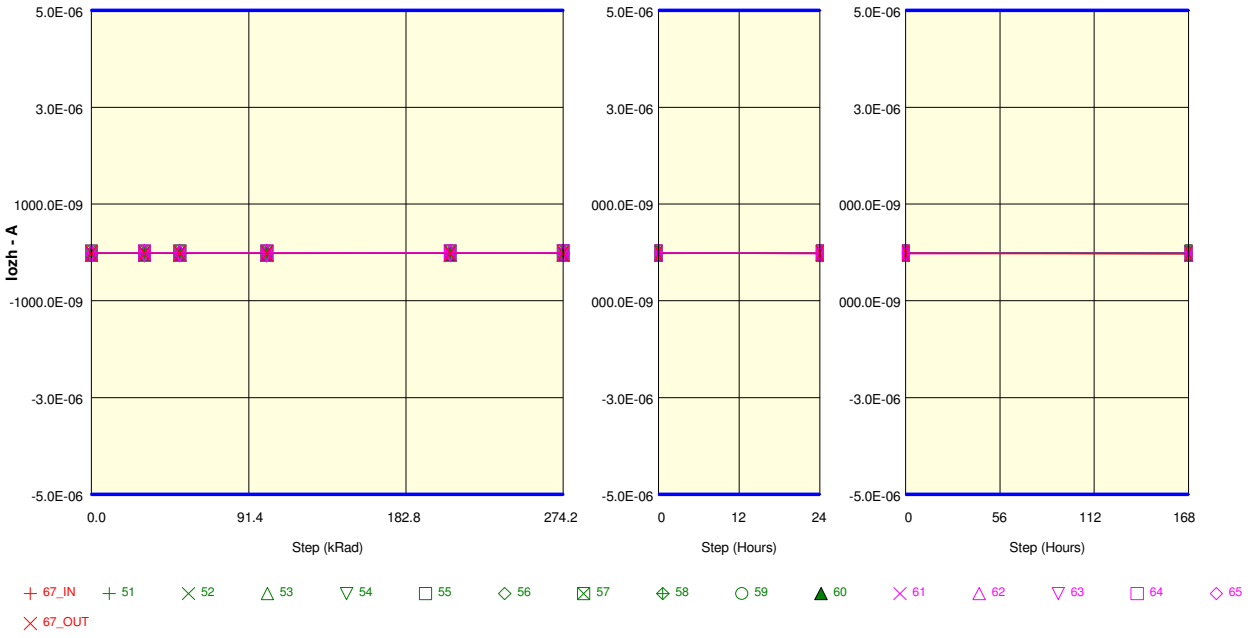
Measurements

Iozl<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-23.2E-09	-20.8E-09	-20.8E-09	-20.8E-09	-23.2E-09	-19.5E-09	-22.0E-09	-19.5E-09
67_OUT_REF	-22.0E-09	-20.8E-09	-18.3E-09	-22.0E-09	-24.4E-09	-22.0E-09	-19.5E-09	-22.0E-09
ON samples								
51	-13.4E-09	-20.8E-09	-15.9E-09	-20.8E-09	-24.4E-09	-25.6E-09	-24.4E-09	-19.5E-09
52	-17.1E-09	-24.4E-09	-25.6E-09	-22.0E-09	-18.3E-09	-19.5E-09	-19.5E-09	-17.1E-09
53	-22.0E-09	-22.0E-09	-24.4E-09	-23.2E-09	-26.9E-09	-25.6E-09	-20.8E-09	-22.0E-09
54	-26.9E-09	-19.5E-09	-25.6E-09	-20.8E-09	-22.0E-09	-22.0E-09	-17.1E-09	-24.4E-09
55	-23.2E-09	-17.1E-09	-22.0E-09	-23.2E-09	-24.4E-09	-22.0E-09	-23.2E-09	-18.3E-09
56	-20.8E-09	-20.8E-09	-20.8E-09	-25.6E-09	-20.8E-09	-24.4E-09	-24.4E-09	-23.2E-09
57	-20.8E-09	-19.5E-09	-23.2E-09	-25.6E-09	-25.6E-09	-23.2E-09	-26.9E-09	-25.6E-09
58	-19.5E-09	-24.4E-09	-20.8E-09	-23.2E-09	-22.0E-09	-23.2E-09	-20.8E-09	-23.2E-09
59	-24.4E-09	-20.8E-09	-25.6E-09	-20.8E-09	-20.8E-09	-20.8E-09	-18.3E-09	-18.3E-09
60	-22.0E-09	-22.0E-09	-23.2E-09	-20.8E-09	-24.4E-09	-20.8E-09	-18.3E-09	-19.5E-09
Statistics								
Min	-26.9E-09	-24.4E-09	-25.6E-09	-25.6E-09	-26.9E-09	-25.6E-09	-26.9E-09	-25.6E-09
Max	-13.4E-09	-17.1E-09	-15.9E-09	-20.8E-09	-18.3E-09	-19.5E-09	-17.1E-09	-17.1E-09
Average	-21.0E-09	-21.1E-09	-22.7E-09	-22.6E-09	-22.9E-09	-22.7E-09	-21.4E-09	-21.1E-09
Std Deviation	3.8E-09	2.2E-09	3.1E-09	1.9E-09	2.6E-09	2.1E-09	3.2E-09	2.9E-09

Measurements

Iozl<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-23.2E-09	-20.8E-09	-20.8E-09	-20.8E-09	-23.2E-09	-19.5E-09	-22.0E-09	-19.5E-09
67_OUT_REF	-22.0E-09	-20.8E-09	-18.3E-09	-22.0E-09	-24.4E-09	-22.0E-09	-19.5E-09	-22.0E-09
OFF samples								
61	-20.8E-09	-17.1E-09	-18.3E-09	-24.4E-09	-26.9E-09	-24.4E-09	-24.4E-09	-17.1E-09
62	-17.1E-09	-20.8E-09	-23.2E-09	-25.6E-09	-20.8E-09	-22.0E-09	-22.0E-09	-20.8E-09
63	-15.9E-09	-19.5E-09	-25.6E-09	-20.8E-09	-19.5E-09	-17.1E-09	-20.8E-09	-20.8E-09
64	-19.5E-09	-26.9E-09	-22.0E-09	-18.3E-09	-25.6E-09	-22.0E-09	-28.1E-09	-18.3E-09
65	-20.8E-09	-20.8E-09	-15.9E-09	-20.8E-09	-25.6E-09	-23.2E-09	-17.1E-09	-22.0E-09
Statistics								
Min	-20.8E-09	-26.9E-09	-25.6E-09	-25.6E-09	-26.9E-09	-24.4E-09	-28.1E-09	-22.0E-09
Max	-15.9E-09	-17.1E-09	-15.9E-09	-18.3E-09	-19.5E-09	-17.1E-09	-17.1E-09	-17.1E-09
Average	-18.8E-09	-21.0E-09	-21.0E-09	-22.0E-09	-23.7E-09	-21.7E-09	-22.5E-09	-19.8E-09
Std Deviation	2.2E-09	3.6E-09	3.9E-09	3.0E-09	3.3E-09	2.8E-09	4.1E-09	2.0E-09

Parameter : Output high leakage Current : Iozh<DQ[0]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozh<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-11.0E-09	-15.9E-09	-15.9E-09	-17.1E-09	-17.1E-09	-23.2E-09	-26.9E-09
67_OUT_REF	-15.9E-09	-19.5E-09	-19.5E-09	-18.3E-09	-18.3E-09	-19.5E-09	-15.9E-09	-23.2E-09
ON samples								
51	-18.3E-09	-13.4E-09	-17.1E-09	-13.4E-09	-11.0E-09	-13.4E-09	-17.1E-09	-20.8E-09
52	-19.5E-09	-15.9E-09	-19.5E-09	-18.3E-09	-13.4E-09	-15.9E-09	-17.1E-09	-22.0E-09
53	-19.5E-09	-14.6E-09	-20.8E-09	-12.2E-09	-15.9E-09	-17.1E-09	-12.2E-09	-13.4E-09
54	-22.0E-09	-19.5E-09	-12.2E-09	-20.8E-09	-15.9E-09	-12.2E-09	-13.4E-09	-15.9E-09
55	-15.9E-09	-19.5E-09	-18.3E-09	-19.5E-09	-19.5E-09	-12.2E-09	-18.3E-09	-13.4E-09
56	-15.9E-09	-11.0E-09	-17.1E-09	-17.1E-09	-11.0E-09	-15.9E-09	-17.1E-09	-17.1E-09
57	-11.0E-09	-17.1E-09	-15.9E-09	-12.2E-09	-12.2E-09	-11.0E-09	-11.0E-09	-13.4E-09
58	-17.1E-09	-17.1E-09	-17.1E-09	-18.3E-09	-12.2E-09	-9.8E-09	-18.3E-09	-15.9E-09
59	-17.1E-09	-14.6E-09	-9.8E-09	-17.1E-09	-12.2E-09	-22.0E-09	-13.4E-09	-15.9E-09
60	-14.6E-09	-15.9E-09	-13.4E-09	-9.8E-09	-9.8E-09	-8.5E-09	-9.8E-09	-13.4E-09
Statistics								
Min	-22.0E-09	-19.5E-09	-20.8E-09	-20.8E-09	-19.5E-09	-22.0E-09	-18.3E-09	-22.0E-09
Max	-11.0E-09	-11.0E-09	-9.8E-09	-9.8E-09	-9.8E-09	-8.5E-09	-9.8E-09	-13.4E-09
Average	-17.1E-09	-15.9E-09	-16.1E-09	-15.9E-09	-13.3E-09	-13.8E-09	-14.8E-09	-16.1E-09
Std Deviation	3.0E-09	2.6E-09	3.4E-09	3.7E-09	3.0E-09	4.0E-09	3.2E-09	3.1E-09

Measurements

Iozh<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-11.0E-09	-15.9E-09	-15.9E-09	-17.1E-09	-17.1E-09	-23.2E-09	-26.9E-09
67_OUT_REF	-15.9E-09	-19.5E-09	-19.5E-09	-18.3E-09	-18.3E-09	-19.5E-09	-15.9E-09	-23.2E-09
OFF samples								
61	-18.3E-09	-14.6E-09	-19.5E-09	-15.9E-09	-15.9E-09	-14.6E-09	-20.8E-09	-19.5E-09
62	-13.4E-09	-22.0E-09	-13.4E-09	-17.1E-09	-19.5E-09	-17.1E-09	-22.0E-09	-14.6E-09
63	-17.1E-09	-13.4E-09	-15.9E-09	-14.6E-09	-13.4E-09	-12.2E-09	-14.6E-09	-18.3E-09
64	-14.6E-09	-19.5E-09	-18.3E-09	-11.0E-09	-14.6E-09	-9.8E-09	-13.4E-09	-18.3E-09
65	-18.3E-09	-11.0E-09	-12.2E-09	-13.4E-09	-9.8E-09	-15.9E-09	-17.1E-09	-22.0E-09
Statistics								
Min	-18.3E-09	-22.0E-09	-19.5E-09	-17.1E-09	-19.5E-09	-17.1E-09	-22.0E-09	-22.0E-09
Max	-13.4E-09	-11.0E-09	-12.2E-09	-11.0E-09	-9.8E-09	-9.8E-09	-13.4E-09	-14.6E-09
Average	-16.4E-09	-16.1E-09	-15.9E-09	-14.4E-09	-14.6E-09	-13.9E-09	-17.6E-09	-18.6E-09
Std Deviation	2.2E-09	4.5E-09	3.1E-09	2.3E-09	3.6E-09	2.9E-09	3.7E-09	2.6E-09

Parameter : Output high leakage Current : Iozh<DQ[1]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozh<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.7E-09	1.2E-09	1.2E-09	-2.4E-09	-8.5E-09	-1.2E-09	-6.1E-09	-8.5E-09
67_OUT_REF	-8.5E-09	1.2E-09	-3.7E-09	-4.9E-09	-2.4E-09	1.2E-09	-11.0E-09	-4.9E-09
ON samples								
51	-7.3E-09	-4.9E-09	-4.9E-09	2.4E-09	2.4E-09	3.7E-09	-9.8E-09	-3.7E-09
52	-7.3E-09	-7.3E-09	0.0E+00	-4.9E-09	-2.4E-09	-2.4E-09	-4.9E-09	-6.1E-09
53	-2.4E-09	0.0E+00	-6.1E-09	-4.9E-09	-1.2E-09	7.3E-09	-6.1E-09	-1.2E-09
54	-4.9E-09	-7.3E-09	-2.4E-09	-2.4E-09	1.2E-09	0.0E+00	-4.9E-09	0.0E+00
55	-2.4E-09	-6.1E-09	-3.7E-09	-2.4E-09	-2.4E-09	2.4E-09	-1.2E-09	-4.9E-09
56	-3.7E-09	2.4E-09	3.7E-09	2.4E-09	2.4E-09	2.4E-09	-2.4E-09	-4.9E-09
57	-1.2E-09	0.0E+00	0.0E+00	-2.4E-09	4.9E-09	6.1E-09	3.7E-09	2.4E-09
58	-1.2E-09	-1.2E-09	-3.7E-09	-4.9E-09	3.7E-09	3.7E-09	1.2E-09	-1.2E-09
59	0.0E+00	-2.4E-09	-1.2E-09	1.2E-09	-1.2E-09	2.4E-09	-4.9E-09	1.2E-09
60	0.0E+00	-2.4E-09	4.9E-09	0.0E+00	3.7E-09	8.5E-09	1.2E-09	-2.4E-09
Statistics								
Min	-7.3E-09	-7.3E-09	-6.1E-09	-4.9E-09	-2.4E-09	-2.4E-09	-9.8E-09	-6.1E-09
Max	0.0E+00	2.4E-09	4.9E-09	2.4E-09	4.9E-09	8.5E-09	3.7E-09	2.4E-09
Average	-3.1E-09	-2.9E-09	-1.3E-09	-1.6E-09	1.1E-09	3.4E-09	-2.8E-09	-2.1E-09
Std Deviation	2.7E-09	3.4E-09	3.6E-09	2.9E-09	2.7E-09	3.3E-09	4.1E-09	2.8E-09

Measurements

Iozh<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.7E-09	1.2E-09	1.2E-09	-2.4E-09	-8.5E-09	-1.2E-09	-6.1E-09	-8.5E-09
67_OUT_REF	-8.5E-09	1.2E-09	-3.7E-09	-4.9E-09	-2.4E-09	1.2E-09	-11.0E-09	-4.9E-09
OFF samples								
61	-4.9E-09	-7.3E-09	-1.2E-09	-7.3E-09	0.0E+00	0.0E+00	-7.3E-09	-6.1E-09
62	-2.4E-09	-1.2E-09	-4.9E-09	-7.3E-09	-2.4E-09	-2.4E-09	-2.4E-09	-7.3E-09
63	-1.2E-09	-3.7E-09	-2.4E-09	-2.4E-09	1.2E-09	2.4E-09	-2.4E-09	-3.7E-09
64	-2.4E-09	-4.9E-09	2.4E-09	-3.7E-09	3.7E-09	4.9E-09	2.4E-09	-2.4E-09
65	1.2E-09	1.2E-09	0.0E+00	-1.2E-09	3.7E-09	-1.2E-09	1.2E-09	0.0E+00
Statistics								
Min	-4.9E-09	-7.3E-09	-4.9E-09	-7.3E-09	-2.4E-09	-2.4E-09	-7.3E-09	-7.3E-09
Max	1.2E-09	1.2E-09	2.4E-09	-1.2E-09	3.7E-09	4.9E-09	2.4E-09	0.0E+00
Average	-2.0E-09	-3.2E-09	-1.2E-09	-4.4E-09	1.2E-09	732.4E-12	-1.7E-09	-3.9E-09
Std Deviation	2.2E-09	3.3E-09	2.7E-09	2.8E-09	2.6E-09	2.9E-09	3.8E-09	2.9E-09

Parameter : Output high leakage Current : Iozh<DQ[2]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

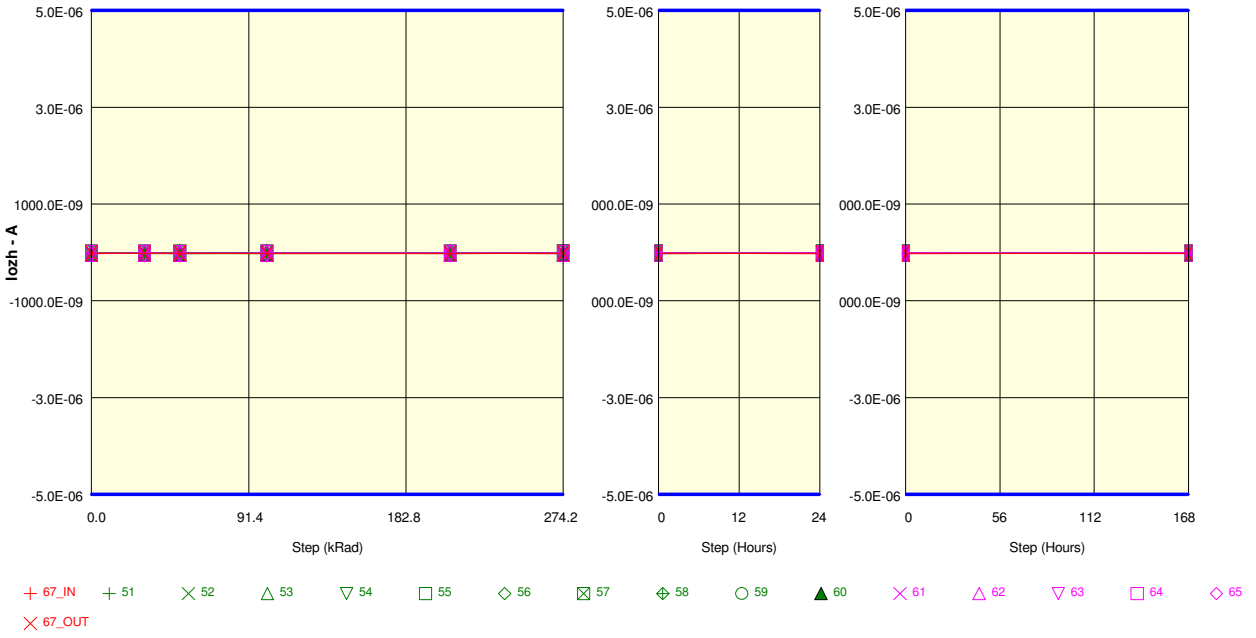
Measurements

Iozh<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-2.4E-09	-7.3E-09	-13.4E-09	-8.5E-09	-7.3E-09	-11.0E-09	-9.8E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-4.9E-09	-7.3E-09	-4.9E-09	-8.5E-09	-8.5E-09	-13.4E-09
ON samples								
51	-7.3E-09	-3.7E-09	-4.9E-09	-2.4E-09	-7.3E-09	-3.7E-09	-6.1E-09	-8.5E-09
52	-12.2E-09	-9.8E-09	-7.3E-09	-8.5E-09	-3.7E-09	-6.1E-09	-7.3E-09	-6.1E-09
53	-9.8E-09	-3.7E-09	-3.7E-09	-2.4E-09	-6.1E-09	-1.2E-09	-9.8E-09	-1.2E-09
54	-2.4E-09	-9.8E-09	1.2E-09	-2.4E-09	-4.9E-09	2.4E-09	-7.3E-09	-9.8E-09
55	-4.9E-09	-4.9E-09	-1.2E-09	-1.2E-09	-3.7E-09	-6.1E-09	-3.7E-09	-8.5E-09
56	-9.8E-09	-8.5E-09	-9.8E-09	-6.1E-09	-1.2E-09	-2.4E-09	-6.1E-09	-13.4E-09
57	-6.1E-09	-2.4E-09	-2.4E-09	-7.3E-09	3.7E-09	1.2E-09	-2.4E-09	-7.3E-09
58	-3.7E-09	-6.1E-09	-2.4E-09	-4.9E-09	-1.2E-09	-1.2E-09	-2.4E-09	-8.5E-09
59	-6.1E-09	-3.7E-09	-2.4E-09	-2.4E-09	-8.5E-09	-3.7E-09	-9.8E-09	-13.4E-09
60	-1.2E-09	-7.3E-09	-3.7E-09	1.2E-09	-1.2E-09	0.0E+00	-4.9E-09	-6.1E-09
Statistics								
Min	-12.2E-09	-9.8E-09	-9.8E-09	-8.5E-09	-8.5E-09	-6.1E-09	-9.8E-09	-13.4E-09
Max	-1.2E-09	-2.4E-09	1.2E-09	1.2E-09	3.7E-09	2.4E-09	-2.4E-09	-1.2E-09
Average	-6.3E-09	-6.0E-09	-3.7E-09	-3.7E-09	-3.4E-09	-2.1E-09	-6.0E-09	-8.3E-09
Std Deviation	3.5E-09	2.7E-09	3.1E-09	3.0E-09	3.6E-09	2.9E-09	2.7E-09	3.6E-09

Measurements

Iozh<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-2.4E-09	-7.3E-09	-13.4E-09	-8.5E-09	-7.3E-09	-11.0E-09	-9.8E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-4.9E-09	-7.3E-09	-4.9E-09	-8.5E-09	-8.5E-09	-13.4E-09
OFF samples								
61	-12.2E-09	-12.2E-09	-4.9E-09	-3.7E-09	-2.4E-09	-1.2E-09	-9.8E-09	-12.2E-09
62	-11.0E-09	-7.3E-09	-7.3E-09	-6.1E-09	-3.7E-09	-7.3E-09	-9.8E-09	-12.2E-09
63	-9.8E-09	-6.1E-09	-7.3E-09	-11.0E-09	-4.9E-09	-6.1E-09	-8.5E-09	-3.7E-09
64	-11.0E-09	-4.9E-09	-8.5E-09	-4.9E-09	-7.3E-09	-4.9E-09	-13.4E-09	-9.8E-09
65	-7.3E-09	-2.4E-09	-6.1E-09	0.0E+00	-2.4E-09	1.2E-09	-2.4E-09	-3.7E-09
Statistics								
Min	-12.2E-09	-12.2E-09	-8.5E-09	-11.0E-09	-7.3E-09	-7.3E-09	-13.4E-09	-12.2E-09
Max	-7.3E-09	-2.4E-09	-4.9E-09	0.0E+00	-2.4E-09	1.2E-09	-2.4E-09	-3.7E-09
Average	-10.3E-09	-6.6E-09	-6.8E-09	-5.1E-09	-4.2E-09	-3.7E-09	-8.8E-09	-8.3E-09
Std Deviation	1.9E-09	3.6E-09	1.4E-09	4.0E-09	2.0E-09	3.6E-09	4.0E-09	4.4E-09

Parameter : Output high leakage Current : Iozh<DQ[3]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iozh<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-15.9E-09	-19.5E-09	-18.3E-09	-19.5E-09	-18.3E-09	-22.0E-09	-14.6E-09	-17.1E-09
67_OUT_REF	-18.3E-09	-18.3E-09	-18.3E-09	-22.0E-09	-22.0E-09	-19.5E-09	-24.4E-09	-19.5E-09
ON samples								
51	-18.3E-09	-14.6E-09	-19.5E-09	-15.9E-09	-17.1E-09	-13.4E-09	-12.2E-09	-15.9E-09
52	-17.1E-09	-18.3E-09	-22.0E-09	-20.8E-09	-19.5E-09	-22.0E-09	-18.3E-09	-14.6E-09
53	-17.1E-09	-19.5E-09	-12.2E-09	-13.4E-09	-14.6E-09	-13.4E-09	-12.2E-09	-12.2E-09
54	-19.5E-09	-19.5E-09	-18.3E-09	-17.1E-09	-19.5E-09	-15.9E-09	-18.3E-09	-9.8E-09
55	-13.4E-09	-17.1E-09	-18.3E-09	-17.1E-09	-19.5E-09	-12.2E-09	-14.6E-09	-12.2E-09
56	-13.4E-09	-24.4E-09	-20.8E-09	-17.1E-09	-12.2E-09	-19.5E-09	-19.5E-09	-14.6E-09
57	-14.6E-09	-13.4E-09	-12.2E-09	-11.0E-09	-11.0E-09	-6.1E-09	-7.3E-09	-13.4E-09
58	-18.3E-09	-13.4E-09	-17.1E-09	-15.9E-09	-12.2E-09	-15.9E-09	-14.6E-09	-18.3E-09
59	-17.1E-09	-14.6E-09	-15.9E-09	-12.2E-09	-20.8E-09	-19.5E-09	-18.3E-09	-14.6E-09
60	-19.5E-09	-15.9E-09	-13.4E-09	-13.4E-09	-15.9E-09	-9.8E-09	-11.0E-09	-12.2E-09
Statistics								
Min	-19.5E-09	-24.4E-09	-22.0E-09	-20.8E-09	-20.8E-09	-22.0E-09	-19.5E-09	-18.3E-09
Max	-13.4E-09	-13.4E-09	-12.2E-09	-11.0E-09	-11.0E-09	-6.1E-09	-7.3E-09	-9.8E-09
Average	-16.8E-09	-17.1E-09	-17.0E-09	-15.4E-09	-16.2E-09	-14.8E-09	-14.6E-09	-13.8E-09
Std Deviation	2.3E-09	3.5E-09	3.5E-09	2.9E-09	3.6E-09	4.8E-09	4.0E-09	2.4E-09

Measurements

Iozh<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-15.9E-09	-19.5E-09	-18.3E-09	-19.5E-09	-18.3E-09	-22.0E-09	-14.6E-09	-17.1E-09
67_OUT_REF	-18.3E-09	-18.3E-09	-18.3E-09	-22.0E-09	-22.0E-09	-19.5E-09	-24.4E-09	-19.5E-09
OFF samples								
61	-19.5E-09	-14.6E-09	-19.5E-09	-17.1E-09	-18.3E-09	-14.6E-09	-14.6E-09	-9.8E-09
62	-22.0E-09	-17.1E-09	-14.6E-09	-19.5E-09	-19.5E-09	-20.8E-09	-13.4E-09	-17.1E-09
63	-18.3E-09	-15.9E-09	-22.0E-09	-17.1E-09	-18.3E-09	-14.6E-09	-20.8E-09	-11.0E-09
64	-14.6E-09	-15.9E-09	-15.9E-09	-17.1E-09	-18.3E-09	-18.3E-09	-19.5E-09	-22.0E-09
65	-20.8E-09	-19.5E-09	-19.5E-09	-18.3E-09	-14.6E-09	-12.2E-09	-12.2E-09	-14.6E-09
Statistics								
Min	-22.0E-09	-19.5E-09	-22.0E-09	-19.5E-09	-19.5E-09	-20.8E-09	-20.8E-09	-22.0E-09
Max	-14.6E-09	-14.6E-09	-14.6E-09	-17.1E-09	-14.6E-09	-12.2E-09	-12.2E-09	-9.8E-09
Average	-19.0E-09	-16.6E-09	-18.3E-09	-17.8E-09	-17.8E-09	-16.1E-09	-16.1E-09	-14.9E-09
Std Deviation	2.8E-09	1.9E-09	3.0E-09	1.1E-09	1.9E-09	3.4E-09	3.8E-09	4.9E-09

Parameter : Output high leakage Current : Iozh<DQ[4]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozh<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-12.2E-09	-9.8E-09	-9.8E-09	-12.2E-09	-9.8E-09	-14.6E-09	-6.1E-09	-9.8E-09
67_OUT_REF	-11.0E-09	-11.0E-09	-11.0E-09	-14.6E-09	-11.0E-09	-14.6E-09	-14.6E-09	-8.5E-09
ON samples								
51	-14.6E-09	-11.0E-09	-13.4E-09	-11.0E-09	-11.0E-09	-6.1E-09	-6.1E-09	-6.1E-09
52	-11.0E-09	-9.8E-09	-14.6E-09	-11.0E-09	-11.0E-09	-14.6E-09	-14.6E-09	-13.4E-09
53	-8.5E-09	-6.1E-09	-12.2E-09	-13.4E-09	-11.0E-09	-4.9E-09	-7.3E-09	-7.3E-09
54	-11.0E-09	-12.2E-09	-6.1E-09	-15.9E-09	-6.1E-09	-4.9E-09	-9.8E-09	-9.8E-09
55	-12.2E-09	-9.8E-09	-12.2E-09	-8.5E-09	-12.2E-09	-6.1E-09	-9.8E-09	-8.5E-09
56	-13.4E-09	-9.8E-09	-9.8E-09	-12.2E-09	-4.9E-09	-3.7E-09	-7.3E-09	-9.8E-09
57	-9.8E-09	-6.1E-09	-8.5E-09	-8.5E-09	-2.4E-09	0.0E+00	-8.5E-09	-9.8E-09
58	-8.5E-09	-8.5E-09	-9.8E-09	-6.1E-09	-2.4E-09	0.0E+00	-7.3E-09	-9.8E-09
59	-17.1E-09	-12.2E-09	-7.3E-09	-8.5E-09	-3.7E-09	-8.5E-09	-11.0E-09	-12.2E-09
60	-7.3E-09	-2.4E-09	-8.5E-09	-2.4E-09	-7.3E-09	-2.4E-09	-11.0E-09	-9.8E-09
Statistics								
Min	-17.1E-09	-12.2E-09	-14.6E-09	-15.9E-09	-12.2E-09	-14.6E-09	-14.6E-09	-13.4E-09
Max	-7.3E-09	-2.4E-09	-6.1E-09	-2.4E-09	-2.4E-09	0.0E+00	-6.1E-09	-6.1E-09
Average	-11.4E-09	-8.8E-09	-10.3E-09	-9.8E-09	-7.2E-09	-5.1E-09	-9.3E-09	-9.6E-09
Std Deviation	3.0E-09	3.1E-09	2.8E-09	3.8E-09	3.8E-09	4.3E-09	2.5E-09	2.1E-09

Measurements

Iozh<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-12.2E-09	-9.8E-09	-9.8E-09	-12.2E-09	-9.8E-09	-14.6E-09	-6.1E-09	-9.8E-09
67_OUT_REF	-11.0E-09	-11.0E-09	-11.0E-09	-14.6E-09	-11.0E-09	-14.6E-09	-14.6E-09	-8.5E-09
OFF samples								
61	-14.6E-09	-12.2E-09	-15.9E-09	-9.8E-09	-9.8E-09	-6.1E-09	-11.0E-09	-6.1E-09
62	-8.5E-09	-8.5E-09	-11.0E-09	-12.2E-09	-6.1E-09	-9.8E-09	-14.6E-09	-12.2E-09
63	-12.2E-09	-17.1E-09	-8.5E-09	-8.5E-09	-13.4E-09	-9.8E-09	-11.0E-09	-12.2E-09
64	-13.4E-09	-8.5E-09	-7.3E-09	-6.1E-09	-7.3E-09	-8.5E-09	-7.3E-09	-11.0E-09
65	-11.0E-09	-9.8E-09	-12.2E-09	-11.0E-09	-7.3E-09	-1.2E-09	-4.9E-09	-1.2E-09
Statistics								
Min	-14.6E-09	-17.1E-09	-15.9E-09	-12.2E-09	-13.4E-09	-9.8E-09	-14.6E-09	-12.2E-09
Max	-8.5E-09	-8.5E-09	-7.3E-09	-6.1E-09	-6.1E-09	-1.2E-09	-4.9E-09	-1.2E-09
Average	-12.0E-09	-11.2E-09	-11.0E-09	-9.5E-09	-8.8E-09	-7.1E-09	-9.8E-09	-8.5E-09
Std Deviation	2.3E-09	3.6E-09	3.3E-09	2.3E-09	2.9E-09	3.6E-09	3.8E-09	4.8E-09

Parameter : Output high leakage Current : Iozh<DQ[5]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozh<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-1.2E-09	-14.6E-09	-7.3E-09	-9.8E-09	-4.9E-09	-13.4E-09	-15.9E-09
67_OUT_REF	-4.9E-09	-7.3E-09	-7.3E-09	-9.8E-09	-9.8E-09	-11.0E-09	-13.4E-09	-11.0E-09
ON samples								
51	-11.0E-09	-11.0E-09	-11.0E-09	-2.4E-09	-7.3E-09	-3.7E-09	-8.5E-09	-8.5E-09
52	-9.8E-09	-17.1E-09	-8.5E-09	-9.8E-09	-11.0E-09	-4.9E-09	-11.0E-09	-9.8E-09
53	-11.0E-09	-11.0E-09	-8.5E-09	-7.3E-09	0.0E+00	-3.7E-09	-7.3E-09	-12.2E-09
54	-7.3E-09	-9.8E-09	-11.0E-09	-7.3E-09	-9.8E-09	-3.7E-09	-6.1E-09	-9.8E-09
55	-4.9E-09	-13.4E-09	-4.9E-09	-4.9E-09	-6.1E-09	-9.8E-09	-8.5E-09	-6.1E-09
56	-9.8E-09	-9.8E-09	-7.3E-09	-7.3E-09	-4.9E-09	-4.9E-09	-7.3E-09	-11.0E-09
57	-6.1E-09	-3.7E-09	3.7E-09	3.7E-09	0.0E+00	3.7E-09	-4.9E-09	-1.2E-09
58	-9.8E-09	-4.9E-09	-4.9E-09	-3.7E-09	2.4E-09	0.0E+00	-6.1E-09	-8.5E-09
59	-8.5E-09	-3.7E-09	-2.4E-09	-11.0E-09	-4.9E-09	-2.4E-09	-11.0E-09	-7.3E-09
60	-1.2E-09	-2.4E-09	-4.9E-09	-6.1E-09	0.0E+00	-6.1E-09	-1.2E-09	-8.5E-09
Statistics								
Min	-11.0E-09	-17.1E-09	-11.0E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-12.2E-09
Max	-1.2E-09	-2.4E-09	3.7E-09	3.7E-09	2.4E-09	3.7E-09	-1.2E-09	-1.2E-09
Average	-7.9E-09	-8.7E-09	-6.0E-09	-5.6E-09	-4.2E-09	-3.5E-09	-7.2E-09	-8.3E-09
Std Deviation	3.1E-09	4.8E-09	4.4E-09	4.2E-09	4.6E-09	3.6E-09	2.9E-09	3.0E-09

Measurements

Iozh<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-1.2E-09	-14.6E-09	-7.3E-09	-9.8E-09	-4.9E-09	-13.4E-09	-15.9E-09
67_OUT_REF	-4.9E-09	-7.3E-09	-7.3E-09	-9.8E-09	-9.8E-09	-11.0E-09	-13.4E-09	-11.0E-09
OFF samples								
61	-4.9E-09	-11.0E-09	-7.3E-09	-7.3E-09	-4.9E-09	-11.0E-09	-9.8E-09	-6.1E-09
62	-6.1E-09	-11.0E-09	-7.3E-09	-9.8E-09	-13.4E-09	-2.4E-09	-11.0E-09	-17.1E-09
63	-9.8E-09	-6.1E-09	-9.8E-09	-7.3E-09	-3.7E-09	-3.7E-09	-9.8E-09	-8.5E-09
64	-3.7E-09	-4.9E-09	-1.2E-09	-2.4E-09	-3.7E-09	-6.1E-09	-6.1E-09	-11.0E-09
65	-12.2E-09	-1.2E-09	-3.7E-09	-8.5E-09	1.2E-09	-7.3E-09	-4.9E-09	-7.3E-09
Statistics								
Min	-12.2E-09	-11.0E-09	-9.8E-09	-9.8E-09	-13.4E-09	-11.0E-09	-11.0E-09	-17.1E-09
Max	-3.7E-09	-1.2E-09	-1.2E-09	-2.4E-09	1.2E-09	-2.4E-09	-4.9E-09	-6.1E-09
Average	-7.3E-09	-6.8E-09	-5.9E-09	-7.1E-09	-4.9E-09	-6.1E-09	-8.3E-09	-10.0E-09
Std Deviation	3.6E-09	4.2E-09	3.4E-09	2.8E-09	5.3E-09	3.3E-09	2.6E-09	4.4E-09

Parameter : Output high leakage Current : Iozh<DQ[6]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozh<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-18.3E-09	-12.2E-09	-18.3E-09	-12.2E-09	-7.3E-09	-13.4E-09	-19.5E-09
67_OUT_REF	-11.0E-09	-13.4E-09	-13.4E-09	-13.4E-09	-12.2E-09	-11.0E-09	-13.4E-09	-14.6E-09
ON samples								
51	-13.4E-09	-9.8E-09	-8.5E-09	-4.9E-09	-3.7E-09	-6.1E-09	-12.2E-09	-9.8E-09
52	-12.2E-09	-19.5E-09	-13.4E-09	-12.2E-09	-8.5E-09	-8.5E-09	-17.1E-09	-14.6E-09
53	-8.5E-09	-13.4E-09	-4.9E-09	-14.6E-09	-4.9E-09	-1.2E-09	-11.0E-09	-13.4E-09
54	-11.0E-09	-13.4E-09	-8.5E-09	-6.1E-09	-2.4E-09	-6.1E-09	-4.9E-09	-15.9E-09
55	-14.6E-09	-17.1E-09	-7.3E-09	-8.5E-09	-6.1E-09	-2.4E-09	-13.4E-09	-17.1E-09
56	-12.2E-09	-11.0E-09	-11.0E-09	-11.0E-09	-9.8E-09	-4.9E-09	-9.8E-09	-17.1E-09
57	-12.2E-09	-6.1E-09	-1.2E-09	-7.3E-09	3.7E-09	-2.4E-09	-3.7E-09	-14.6E-09
58	-9.8E-09	-11.0E-09	-8.5E-09	-7.3E-09	-1.2E-09	-2.4E-09	-8.5E-09	-4.9E-09
59	-15.9E-09	-8.5E-09	-11.0E-09	-9.8E-09	-7.3E-09	-4.9E-09	-11.0E-09	-14.6E-09
60	-8.5E-09	-13.4E-09	-8.5E-09	-6.1E-09	-4.9E-09	-3.7E-09	-11.0E-09	-6.1E-09
Statistics								
Min	-15.9E-09	-19.5E-09	-13.4E-09	-14.6E-09	-9.8E-09	-8.5E-09	-17.1E-09	-17.1E-09
Max	-8.5E-09	-6.1E-09	-1.2E-09	-4.9E-09	3.7E-09	-1.2E-09	-3.7E-09	-4.9E-09
Average	-11.8E-09	-12.3E-09	-8.3E-09	-8.8E-09	-4.5E-09	-4.3E-09	-10.3E-09	-12.8E-09
Std Deviation	2.4E-09	4.0E-09	3.4E-09	3.1E-09	3.9E-09	2.2E-09	3.9E-09	4.4E-09

Measurements

Iozh<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-18.3E-09	-12.2E-09	-18.3E-09	-12.2E-09	-7.3E-09	-13.4E-09	-19.5E-09
67_OUT_REF	-11.0E-09	-13.4E-09	-13.4E-09	-13.4E-09	-12.2E-09	-11.0E-09	-13.4E-09	-14.6E-09
OFF samples								
61	-11.0E-09	-9.8E-09	-12.2E-09	-9.8E-09	-8.5E-09	-9.8E-09	-17.1E-09	-12.2E-09
62	-12.2E-09	-15.9E-09	-13.4E-09	-12.2E-09	-7.3E-09	-13.4E-09	-12.2E-09	-18.3E-09
63	-6.1E-09	-14.6E-09	-9.8E-09	-8.5E-09	-7.3E-09	-7.3E-09	-17.1E-09	-9.8E-09
64	-13.4E-09	-13.4E-09	-13.4E-09	-3.7E-09	-11.0E-09	-3.7E-09	-13.4E-09	-14.6E-09
65	-12.2E-09	-18.3E-09	-13.4E-09	-8.5E-09	-6.1E-09	-3.7E-09	-13.4E-09	-17.1E-09
Statistics								
Min	-13.4E-09	-18.3E-09	-13.4E-09	-12.2E-09	-11.0E-09	-13.4E-09	-17.1E-09	-18.3E-09
Max	-6.1E-09	-9.8E-09	-9.8E-09	-3.7E-09	-6.1E-09	-3.7E-09	-12.2E-09	-9.8E-09
Average	-11.0E-09	-14.4E-09	-12.5E-09	-8.5E-09	-8.1E-09	-7.6E-09	-14.6E-09	-14.4E-09
Std Deviation	2.9E-09	3.2E-09	1.6E-09	3.1E-09	1.9E-09	4.2E-09	2.3E-09	3.5E-09

Parameter : Output high leakage Current : Iozh<DQ[7]>
Test conditions : Vout=1.35V
Unit : A
Spec Limit Min : -5.0E-06
Spec Limit Max : 5.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iozh<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-8.5E-09	-11.0E-09	-8.5E-09	-6.1E-09	-11.0E-09	-13.4E-09	-7.3E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-14.6E-09	-7.3E-09	-13.4E-09	-11.0E-09	-6.1E-09	-8.5E-09
ON samples								
51	-11.0E-09	-14.6E-09	-3.7E-09	-7.3E-09	-9.8E-09	-4.9E-09	-8.5E-09	-8.5E-09
52	-8.5E-09	-12.2E-09	-4.9E-09	-6.1E-09	-8.5E-09	-6.1E-09	-13.4E-09	-12.2E-09
53	-11.0E-09	-11.0E-09	-3.7E-09	-7.3E-09	-9.8E-09	-2.4E-09	-9.8E-09	-6.1E-09
54	-8.5E-09	-7.3E-09	-9.8E-09	-7.3E-09	-9.8E-09	-2.4E-09	-8.5E-09	2.4E-09
55	-7.3E-09	-3.7E-09	-9.8E-09	-3.7E-09	-3.7E-09	-6.1E-09	-12.2E-09	-6.1E-09
56	-4.9E-09	-11.0E-09	-4.9E-09	-7.3E-09	-2.4E-09	-6.1E-09	-11.0E-09	-3.7E-09
57	-6.1E-09	-4.9E-09	2.4E-09	-8.5E-09	-3.7E-09	1.2E-09	-6.1E-09	-4.9E-09
58	-6.1E-09	-4.9E-09	-2.4E-09	-2.4E-09	1.2E-09	-2.4E-09	-9.8E-09	-3.7E-09
59	-9.8E-09	-12.2E-09	-6.1E-09	-4.9E-09	-2.4E-09	3.7E-09	1.2E-09	-6.1E-09
60	-4.9E-09	-6.1E-09	-4.9E-09	-2.4E-09	0.0E+00	-3.7E-09	-7.3E-09	-6.1E-09
Statistics								
Min	-11.0E-09	-14.6E-09	-9.8E-09	-8.5E-09	-9.8E-09	-6.1E-09	-13.4E-09	-12.2E-09
Max	-4.9E-09	-3.7E-09	2.4E-09	-2.4E-09	1.2E-09	3.7E-09	1.2E-09	2.4E-09
Average	-7.8E-09	-8.8E-09	-4.8E-09	-5.7E-09	-4.9E-09	-2.9E-09	-8.5E-09	-5.5E-09
Std Deviation	2.3E-09	3.9E-09	3.5E-09	2.2E-09	4.2E-09	3.3E-09	4.1E-09	3.7E-09

Measurements

Iozh<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-8.5E-09	-11.0E-09	-8.5E-09	-6.1E-09	-11.0E-09	-13.4E-09	-7.3E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-14.6E-09	-7.3E-09	-13.4E-09	-11.0E-09	-6.1E-09	-8.5E-09
OFF samples								
61	-7.3E-09	-14.6E-09	-6.1E-09	-9.8E-09	-6.1E-09	-3.7E-09	-8.5E-09	-9.8E-09
62	-8.5E-09	-7.3E-09	-3.7E-09	-12.2E-09	-8.5E-09	-7.3E-09	-13.4E-09	-11.0E-09
63	-3.7E-09	-7.3E-09	-4.9E-09	-8.5E-09	-8.5E-09	-3.7E-09	-9.8E-09	-13.4E-09
64	-8.5E-09	-7.3E-09	-3.7E-09	-9.8E-09	-4.9E-09	-2.4E-09	-12.2E-09	-11.0E-09
65	-7.3E-09	-8.5E-09	-9.8E-09	-11.0E-09	-3.7E-09	-9.8E-09	-8.5E-09	-12.2E-09
Statistics								
Min	-8.5E-09	-14.6E-09	-9.8E-09	-12.2E-09	-8.5E-09	-9.8E-09	-13.4E-09	-13.4E-09
Max	-3.7E-09	-7.3E-09	-3.7E-09	-8.5E-09	-3.7E-09	-2.4E-09	-8.5E-09	-9.8E-09
Average	-7.1E-09	-9.0E-09	-5.6E-09	-10.3E-09	-6.3E-09	-5.4E-09	-10.5E-09	-11.5E-09
Std Deviation	2.0E-09	3.2E-09	2.5E-09	1.4E-09	2.2E-09	3.1E-09	2.2E-09	1.4E-09

Parameter : Input Low Leakage Current : Iil</CAS>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil</CAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-22.0E-09	-22.0E-09	-25.6E-09	-17.1E-09	-18.3E-09	-19.5E-09	-25.6E-09	-24.4E-09
67_OUT_REF	-17.1E-09	-26.9E-09	-19.5E-09	-25.6E-09	-24.4E-09	-25.6E-09	-25.6E-09	-12.2E-09
ON samples								
51	-14.6E-09	-20.8E-09	-26.9E-09	-25.6E-09	-11.0E-09	-19.5E-09	-13.4E-09	-17.1E-09
52	-23.2E-09	-26.9E-09	-17.1E-09	-20.8E-09	-20.8E-09	-19.5E-09	-20.8E-09	-11.0E-09
53	-23.2E-09	-15.9E-09	-25.6E-09	-23.2E-09	-14.6E-09	-13.4E-09	-25.6E-09	-14.6E-09
54	-19.5E-09	-26.9E-09	-23.2E-09	-14.6E-09	-11.0E-09	-25.6E-09	-14.6E-09	-20.8E-09
55	-20.8E-09	-23.2E-09	-15.9E-09	-22.0E-09	-24.4E-09	-22.0E-09	-25.6E-09	-17.1E-09
56	-15.9E-09	-20.8E-09	-17.1E-09	-26.9E-09	-20.8E-09	-20.8E-09	-26.9E-09	-22.0E-09
57	-17.1E-09	-18.3E-09	-28.1E-09	-23.2E-09	-22.0E-09	-25.6E-09	-20.8E-09	-9.8E-09
58	-22.0E-09	-26.9E-09	-20.8E-09	-17.1E-09	-24.4E-09	-20.8E-09	-17.1E-09	-19.5E-09
59	-26.9E-09	-25.6E-09	-23.2E-09	-19.5E-09	-23.2E-09	-15.9E-09	-26.9E-09	-19.5E-09
60	-18.3E-09	-26.9E-09	-22.0E-09	-13.4E-09	-20.8E-09	-19.5E-09	-23.2E-09	-15.9E-09
Statistics								
Min	-26.9E-09	-26.9E-09	-28.1E-09	-26.9E-09	-24.4E-09	-25.6E-09	-26.9E-09	-22.0E-09
Max	-14.6E-09	-15.9E-09	-15.9E-09	-13.4E-09	-11.0E-09	-13.4E-09	-13.4E-09	-9.8E-09
Average	-20.1E-09	-23.2E-09	-22.0E-09	-20.6E-09	-19.3E-09	-20.3E-09	-21.5E-09	-16.7E-09
Std Deviation	3.8E-09	4.1E-09	4.3E-09	4.5E-09	5.2E-09	3.8E-09	5.0E-09	4.0E-09

Measurements

Iil</CAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-22.0E-09	-22.0E-09	-25.6E-09	-17.1E-09	-18.3E-09	-19.5E-09	-25.6E-09	-24.4E-09
67_OUT_REF	-17.1E-09	-26.9E-09	-19.5E-09	-25.6E-09	-24.4E-09	-25.6E-09	-25.6E-09	-12.2E-09
OFF samples								
61	-20.8E-09	-25.6E-09	-23.2E-09	-24.4E-09	-13.4E-09	-24.4E-09	-15.9E-09	-13.4E-09
62	-26.9E-09	-15.9E-09	-20.8E-09	-15.9E-09	-19.5E-09	-24.4E-09	-17.1E-09	-13.4E-09
63	-19.5E-09	-24.4E-09	-31.7E-09	-23.2E-09	-26.9E-09	-23.2E-09	-24.4E-09	-15.9E-09
64	-17.1E-09	-17.1E-09	-23.2E-09	-19.5E-09	-30.5E-09	-24.4E-09	-19.5E-09	-17.1E-09
65	-24.4E-09	-22.0E-09	-18.3E-09	-19.5E-09	-20.8E-09	-26.9E-09	-14.6E-09	-19.5E-09
Statistics								
Min	-26.9E-09	-25.6E-09	-31.7E-09	-24.4E-09	-30.5E-09	-26.9E-09	-24.4E-09	-19.5E-09
Max	-17.1E-09	-15.9E-09	-18.3E-09	-15.9E-09	-13.4E-09	-23.2E-09	-14.6E-09	-13.4E-09
Average	-21.7E-09	-21.0E-09	-23.4E-09	-20.5E-09	-22.2E-09	-24.7E-09	-18.3E-09	-15.9E-09
Std Deviation	3.9E-09	4.4E-09	5.1E-09	3.4E-09	6.7E-09	1.3E-09	3.9E-09	2.6E-09

Parameter : Input Low Leakage Current : Iil</CS>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

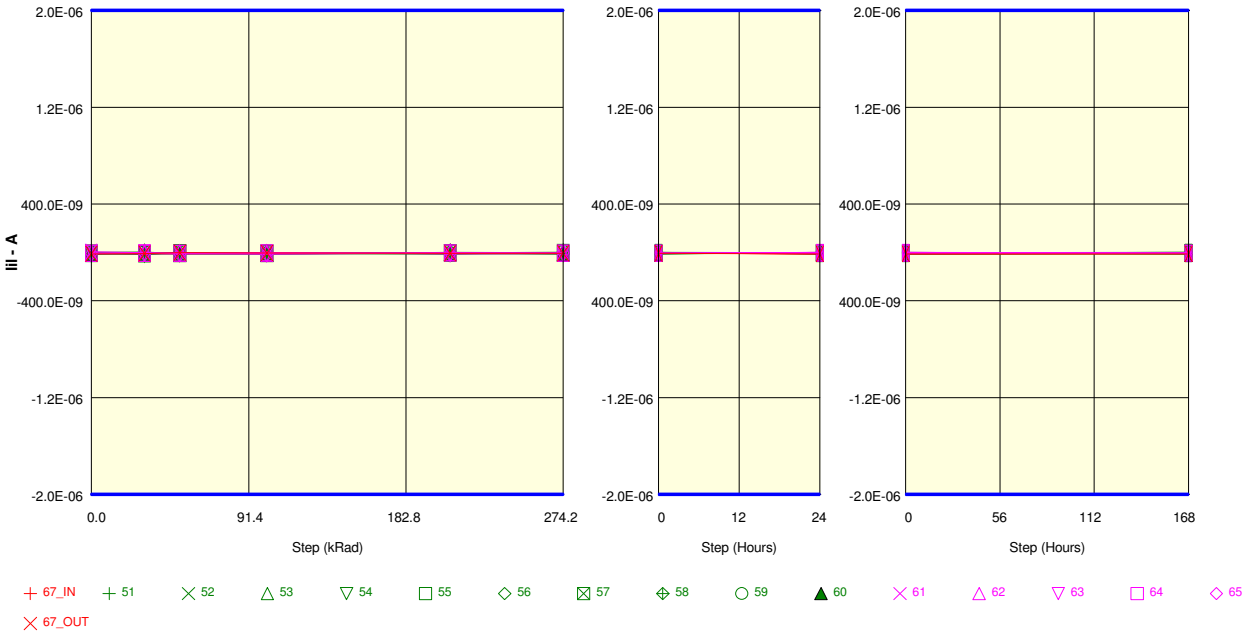
Measurements

Iil</CS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-8.5E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-14.6E-09	-11.0E-09
67_OUT_REF	-15.9E-09	-7.3E-09	-13.4E-09	-15.9E-09	-8.5E-09	-6.1E-09	-2.4E-09	-12.2E-09
ON samples								
51	-8.5E-09	-13.4E-09	-8.5E-09	-9.8E-09	-7.3E-09	-6.1E-09	-2.4E-09	-13.4E-09
52	-12.2E-09	-11.0E-09	-9.8E-09	-8.5E-09	-7.3E-09	-8.5E-09	-11.0E-09	-7.3E-09
53	-8.5E-09	-9.8E-09	-6.1E-09	-12.2E-09	-13.4E-09	-7.3E-09	-8.5E-09	-7.3E-09
54	-8.5E-09	-15.9E-09	-4.9E-09	-11.0E-09	-8.5E-09	-8.5E-09	-11.0E-09	-14.6E-09
55	-6.1E-09	-11.0E-09	-7.3E-09	-7.3E-09	-7.3E-09	-9.8E-09	-4.9E-09	-14.6E-09
56	-7.3E-09	-6.1E-09	-14.6E-09	-9.8E-09	-8.5E-09	-8.5E-09	-7.3E-09	-9.8E-09
57	-6.1E-09	-17.1E-09	-6.1E-09	-13.4E-09	-11.0E-09	-6.1E-09	-9.8E-09	-11.0E-09
58	-11.0E-09	-14.6E-09	-9.8E-09	-8.5E-09	-11.0E-09	-9.8E-09	-3.7E-09	-14.6E-09
59	-4.9E-09	-4.9E-09	-14.6E-09	-9.8E-09	-4.9E-09	-12.2E-09	-6.1E-09	-13.4E-09
60	-14.6E-09	-9.8E-09	-8.5E-09	-12.2E-09	-11.0E-09	-3.7E-09	-2.4E-09	-12.2E-09
Statistics								
Min	-14.6E-09	-17.1E-09	-14.6E-09	-13.4E-09	-13.4E-09	-12.2E-09	-11.0E-09	-14.6E-09
Max	-4.9E-09	-4.9E-09	-4.9E-09	-7.3E-09	-4.9E-09	-3.7E-09	-2.4E-09	-7.3E-09
Average	-8.8E-09	-11.4E-09	-9.0E-09	-10.3E-09	-9.0E-09	-8.1E-09	-6.7E-09	-11.8E-09
Std Deviation	3.0E-09	4.0E-09	3.4E-09	1.9E-09	2.5E-09	2.4E-09	3.3E-09	2.9E-09

Measurements

Iil</CS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-8.5E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-14.6E-09	-11.0E-09
67_OUT_REF	-15.9E-09	-7.3E-09	-13.4E-09	-15.9E-09	-8.5E-09	-6.1E-09	-2.4E-09	-12.2E-09
OFF samples								
61	-7.3E-09	-9.8E-09	-15.9E-09	-3.7E-09	-9.8E-09	-14.6E-09	-9.8E-09	-12.2E-09
62	-15.9E-09	-8.5E-09	-12.2E-09	-9.8E-09	-9.8E-09	-11.0E-09	-11.0E-09	-9.8E-09
63	-9.8E-09	-12.2E-09	-8.5E-09	-3.7E-09	-11.0E-09	-11.0E-09	-6.1E-09	-7.3E-09
64	-14.6E-09	-12.2E-09	-6.1E-09	-6.1E-09	-8.5E-09	-11.0E-09	-3.7E-09	-12.2E-09
65	-11.0E-09	-8.5E-09	-8.5E-09	-6.1E-09	-11.0E-09	-11.0E-09	-4.9E-09	-13.4E-09
Statistics								
Min	-15.9E-09	-12.2E-09	-15.9E-09	-9.8E-09	-11.0E-09	-14.6E-09	-11.0E-09	-13.4E-09
Max	-7.3E-09	-8.5E-09	-6.1E-09	-3.7E-09	-8.5E-09	-11.0E-09	-3.7E-09	-7.3E-09
Average	-11.7E-09	-10.3E-09	-10.3E-09	-5.9E-09	-10.0E-09	-11.7E-09	-7.1E-09	-11.0E-09
Std Deviation	3.5E-09	1.9E-09	3.8E-09	2.5E-09	1.0E-09	1.6E-09	3.2E-09	2.4E-09

Parameter : Input Low Leakage Current : Iil</RAS>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



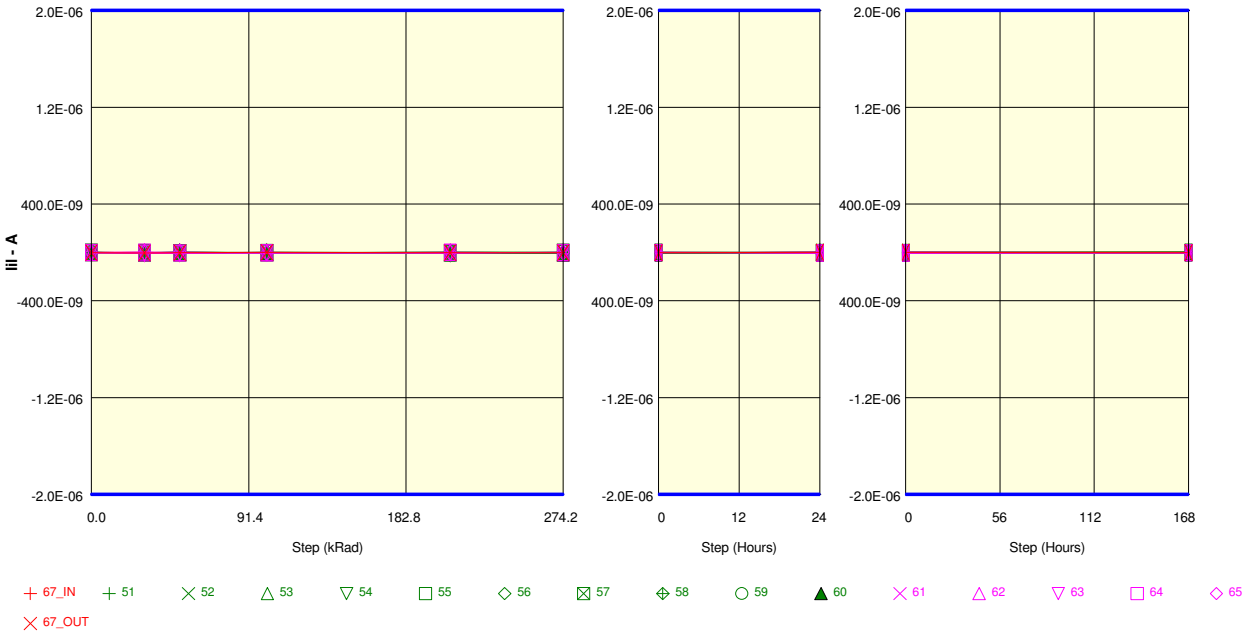
Measurements

Iil</RAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.1E-09	-9.8E-09	-11.0E-09	-8.5E-09	-1.2E-09	-2.4E-09	-14.6E-09	-9.8E-09
67_OUT_REF	-11.0E-09	-8.5E-09	-1.2E-09	-4.9E-09	-7.3E-09	-6.1E-09	-12.2E-09	-12.2E-09
ON samples								
51	0.0E+00	2.4E-09	-8.5E-09	-14.6E-09	-6.1E-09	-4.9E-09	-3.7E-09	0.0E+00
52	-1.2E-09	-9.8E-09	-4.9E-09	-9.8E-09	-7.3E-09	-11.0E-09	0.0E+00	-8.5E-09
53	-4.9E-09	0.0E+00	-9.8E-09	-3.7E-09	-2.4E-09	0.0E+00	-11.0E-09	-7.3E-09
54	-6.1E-09	-14.6E-09	-6.1E-09	-3.7E-09	-2.4E-09	0.0E+00	-2.4E-09	1.2E-09
55	-4.9E-09	-13.4E-09	-2.4E-09	-6.1E-09	-9.8E-09	-9.8E-09	-1.2E-09	-6.1E-09
56	-6.1E-09	-6.1E-09	-7.3E-09	-4.9E-09	-3.7E-09	-6.1E-09	-4.9E-09	-4.9E-09
57	-11.0E-09	-7.3E-09	-3.7E-09	-7.3E-09	-2.4E-09	-6.1E-09	-4.9E-09	1.2E-09
58	-14.6E-09	-12.2E-09	-4.9E-09	-3.7E-09	-6.1E-09	-11.0E-09	-2.4E-09	-12.2E-09
59	-12.2E-09	-4.9E-09	-6.1E-09	-3.7E-09	-13.4E-09	-3.7E-09	-3.7E-09	-3.7E-09
60	-4.9E-09	-9.8E-09	-12.2E-09	-11.0E-09	0.0E+00	-1.2E-09	-8.5E-09	-12.2E-09
Statistics								
Min	-14.6E-09	-14.6E-09	-12.2E-09	-14.6E-09	-13.4E-09	-11.0E-09	-11.0E-09	-12.2E-09
Max	0.0E+00	2.4E-09	-2.4E-09	-3.7E-09	0.0E+00	0.0E+00	0.0E+00	1.2E-09
Average	-6.6E-09	-7.6E-09	-6.6E-09	-6.8E-09	-5.4E-09	-5.4E-09	-4.3E-09	-5.2E-09
Std Deviation	4.7E-09	5.6E-09	2.9E-09	3.8E-09	4.0E-09	4.2E-09	3.3E-09	5.0E-09

Measurements

Iil</RAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.1E-09	-9.8E-09	-11.0E-09	-8.5E-09	-1.2E-09	-2.4E-09	-14.6E-09	-9.8E-09
67_OUT_REF	-11.0E-09	-8.5E-09	-1.2E-09	-4.9E-09	-7.3E-09	-6.1E-09	-12.2E-09	-12.2E-09
OFF samples								
61	4.9E-09	-2.4E-09	-7.3E-09	-1.2E-09	-11.0E-09	-9.8E-09	-1.2E-09	-3.7E-09
62	-6.1E-09	-8.5E-09	-4.9E-09	-9.8E-09	-1.2E-09	-7.3E-09	0.0E+00	-3.7E-09
63	-3.7E-09	-1.2E-09	-6.1E-09	-11.0E-09	-3.7E-09	-7.3E-09	1.2E-09	-8.5E-09
64	-9.8E-09	-9.8E-09	-6.1E-09	-2.4E-09	-3.7E-09	-4.9E-09	-7.3E-09	-4.9E-09
65	-9.8E-09	-9.8E-09	-12.2E-09	-11.0E-09	-6.1E-09	-4.9E-09	-9.8E-09	-6.1E-09
Statistics								
Min	-9.8E-09	-9.8E-09	-12.2E-09	-11.0E-09	-11.0E-09	-9.8E-09	-9.8E-09	-8.5E-09
Max	4.9E-09	-1.2E-09	-4.9E-09	-1.2E-09	-1.2E-09	-4.9E-09	1.2E-09	-3.7E-09
Average	-4.9E-09	-6.3E-09	-7.3E-09	-7.1E-09	-5.1E-09	-6.8E-09	-3.4E-09	-5.4E-09
Std Deviation	6.0E-09	4.2E-09	2.9E-09	4.8E-09	3.7E-09	2.0E-09	4.8E-09	2.0E-09

Parameter : Input Low Leakage Current : Iil</RESET>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil</RESET>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	173.3E-12	1.7E-09	-2.9E-09	-1.4E-09	-1.4E-09	-1.4E-09	936.3E-12	4.0E-09
67_OUT_REF	-2.1E-09	-3.6E-09	-2.1E-09	-589.6E-12	-1.4E-09	-1.4E-09	1.7E-09	-2.9E-09
ON samples								
51	1.7E-09	-2.9E-09	-3.6E-09	-3.6E-09	4.0E-09	1.7E-09	-1.4E-09	-589.6E-12
52	936.3E-12	-7.5E-09	-3.6E-09	173.3E-12	1.7E-09	936.3E-12	1.7E-09	-1.4E-09
53	-589.6E-12	-5.2E-09	-2.9E-09	-3.6E-09	-5.2E-09	1.7E-09	1.7E-09	3.2E-09
54	1.7E-09	-2.9E-09	-2.1E-09	-2.1E-09	-5.9E-09	-1.4E-09	-5.2E-09	-4.4E-09
55	936.3E-12	-4.4E-09	-2.1E-09	-1.4E-09	-1.4E-09	-3.6E-09	-2.1E-09	-2.1E-09
56	173.3E-12	-2.1E-09	4.0E-09	-2.1E-09	-4.4E-09	-5.9E-09	3.2E-09	-2.9E-09
57	-1.4E-09	-589.6E-12	-2.9E-09	173.3E-12	-2.9E-09	1.7E-09	173.3E-12	1.7E-09
58	936.3E-12	-2.9E-09	3.2E-09	-1.4E-09	173.3E-12	-2.1E-09	1.7E-09	-589.6E-12
59	-3.6E-09	-2.1E-09	-1.4E-09	173.3E-12	-3.6E-09	-589.6E-12	-7.5E-09	-5.2E-09
60	-2.1E-09	-2.9E-09	-2.9E-09	173.3E-12	-2.9E-09	-3.6E-09	-5.9E-09	-4.4E-09
Statistics								
Min	-3.6E-09	-7.5E-09	-3.6E-09	-3.6E-09	-5.9E-09	-5.9E-09	-7.5E-09	-5.2E-09
Max	1.7E-09	-589.6E-12	4.0E-09	173.3E-12	4.0E-09	1.7E-09	3.2E-09	3.2E-09
Average	-131.8E-12	-3.3E-09	-1.4E-09	-1.4E-09	-2.0E-09	-1.1E-09	-1.4E-09	-1.7E-09
Std Deviation	1.8E-09	1.9E-09	2.7E-09	1.5E-09	3.2E-09	2.7E-09	3.7E-09	2.7E-09

Measurements

Iil</RESET>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	173.3E-12	1.7E-09	-2.9E-09	-1.4E-09	-1.4E-09	-1.4E-09	936.3E-12	4.0E-09
67_OUT_REF	-2.1E-09	-3.6E-09	-2.1E-09	-589.6E-12	-1.4E-09	-1.4E-09	1.7E-09	-2.9E-09
OFF samples								
61	936.3E-12	-5.2E-09	-1.4E-09	173.3E-12	-5.9E-09	173.3E-12	-1.4E-09	-2.9E-09
62	-1.4E-09	-4.4E-09	-2.1E-09	-1.4E-09	-589.6E-12	-2.1E-09	2.5E-09	-2.9E-09
63	-3.6E-09	-5.9E-09	-5.9E-09	-2.9E-09	-1.4E-09	173.3E-12	-2.9E-09	-5.2E-09
64	-589.6E-12	3.2E-09	-4.4E-09	-4.4E-09	1.7E-09	-2.1E-09	-5.9E-09	-1.4E-09
65	-2.1E-09	1.7E-09	2.5E-09	-3.6E-09	-2.1E-09	1.7E-09	-1.4E-09	-2.9E-09
Statistics								
Min	-3.6E-09	-5.9E-09	-5.9E-09	-4.4E-09	-5.9E-09	-2.1E-09	-5.9E-09	-5.2E-09
Max	936.3E-12	3.2E-09	2.5E-09	173.3E-12	1.7E-09	1.7E-09	2.5E-09	-1.4E-09
Average	-1.4E-09	-2.1E-09	-2.3E-09	-2.4E-09	-1.7E-09	-437.0E-12	-1.8E-09	-3.0E-09
Std Deviation	1.7E-09	4.2E-09	3.2E-09	1.8E-09	2.8E-09	1.7E-09	3.0E-09	1.4E-09

Parameter : Input Low Leakage Current : Iil</WE>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil</WE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-13.4E-09	-18.3E-09	-14.6E-09	-18.3E-09	-17.1E-09	-17.1E-09	-17.1E-09	-14.6E-09
67_OUT_REF	-14.6E-09	-19.5E-09	-13.4E-09	-18.3E-09	-19.5E-09	-15.9E-09	-20.8E-09	-17.1E-09
ON samples								
51	-9.8E-09	-13.4E-09	-13.4E-09	-15.9E-09	-15.9E-09	-14.6E-09	-13.4E-09	-20.8E-09
52	-9.8E-09	-17.1E-09	-17.1E-09	-17.1E-09	-20.8E-09	-19.5E-09	-18.3E-09	-20.8E-09
53	-17.1E-09	-11.0E-09	-14.6E-09	-20.8E-09	-12.2E-09	-13.4E-09	-22.0E-09	-11.0E-09
54	-14.6E-09	-15.9E-09	-12.2E-09	-11.0E-09	-13.4E-09	-22.0E-09	-15.9E-09	-18.3E-09
55	-17.1E-09	-20.8E-09	-11.0E-09	-14.6E-09	-22.0E-09	-17.1E-09	-14.6E-09	-18.3E-09
56	-15.9E-09	-15.9E-09	-14.6E-09	-14.6E-09	-13.4E-09	-12.2E-09	-18.3E-09	-13.4E-09
57	-12.2E-09	-13.4E-09	-13.4E-09	-11.0E-09	-13.4E-09	-17.1E-09	-12.2E-09	-8.5E-09
58	-18.3E-09	-15.9E-09	-19.5E-09	-18.3E-09	-13.4E-09	-11.0E-09	-14.6E-09	-20.8E-09
59	-18.3E-09	-15.9E-09	-15.9E-09	-18.3E-09	-18.3E-09	-14.6E-09	-15.9E-09	-20.8E-09
60	-12.2E-09	-20.8E-09	-15.9E-09	-13.4E-09	-15.9E-09	-15.9E-09	-15.9E-09	-18.3E-09
Statistics								
Min	-18.3E-09	-20.8E-09	-19.5E-09	-20.8E-09	-22.0E-09	-22.0E-09	-22.0E-09	-20.8E-09
Max	-9.8E-09	-11.0E-09	-11.0E-09	-11.0E-09	-12.2E-09	-11.0E-09	-12.2E-09	-8.5E-09
Average	-14.5E-09	-16.0E-09	-14.8E-09	-15.5E-09	-15.9E-09	-15.7E-09	-16.1E-09	-17.1E-09
Std Deviation	3.3E-09	3.1E-09	2.5E-09	3.2E-09	3.4E-09	3.3E-09	2.8E-09	4.5E-09

Measurements

Iil</WE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-13.4E-09	-18.3E-09	-14.6E-09	-18.3E-09	-17.1E-09	-17.1E-09	-17.1E-09	-14.6E-09
67_OUT_REF	-14.6E-09	-19.5E-09	-13.4E-09	-18.3E-09	-19.5E-09	-15.9E-09	-20.8E-09	-17.1E-09
OFF samples								
61	-11.0E-09	-18.3E-09	-12.2E-09	-12.2E-09	-14.6E-09	-15.9E-09	-15.9E-09	-11.0E-09
62	-13.4E-09	-17.1E-09	-15.9E-09	-19.5E-09	-14.6E-09	-11.0E-09	-17.1E-09	-15.9E-09
63	-12.2E-09	-19.5E-09	-18.3E-09	-14.6E-09	-19.5E-09	-19.5E-09	-15.9E-09	-17.1E-09
64	-14.6E-09	-19.5E-09	-17.1E-09	-13.4E-09	-14.6E-09	-18.3E-09	-12.2E-09	-13.4E-09
65	-15.9E-09	-18.3E-09	-15.9E-09	-14.6E-09	-18.3E-09	-15.9E-09	-19.5E-09	-12.2E-09
Statistics								
Min	-15.9E-09	-19.5E-09	-18.3E-09	-19.5E-09	-19.5E-09	-19.5E-09	-19.5E-09	-17.1E-09
Max	-11.0E-09	-17.1E-09	-12.2E-09	-12.2E-09	-14.6E-09	-11.0E-09	-12.2E-09	-11.0E-09
Average	-13.4E-09	-18.6E-09	-15.9E-09	-14.9E-09	-16.4E-09	-16.1E-09	-16.1E-09	-13.9E-09
Std Deviation	1.9E-09	1.0E-09	2.3E-09	2.8E-09	2.4E-09	3.3E-09	2.6E-09	2.5E-09

Parameter : Input Low Leakage Current : Iil<ADD[0]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	173.3E-12	-1.4E-09	936.3E-12	-5.2E-09	1.7E-09	-2.1E-09	-5.2E-09
67_OUT_REF	1.7E-09	-4.4E-09	-589.6E-12	-2.9E-09	-2.1E-09	-2.1E-09	173.3E-12	-589.6E-12
ON samples								
51	-5.2E-09	-5.9E-09	3.2E-09	-589.6E-12	-4.4E-09	-589.6E-12	-589.6E-12	1.7E-09
52	-6.7E-09	173.3E-12	-7.5E-09	-9.0E-09	-2.9E-09	-2.9E-09	-1.4E-09	-6.7E-09
53	-2.1E-09	-589.6E-12	-2.1E-09	173.3E-12	-2.9E-09	173.3E-12	173.3E-12	-589.6E-12
54	-7.5E-09	-5.9E-09	-2.1E-09	-2.1E-09	936.3E-12	-1.4E-09	-2.9E-09	173.3E-12
55	-2.9E-09	-589.6E-12	936.3E-12	-589.6E-12	-1.4E-09	936.3E-12	-2.1E-09	-589.6E-12
56	-4.4E-09	-5.9E-09	936.3E-12	-5.9E-09	173.3E-12	-3.6E-09	-5.2E-09	-3.6E-09
57	-2.1E-09	-3.6E-09	-589.6E-12	4.8E-09	173.3E-12	-2.9E-09	1.7E-09	-3.6E-09
58	-4.4E-09	-2.1E-09	3.2E-09	-2.9E-09	-4.4E-09	-2.1E-09	-1.4E-09	-5.2E-09
59	-2.1E-09	-2.9E-09	-2.9E-09	-1.4E-09	-2.9E-09	173.3E-12	-2.1E-09	-5.2E-09
60	-2.1E-09	-5.2E-09	-1.4E-09	173.3E-12	-7.5E-09	-2.1E-09	-2.1E-09	-3.6E-09
Statistics								
Min	-7.5E-09	-5.9E-09	-7.5E-09	-9.0E-09	-7.5E-09	-3.6E-09	-5.2E-09	-6.7E-09
Max	-2.1E-09	173.3E-12	3.2E-09	4.8E-09	936.3E-12	936.3E-12	1.7E-09	1.7E-09
Average	-3.9E-09	-3.3E-09	-818.5E-12	-1.7E-09	-2.5E-09	-1.4E-09	-1.6E-09	-2.7E-09
Std Deviation	2.0E-09	2.4E-09	3.2E-09	3.7E-09	2.6E-09	1.5E-09	1.8E-09	2.7E-09

Measurements

Iil<ADD[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	173.3E-12	-1.4E-09	936.3E-12	-5.2E-09	1.7E-09	-2.1E-09	-5.2E-09
67_OUT_REF	1.7E-09	-4.4E-09	-589.6E-12	-2.9E-09	-2.1E-09	-2.1E-09	173.3E-12	-589.6E-12
OFF samples								
61	-1.4E-09	2.5E-09	-4.4E-09	-6.7E-09	936.3E-12	936.3E-12	-4.4E-09	-2.1E-09
62	-2.1E-09	3.2E-09	-589.6E-12	-2.1E-09	936.3E-12	-1.4E-09	936.3E-12	173.3E-12
63	-5.2E-09	173.3E-12	-2.1E-09	936.3E-12	-2.9E-09	-2.9E-09	-1.4E-09	-1.4E-09
64	-6.7E-09	-1.4E-09	-1.4E-09	-2.9E-09	-5.2E-09	-589.6E-12	-5.2E-09	-1.4E-09
65	-4.4E-09	173.3E-12	-2.9E-09	-589.6E-12	-2.1E-09	173.3E-12	-2.1E-09	-4.4E-09
Statistics								
Min	-6.7E-09	-1.4E-09	-4.4E-09	-6.7E-09	-5.2E-09	-2.9E-09	-5.2E-09	-4.4E-09
Max	-1.4E-09	3.2E-09	-589.6E-12	936.3E-12	936.3E-12	936.3E-12	936.3E-12	173.3E-12
Average	-3.9E-09	936.3E-12	-2.3E-09	-2.3E-09	-1.7E-09	-742.2E-12	-2.4E-09	-1.8E-09
Std Deviation	2.2E-09	1.9E-09	1.5E-09	2.9E-09	2.6E-09	1.5E-09	2.4E-09	1.7E-09

Parameter : Input Low Leakage Current : Iil<ADD[1]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-3.6E-09	-7.5E-09	-3.6E-09	-2.9E-09	-5.2E-09	-3.6E-09	-7.5E-09
67_OUT_REF	-2.1E-09	-5.9E-09	-9.7E-09	-7.5E-09	-5.9E-09	-589.6E-12	-12.8E-09	-1.4E-09
ON samples								
51	-589.6E-12	-1.4E-09	-10.5E-09	-5.2E-09	-7.5E-09	-4.4E-09	173.3E-12	-589.6E-12
52	-7.5E-09	173.3E-12	-5.2E-09	-9.7E-09	-5.2E-09	-2.9E-09	-4.4E-09	-6.7E-09
53	-2.9E-09	-8.2E-09	-5.2E-09	-3.6E-09	-5.2E-09	-3.6E-09	-2.9E-09	-589.6E-12
54	-589.6E-12	-589.6E-12	-5.2E-09	-2.9E-09	-2.9E-09	-4.4E-09	-9.7E-09	-6.7E-09
55	-1.4E-09	-2.9E-09	-4.4E-09	-5.9E-09	-5.2E-09	-9.0E-09	-9.0E-09	-6.7E-09
56	-4.4E-09	-6.7E-09	-5.2E-09	-2.9E-09	1.7E-09	-5.2E-09	-2.9E-09	-4.4E-09
57	173.3E-12	-589.6E-12	-589.6E-12	173.3E-12	-6.7E-09	-7.5E-09	-5.2E-09	-5.9E-09
58	-4.4E-09	-3.6E-09	-5.2E-09	-5.9E-09	-1.4E-09	-6.7E-09	-4.4E-09	-2.1E-09
59	-2.9E-09	-5.2E-09	-3.6E-09	-6.7E-09	-589.6E-12	-5.9E-09	-5.9E-09	-9.0E-09
60	-2.1E-09	-2.9E-09	-1.4E-09	-5.2E-09	-6.7E-09	-5.9E-09	-5.2E-09	-2.9E-09
Statistics								
Min	-7.5E-09	-8.2E-09	-10.5E-09	-9.7E-09	-7.5E-09	-9.0E-09	-9.7E-09	-9.0E-09
Max	173.3E-12	173.3E-12	-589.6E-12	173.3E-12	1.7E-09	-2.9E-09	173.3E-12	-589.6E-12
Average	-2.6E-09	-3.2E-09	-4.6E-09	-4.8E-09	-3.9E-09	-5.5E-09	-4.9E-09	-4.6E-09
Std Deviation	2.3E-09	2.8E-09	2.7E-09	2.7E-09	3.0E-09	1.8E-09	2.9E-09	2.9E-09

Measurements

Iil<ADD[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-3.6E-09	-7.5E-09	-3.6E-09	-2.9E-09	-5.2E-09	-3.6E-09	-7.5E-09
67_OUT_REF	-2.1E-09	-5.9E-09	-9.7E-09	-7.5E-09	-5.9E-09	-589.6E-12	-12.8E-09	-1.4E-09
OFF samples								
61	-8.2E-09	-2.1E-09	1.7E-09	-2.9E-09	-589.6E-12	-5.2E-09	-6.7E-09	-2.1E-09
62	-7.5E-09	-9.0E-09	-5.9E-09	-3.6E-09	-4.4E-09	-3.6E-09	-6.7E-09	173.3E-12
63	-1.4E-09	-4.4E-09	-2.1E-09	-3.6E-09	-5.2E-09	-5.2E-09	-6.7E-09	-8.2E-09
64	-5.2E-09	-5.2E-09	-6.7E-09	-3.6E-09	-3.6E-09	-5.9E-09	-5.2E-09	-7.5E-09
65	-2.9E-09	-3.6E-09	-4.4E-09	-7.5E-09	-2.9E-09	-5.9E-09	-2.9E-09	-6.7E-09
Statistics								
Min	-8.2E-09	-9.0E-09	-6.7E-09	-7.5E-09	-5.2E-09	-5.9E-09	-6.7E-09	-8.2E-09
Max	-1.4E-09	-2.1E-09	1.7E-09	-2.9E-09	-589.6E-12	-3.6E-09	-2.9E-09	173.3E-12
Average	-5.0E-09	-4.9E-09	-3.5E-09	-4.3E-09	-3.3E-09	-5.2E-09	-5.6E-09	-4.9E-09
Std Deviation	2.9E-09	2.6E-09	3.4E-09	1.8E-09	1.8E-09	934.4E-12	1.7E-09	3.7E-09

Parameter : Input Low Leakage Current : Iil<ADD[10]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[10]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-9.0E-09	-8.2E-09	-8.2E-09	-7.5E-09	-7.5E-09	-9.7E-09	-8.2E-09
67_OUT_REF	-4.4E-09	-6.7E-09	-5.9E-09	-6.7E-09	-8.2E-09	-5.9E-09	-6.7E-09	-9.0E-09
ON samples								
51	-5.2E-09	-9.0E-09	-9.0E-09	-4.4E-09	-9.7E-09	-9.0E-09	-6.7E-09	-9.0E-09
52	-9.7E-09	-6.7E-09	-7.5E-09	-8.2E-09	-7.5E-09	-9.0E-09	-4.4E-09	-4.4E-09
53	-5.2E-09	-6.7E-09	-2.9E-09	-9.7E-09	-4.4E-09	-7.5E-09	-10.5E-09	-9.0E-09
54	-4.4E-09	-4.4E-09	-9.0E-09	-7.5E-09	-7.5E-09	-7.5E-09	-4.4E-09	-12.0E-09
55	-7.5E-09	-7.5E-09	-7.5E-09	-5.2E-09	-6.7E-09	-9.0E-09	-9.7E-09	-9.0E-09
56	-2.9E-09	-10.5E-09	-13.6E-09	-7.5E-09	-5.9E-09	-2.9E-09	-5.2E-09	-5.2E-09
57	-9.7E-09	-9.0E-09	-7.5E-09	-7.5E-09	-2.1E-09	-8.2E-09	-4.4E-09	-7.5E-09
58	-7.5E-09	-5.9E-09	-5.9E-09	-9.0E-09	-4.4E-09	-2.9E-09	-5.9E-09	-5.2E-09
59	-9.7E-09	-8.2E-09	-6.7E-09	-5.2E-09	-5.9E-09	-8.2E-09	-7.5E-09	-10.5E-09
60	-5.2E-09	-9.7E-09	-9.7E-09	-5.2E-09	-8.2E-09	-6.7E-09	-14.3E-09	-7.5E-09
Statistics								
Min	-9.7E-09	-10.5E-09	-13.6E-09	-9.7E-09	-9.7E-09	-9.0E-09	-14.3E-09	-12.0E-09
Max	-2.9E-09	-4.4E-09	-2.9E-09	-4.4E-09	-2.1E-09	-2.9E-09	-4.4E-09	-4.4E-09
Average	-6.7E-09	-7.8E-09	-7.9E-09	-6.9E-09	-6.2E-09	-7.1E-09	-7.3E-09	-7.9E-09
Std Deviation	2.5E-09	1.9E-09	2.8E-09	1.8E-09	2.2E-09	2.3E-09	3.3E-09	2.5E-09

Measurements

Iil<ADD[10]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-9.0E-09	-8.2E-09	-8.2E-09	-7.5E-09	-7.5E-09	-9.7E-09	-8.2E-09
67_OUT_REF	-4.4E-09	-6.7E-09	-5.9E-09	-6.7E-09	-8.2E-09	-5.9E-09	-6.7E-09	-9.0E-09
OFF samples								
61	-12.0E-09	-2.1E-09	-3.6E-09	-5.9E-09	-2.9E-09	-9.0E-09	-5.2E-09	-3.6E-09
62	-6.7E-09	-8.2E-09	-7.5E-09	-5.9E-09	-2.9E-09	-7.5E-09	-3.6E-09	-4.4E-09
63	-8.2E-09	-5.2E-09	-8.2E-09	-5.2E-09	-9.7E-09	-7.5E-09	-8.2E-09	-12.8E-09
64	-7.5E-09	-8.2E-09	-11.3E-09	-5.9E-09	-8.2E-09	-2.9E-09	-6.7E-09	-6.7E-09
65	-2.9E-09	-9.0E-09	-7.5E-09	-10.5E-09	-2.9E-09	-6.7E-09	-5.2E-09	-13.6E-09
Statistics								
Min	-12.0E-09	-9.0E-09	-11.3E-09	-10.5E-09	-9.7E-09	-9.0E-09	-8.2E-09	-13.6E-09
Max	-2.9E-09	-2.1E-09	-3.6E-09	-5.2E-09	-2.9E-09	-2.9E-09	-3.6E-09	-3.6E-09
Average	-7.5E-09	-6.5E-09	-7.6E-09	-6.7E-09	-5.3E-09	-6.7E-09	-5.8E-09	-8.2E-09
Std Deviation	3.3E-09	2.9E-09	2.7E-09	2.2E-09	3.4E-09	2.3E-09	1.7E-09	4.7E-09

Parameter : Input Low Leakage Current : Iil<ADD[11]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[11]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-1.4E-09	-1.4E-09	936.3E-12	-589.6E-12	-3.6E-09	-2.1E-09	-2.1E-09
67_OUT_REF	1.7E-09	-2.1E-09	-4.4E-09	-3.6E-09	-4.4E-09	-2.1E-09	-5.2E-09	-1.4E-09
ON samples								
51	173.3E-12	173.3E-12	-2.1E-09	-5.2E-09	-589.6E-12	-1.4E-09	-2.9E-09	1.7E-09
52	-5.9E-09	-5.9E-09	-2.1E-09	-589.6E-12	-5.2E-09	-589.6E-12	1.7E-09	-2.1E-09
53	936.3E-12	-2.9E-09	936.3E-12	173.3E-12	-2.9E-09	936.3E-12	1.7E-09	-2.1E-09
54	173.3E-12	3.2E-09	1.7E-09	-2.1E-09	173.3E-12	-2.9E-09	-4.4E-09	936.3E-12
55	936.3E-12	-2.1E-09	2.5E-09	-5.2E-09	-4.4E-09	1.7E-09	-2.1E-09	-2.9E-09
56	-5.2E-09	-2.1E-09	-2.1E-09	-2.1E-09	936.3E-12	-2.1E-09	-3.6E-09	1.7E-09
57	-589.6E-12	-6.7E-09	4.0E-09	-2.1E-09	-4.4E-09	-1.4E-09	-2.1E-09	1.7E-09
58	-3.6E-09	936.3E-12	-589.6E-12	173.3E-12	-6.7E-09	-8.2E-09	-2.9E-09	936.3E-12
59	2.5E-09	4.8E-09	173.3E-12	-2.9E-09	-2.9E-09	936.3E-12	-2.9E-09	-589.6E-12
60	936.3E-12	-1.4E-09	-5.2E-09	-3.6E-09	-7.5E-09	936.3E-12	-2.9E-09	-2.9E-09
Statistics								
Min	-5.9E-09	-6.7E-09	-5.2E-09	-5.2E-09	-7.5E-09	-8.2E-09	-4.4E-09	-2.9E-09
Max	2.5E-09	4.8E-09	4.0E-09	173.3E-12	936.3E-12	1.7E-09	1.7E-09	1.7E-09
Average	-971.1E-12	-1.2E-09	-284.4E-12	-2.3E-09	-3.3E-09	-1.2E-09	-2.0E-09	-360.7E-12
Std Deviation	2.9E-09	3.6E-09	2.7E-09	1.9E-09	2.8E-09	2.9E-09	2.1E-09	2.0E-09

Measurements

Iil<ADD[11]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-1.4E-09	-1.4E-09	936.3E-12	-589.6E-12	-3.6E-09	-2.1E-09	-2.1E-09
67_OUT_REF	1.7E-09	-2.1E-09	-4.4E-09	-3.6E-09	-4.4E-09	-2.1E-09	-5.2E-09	-1.4E-09
OFF samples								
61	173.3E-12	2.5E-09	-589.6E-12	-1.4E-09	-589.6E-12	-2.1E-09	-4.4E-09	5.5E-09
62	-3.6E-09	-6.7E-09	-3.6E-09	-1.4E-09	-2.1E-09	-3.6E-09	936.3E-12	-2.9E-09
63	-2.1E-09	-3.6E-09	-3.6E-09	-2.9E-09	-589.6E-12	173.3E-12	-8.2E-09	-5.2E-09
64	1.7E-09	-1.4E-09	936.3E-12	-589.6E-12	-1.4E-09	-2.9E-09	-3.6E-09	-3.6E-09
65	-2.1E-09	-1.4E-09	-2.9E-09	-2.1E-09	-589.6E-12	-589.6E-12	-2.9E-09	-3.6E-09
Statistics								
Min	-3.6E-09	-6.7E-09	-3.6E-09	-2.9E-09	-2.1E-09	-3.6E-09	-8.2E-09	-5.2E-09
Max	1.7E-09	2.5E-09	936.3E-12	-589.6E-12	-589.6E-12	173.3E-12	936.3E-12	5.5E-09
Average	-1.2E-09	-2.1E-09	-2.0E-09	-1.7E-09	-1.0E-09	-1.8E-09	-3.6E-09	-2.0E-09
Std Deviation	2.1E-09	3.4E-09	2.0E-09	869.9E-12	682.4E-12	1.6E-09	3.3E-09	4.3E-09

Parameter : Input Low Leakage Current : Iil<ADD[12]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

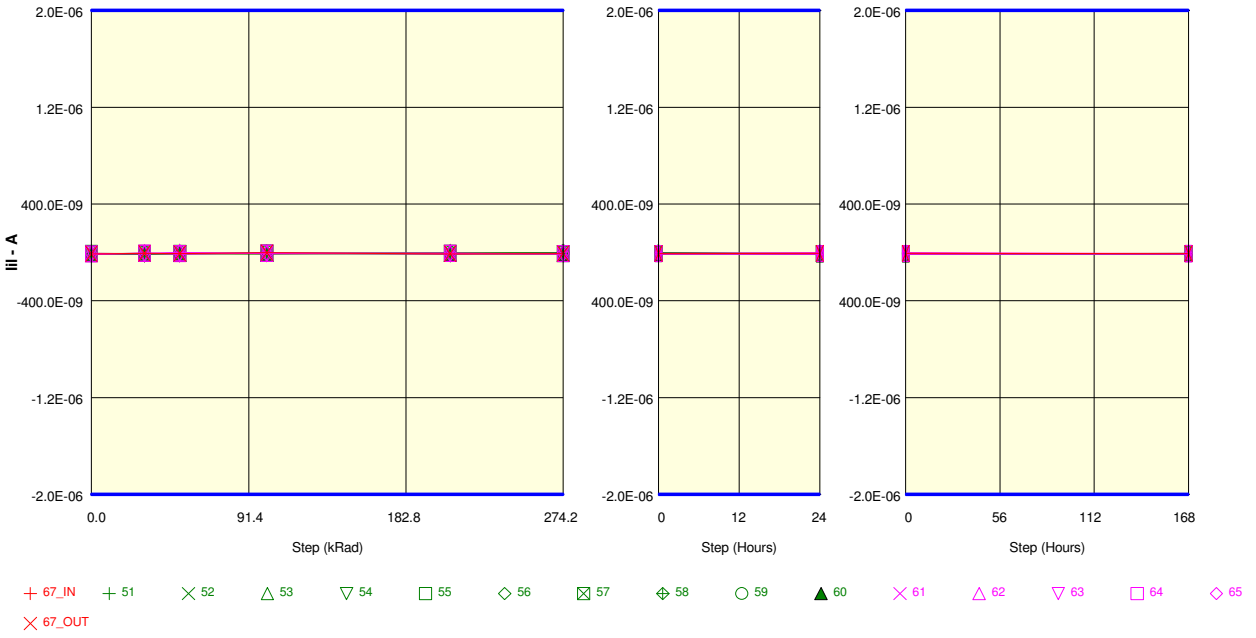
Measurements

Iil<ADD[12]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-589.6E-12	-8.2E-09	-3.6E-09	-8.2E-09	-2.9E-09	-2.9E-09	-6.7E-09
67_OUT_REF	-9.0E-09	-589.6E-12	-6.7E-09	-1.4E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.2E-09
ON samples								
51	-2.1E-09	-5.2E-09	-5.9E-09	173.3E-12	-4.4E-09	-589.6E-12	-589.6E-12	-9.0E-09
52	-7.5E-09	-5.9E-09	-3.6E-09	-2.9E-09	-589.6E-12	-1.4E-09	936.3E-12	-2.1E-09
53	-2.1E-09	-7.5E-09	-2.1E-09	-4.4E-09	-6.7E-09	-1.4E-09	-5.9E-09	-2.1E-09
54	-5.2E-09	-1.4E-09	-5.9E-09	-6.7E-09	-7.5E-09	-2.9E-09	-7.5E-09	-1.4E-09
55	-2.9E-09	-5.9E-09	-2.9E-09	-1.4E-09	-5.2E-09	-5.9E-09	936.3E-12	-6.7E-09
56	-2.9E-09	-2.9E-09	-4.4E-09	-3.6E-09	-7.5E-09	-6.7E-09	-3.6E-09	936.3E-12
57	-9.7E-09	173.3E-12	-5.9E-09	-4.4E-09	-2.9E-09	-3.6E-09	-3.6E-09	-589.6E-12
58	-5.9E-09	-4.4E-09	-5.2E-09	936.3E-12	-2.9E-09	-2.9E-09	-2.9E-09	-1.4E-09
59	-4.4E-09	-2.9E-09	-3.6E-09	-1.4E-09	-5.9E-09	-3.6E-09	1.7E-09	-3.6E-09
60	-6.7E-09	-5.2E-09	-6.7E-09	-3.6E-09	-589.6E-12	-2.1E-09	-5.9E-09	-5.2E-09
Statistics								
Min	-9.7E-09	-7.5E-09	-6.7E-09	-6.7E-09	-7.5E-09	-6.7E-09	-7.5E-09	-9.0E-09
Max	-2.1E-09	173.3E-12	-2.1E-09	936.3E-12	-589.6E-12	-589.6E-12	1.7E-09	936.3E-12
Average	-4.9E-09	-4.1E-09	-4.6E-09	-2.7E-09	-4.4E-09	-3.1E-09	-2.6E-09	-3.1E-09
Std Deviation	2.5E-09	2.3E-09	1.5E-09	2.3E-09	2.6E-09	2.0E-09	3.3E-09	3.0E-09

Measurements

Iil<ADD[12]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-589.6E-12	-8.2E-09	-3.6E-09	-8.2E-09	-2.9E-09	-2.9E-09	-6.7E-09
67_OUT_REF	-9.0E-09	-589.6E-12	-6.7E-09	-1.4E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.2E-09
OFF samples								
61	-4.4E-09	-1.4E-09	-6.7E-09	-3.6E-09	-3.6E-09	-6.7E-09	-7.5E-09	1.7E-09
62	-1.4E-09	-1.4E-09	-3.6E-09	-6.7E-09	-2.9E-09	-3.6E-09	-4.4E-09	-7.5E-09
63	-7.5E-09	-8.2E-09	-589.6E-12	-4.4E-09	936.3E-12	-1.4E-09	-3.6E-09	-1.4E-09
64	-7.5E-09	-9.0E-09	2.5E-09	-1.4E-09	-1.4E-09	1.7E-09	-2.9E-09	-589.6E-12
65	-2.9E-09	-589.6E-12	-2.1E-09	-3.6E-09	-1.4E-09	-589.6E-12	-2.9E-09	173.3E-12
Statistics								
Min	-7.5E-09	-9.0E-09	-6.7E-09	-6.7E-09	-3.6E-09	-6.7E-09	-7.5E-09	-7.5E-09
Max	-1.4E-09	-589.6E-12	2.5E-09	-1.4E-09	936.3E-12	1.7E-09	-2.9E-09	1.7E-09
Average	-4.7E-09	-4.1E-09	-2.1E-09	-3.9E-09	-1.7E-09	-2.1E-09	-4.3E-09	-1.5E-09
Std Deviation	2.7E-09	4.1E-09	3.4E-09	1.9E-09	1.8E-09	3.2E-09	1.9E-09	3.5E-09

Parameter : Input Low Leakage Current : Iil<ADD[13]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



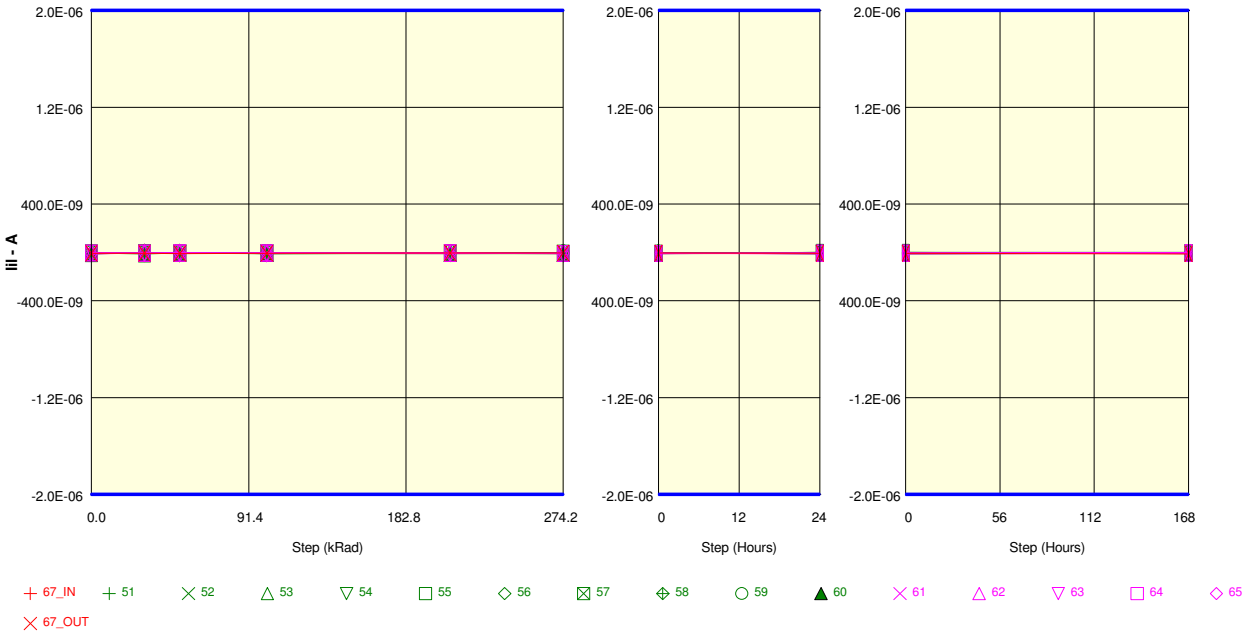
Measurements

Iil<ADD[13]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.0E-09	-9.7E-09	-8.2E-09	-9.7E-09	-6.7E-09	-7.5E-09	-12.0E-09	-9.0E-09
67_OUT_REF	-12.0E-09	-6.7E-09	-8.2E-09	-1.4E-09	-10.5E-09	-9.0E-09	-6.7E-09	-9.7E-09
ON samples								
51	-9.7E-09	-9.7E-09	-8.2E-09	-8.2E-09	-7.5E-09	-3.6E-09	-11.3E-09	-11.3E-09
52	-8.2E-09	-8.2E-09	-9.7E-09	-5.9E-09	-10.5E-09	-8.2E-09	-9.0E-09	-10.5E-09
53	-11.3E-09	-9.0E-09	-6.7E-09	-9.0E-09	-9.0E-09	-11.3E-09	-10.5E-09	-12.0E-09
54	-12.0E-09	-12.0E-09	-9.7E-09	-4.4E-09	-5.9E-09	-12.0E-09	-9.0E-09	-12.0E-09
55	-8.2E-09	-5.9E-09	-9.0E-09	-9.7E-09	-9.7E-09	-9.7E-09	-9.7E-09	-9.0E-09
56	-13.6E-09	-11.3E-09	-9.0E-09	-8.2E-09	-7.5E-09	-4.4E-09	-6.7E-09	-11.3E-09
57	-7.5E-09	-9.0E-09	-6.7E-09	-7.5E-09	-7.5E-09	-9.7E-09	-9.7E-09	-9.7E-09
58	-9.7E-09	-9.7E-09	-9.7E-09	-8.2E-09	-8.2E-09	-7.5E-09	-6.7E-09	-13.6E-09
59	-9.7E-09	-10.5E-09	-8.2E-09	-5.9E-09	-8.2E-09	-3.6E-09	-10.5E-09	-9.0E-09
60	-8.2E-09	-9.0E-09	-5.9E-09	-9.0E-09	-4.4E-09	-5.2E-09	-12.8E-09	-7.5E-09
Statistics								
Min	-13.6E-09	-12.0E-09	-9.7E-09	-9.7E-09	-10.5E-09	-12.0E-09	-12.8E-09	-13.6E-09
Max	-7.5E-09	-5.9E-09	-5.9E-09	-4.4E-09	-4.4E-09	-3.6E-09	-6.7E-09	-7.5E-09
Average	-9.8E-09	-9.4E-09	-8.3E-09	-7.6E-09	-7.8E-09	-7.5E-09	-9.6E-09	-10.6E-09
Std Deviation	2.0E-09	1.7E-09	1.4E-09	1.7E-09	1.8E-09	3.2E-09	1.9E-09	1.8E-09

Measurements

Iil<ADD[13]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.0E-09	-9.7E-09	-8.2E-09	-9.7E-09	-6.7E-09	-7.5E-09	-12.0E-09	-9.0E-09
67_OUT_REF	-12.0E-09	-6.7E-09	-8.2E-09	-1.4E-09	-10.5E-09	-9.0E-09	-6.7E-09	-9.7E-09
OFF samples								
61	-7.5E-09	-8.2E-09	-5.9E-09	-5.9E-09	-10.5E-09	-11.3E-09	-8.2E-09	-11.3E-09
62	-8.2E-09	-5.9E-09	-2.9E-09	-8.2E-09	-6.7E-09	-9.7E-09	-9.0E-09	-12.8E-09
63	-11.3E-09	-9.0E-09	-10.5E-09	-3.6E-09	-6.7E-09	-9.0E-09	-15.1E-09	-9.7E-09
64	-14.3E-09	-3.6E-09	-12.0E-09	-5.9E-09	-5.9E-09	-10.5E-09	-9.0E-09	-7.5E-09
65	-10.5E-09	-9.7E-09	-2.9E-09	-9.0E-09	-8.2E-09	-7.5E-09	-2.9E-09	-8.2E-09
Statistics								
Min	-14.3E-09	-9.7E-09	-12.0E-09	-9.0E-09	-10.5E-09	-11.3E-09	-15.1E-09	-12.8E-09
Max	-7.5E-09	-3.6E-09	-2.9E-09	-3.6E-09	-5.9E-09	-7.5E-09	-2.9E-09	-7.5E-09
Average	-10.4E-09	-7.3E-09	-6.8E-09	-6.5E-09	-7.6E-09	-9.6E-09	-8.8E-09	-9.9E-09
Std Deviation	2.7E-09	2.5E-09	4.3E-09	2.1E-09	1.8E-09	1.5E-09	4.3E-09	2.2E-09

Parameter : Input Low Leakage Current : Iil<ADD[14]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<ADD[14]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-4.4E-09	-7.5E-09	-6.7E-09	-4.4E-09	-2.9E-09	-3.6E-09	-5.2E-09
67_OUT_REF	-7.5E-09	-6.7E-09	-8.2E-09	-6.7E-09	-5.2E-09	-4.4E-09	-5.9E-09	-12.0E-09
ON samples								
51	-3.6E-09	-5.9E-09	-6.7E-09	-8.2E-09	-7.5E-09	-4.4E-09	-5.2E-09	-2.9E-09
52	-7.5E-09	-5.9E-09	-5.2E-09	-6.7E-09	-5.2E-09	-6.7E-09	-7.5E-09	-2.1E-09
53	-5.9E-09	-6.7E-09	-5.2E-09	-8.2E-09	-9.0E-09	-9.7E-09	-6.7E-09	-5.2E-09
54	-4.4E-09	-3.6E-09	-7.5E-09	-2.9E-09	-2.9E-09	-6.7E-09	-3.6E-09	-2.9E-09
55	-5.2E-09	-12.8E-09	-3.6E-09	-5.2E-09	-6.7E-09	-7.5E-09	-5.2E-09	-2.9E-09
56	-9.7E-09	-3.6E-09	-5.9E-09	-5.9E-09	-6.7E-09	-5.9E-09	-6.7E-09	-2.1E-09
57	-10.5E-09	-2.9E-09	-5.2E-09	-5.9E-09	-5.9E-09	-9.0E-09	173.3E-12	-8.2E-09
58	-5.9E-09	-5.2E-09	-7.5E-09	-5.9E-09	-6.7E-09	-7.5E-09	-2.9E-09	-5.9E-09
59	-6.7E-09	-5.2E-09	-7.5E-09	-5.9E-09	-2.9E-09	-2.9E-09	-11.3E-09	-5.2E-09
60	-2.1E-09	-2.9E-09	-5.2E-09	-8.2E-09	-6.7E-09	-7.5E-09	936.3E-12	-589.6E-12
Statistics								
Min	-10.5E-09	-12.8E-09	-7.5E-09	-8.2E-09	-9.0E-09	-9.7E-09	-11.3E-09	-8.2E-09
Max	-2.1E-09	-2.9E-09	-3.6E-09	-2.9E-09	-2.9E-09	-2.9E-09	936.3E-12	-589.6E-12
Average	-6.2E-09	-5.5E-09	-5.9E-09	-6.3E-09	-6.0E-09	-6.8E-09	-4.8E-09	-3.8E-09
Std Deviation	2.6E-09	2.9E-09	1.3E-09	1.7E-09	1.9E-09	2.0E-09	3.6E-09	2.3E-09

Measurements

Iil<ADD[14]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-4.4E-09	-7.5E-09	-6.7E-09	-4.4E-09	-2.9E-09	-3.6E-09	-5.2E-09
67_OUT_REF	-7.5E-09	-6.7E-09	-8.2E-09	-6.7E-09	-5.2E-09	-4.4E-09	-5.9E-09	-12.0E-09
OFF samples								
61	-4.4E-09	-3.6E-09	-5.2E-09	-5.2E-09	-6.7E-09	-6.7E-09	-10.5E-09	-5.9E-09
62	-2.1E-09	-6.7E-09	-4.4E-09	-7.5E-09	-6.7E-09	-5.2E-09	-5.2E-09	-7.5E-09
63	-5.9E-09	-5.9E-09	-1.4E-09	-8.2E-09	-1.4E-09	-8.2E-09	-3.6E-09	-2.1E-09
64	-4.4E-09	-3.6E-09	-9.0E-09	-2.1E-09	-7.5E-09	-9.0E-09	-5.9E-09	-4.4E-09
65	-10.5E-09	-4.4E-09	-5.9E-09	-6.7E-09	-9.0E-09	-5.9E-09	-5.9E-09	-1.4E-09
Statistics								
Min	-10.5E-09	-6.7E-09	-9.0E-09	-8.2E-09	-9.0E-09	-9.0E-09	-10.5E-09	-7.5E-09
Max	-2.1E-09	-3.6E-09	-1.4E-09	-2.1E-09	-1.4E-09	-5.2E-09	-3.6E-09	-1.4E-09
Average	-5.5E-09	-4.9E-09	-5.2E-09	-5.9E-09	-6.2E-09	-7.0E-09	-6.2E-09	-4.3E-09
Std Deviation	3.1E-09	1.4E-09	2.8E-09	2.4E-09	2.9E-09	1.6E-09	2.6E-09	2.6E-09

Parameter : Input Low Leakage Current : Iil<ADD[15]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

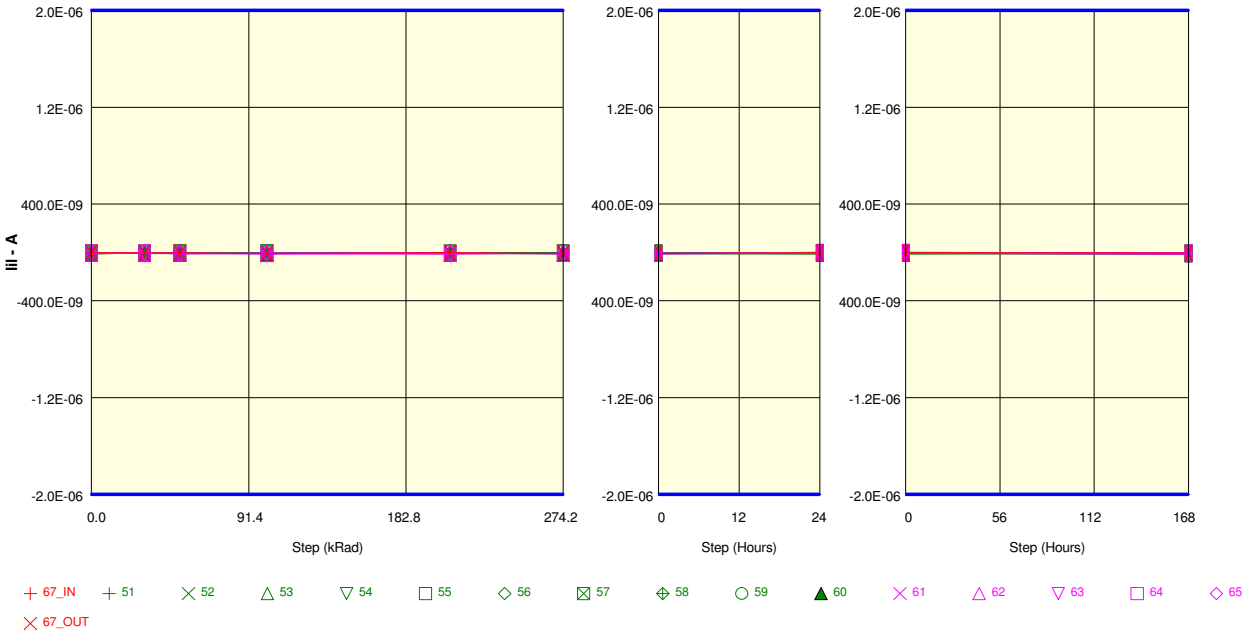
Measurements

Iil<ADD[15]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.7E-09	-15.8E-09	-11.3E-09	-12.0E-09	-12.0E-09	-10.5E-09	-14.3E-09	-9.0E-09
67_OUT_REF	-12.8E-09	-13.6E-09	-9.7E-09	-13.6E-09	-12.8E-09	-15.8E-09	-20.4E-09	-11.3E-09
ON samples								
51	-15.1E-09	-12.8E-09	-9.7E-09	-13.6E-09	-9.7E-09	-16.6E-09	-10.5E-09	-11.3E-09
52	-13.6E-09	-9.0E-09	-14.3E-09	-12.0E-09	-12.0E-09	-17.4E-09	-15.8E-09	-8.2E-09
53	-10.5E-09	-12.0E-09	-15.8E-09	-11.3E-09	-8.2E-09	-19.7E-09	-15.8E-09	-15.1E-09
54	-9.7E-09	-13.6E-09	-11.3E-09	-11.3E-09	-12.8E-09	-14.3E-09	-13.6E-09	-5.2E-09
55	-14.3E-09	-9.7E-09	-9.7E-09	-11.3E-09	-12.0E-09	-15.1E-09	-14.3E-09	-10.5E-09
56	-12.0E-09	-9.7E-09	-17.4E-09	-8.2E-09	-9.7E-09	-18.9E-09	-17.4E-09	-12.8E-09
57	-9.0E-09	-9.7E-09	-12.0E-09	-13.6E-09	-14.3E-09	-14.3E-09	-15.8E-09	-12.0E-09
58	-12.0E-09	-13.6E-09	-12.8E-09	-12.8E-09	-10.5E-09	-20.4E-09	-12.0E-09	-14.3E-09
59	-12.8E-09	-11.3E-09	-13.6E-09	-10.5E-09	-11.3E-09	-15.8E-09	-20.4E-09	-11.3E-09
60	-13.6E-09	-11.3E-09	-8.2E-09	-10.5E-09	-15.1E-09	-16.6E-09	-18.1E-09	-8.2E-09
Statistics								
Min	-15.1E-09	-13.6E-09	-17.4E-09	-13.6E-09	-15.1E-09	-20.4E-09	-20.4E-09	-15.1E-09
Max	-9.0E-09	-9.0E-09	-8.2E-09	-8.2E-09	-8.2E-09	-14.3E-09	-10.5E-09	-5.2E-09
Average	-12.3E-09	-11.3E-09	-12.5E-09	-11.5E-09	-11.6E-09	-16.9E-09	-15.4E-09	-10.9E-09
Std Deviation	2.0E-09	1.7E-09	2.9E-09	1.6E-09	2.1E-09	2.2E-09	2.9E-09	3.0E-09

Measurements

Iil<ADD[15]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.7E-09	-15.8E-09	-11.3E-09	-12.0E-09	-12.0E-09	-10.5E-09	-14.3E-09	-9.0E-09
67_OUT_REF	-12.8E-09	-13.6E-09	-9.7E-09	-13.6E-09	-12.8E-09	-15.8E-09	-20.4E-09	-11.3E-09
OFF samples								
61	-10.5E-09	-12.8E-09	-7.5E-09	-11.3E-09	-10.5E-09	-16.6E-09	-11.3E-09	-15.8E-09
62	-9.0E-09	-15.8E-09	-6.7E-09	-14.3E-09	-11.3E-09	-16.6E-09	-18.1E-09	-13.6E-09
63	-11.3E-09	-8.2E-09	-8.2E-09	-10.5E-09	-14.3E-09	-14.3E-09	-17.4E-09	-12.8E-09
64	-12.0E-09	-17.4E-09	-12.0E-09	-12.0E-09	-12.8E-09	-16.6E-09	-14.3E-09	-10.5E-09
65	-15.1E-09	-15.8E-09	-12.0E-09	-13.6E-09	-10.5E-09	-13.6E-09	-13.6E-09	-15.8E-09
Statistics								
Min	-15.1E-09	-17.4E-09	-12.0E-09	-14.3E-09	-14.3E-09	-16.6E-09	-18.1E-09	-15.8E-09
Max	-9.0E-09	-8.2E-09	-6.7E-09	-10.5E-09	-10.5E-09	-13.6E-09	-11.3E-09	-10.5E-09
Average	-11.6E-09	-14.0E-09	-9.3E-09	-12.3E-09	-11.9E-09	-15.5E-09	-14.9E-09	-13.7E-09
Std Deviation	2.3E-09	3.6E-09	2.6E-09	1.6E-09	1.7E-09	1.5E-09	2.8E-09	2.3E-09

Parameter : Input Low Leakage Current : Iil<ADD[2]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<ADD[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-5.9E-09	-3.6E-09	-5.9E-09	-8.2E-09	-7.5E-09	-2.1E-09	-9.0E-09
67_OUT_REF	-2.1E-09	-3.6E-09	-4.4E-09	-9.0E-09	-2.9E-09	-8.2E-09	-2.1E-09	-5.2E-09
ON samples								
51	-4.4E-09	-5.2E-09	-2.1E-09	-2.9E-09	-1.4E-09	-5.9E-09	-9.0E-09	-4.4E-09
52	-10.5E-09	-4.4E-09	-4.4E-09	-8.2E-09	-3.6E-09	-4.4E-09	-5.2E-09	-5.9E-09
53	-4.4E-09	-8.2E-09	-9.7E-09	-9.0E-09	-2.9E-09	-5.9E-09	-7.5E-09	-5.9E-09
54	-4.4E-09	-6.7E-09	-2.1E-09	-5.2E-09	-7.5E-09	-8.2E-09	-9.0E-09	-9.7E-09
55	-9.7E-09	-6.7E-09	-7.5E-09	-3.6E-09	-4.4E-09	-1.4E-09	-5.9E-09	-3.6E-09
56	-6.7E-09	-7.5E-09	-2.9E-09	-5.9E-09	-5.9E-09	-9.0E-09	-11.3E-09	-10.5E-09
57	-5.2E-09	-3.6E-09	-6.7E-09	-4.4E-09	-5.9E-09	-6.7E-09	-589.6E-12	-5.2E-09
58	-2.1E-09	-6.7E-09	-7.5E-09	-5.9E-09	-9.7E-09	-8.2E-09	-9.0E-09	-2.1E-09
59	-9.0E-09	-5.9E-09	-7.5E-09	-6.7E-09	-3.6E-09	-2.1E-09	-7.5E-09	-5.9E-09
60	-8.2E-09	-5.2E-09	-7.5E-09	-4.4E-09	-9.7E-09	-3.6E-09	-4.4E-09	-13.6E-09
Statistics								
Min	-10.5E-09	-8.2E-09	-9.7E-09	-9.0E-09	-9.7E-09	-9.0E-09	-11.3E-09	-13.6E-09
Max	-2.1E-09	-3.6E-09	-2.1E-09	-2.9E-09	-1.4E-09	-1.4E-09	-589.6E-12	-2.1E-09
Average	-6.5E-09	-6.0E-09	-5.8E-09	-5.6E-09	-5.5E-09	-5.5E-09	-6.9E-09	-6.7E-09
Std Deviation	2.8E-09	1.4E-09	2.7E-09	1.9E-09	2.8E-09	2.6E-09	3.0E-09	3.5E-09

Measurements

Iil<ADD[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-5.9E-09	-3.6E-09	-5.9E-09	-8.2E-09	-7.5E-09	-2.1E-09	-9.0E-09
67_OUT_REF	-2.1E-09	-3.6E-09	-4.4E-09	-9.0E-09	-2.9E-09	-8.2E-09	-2.1E-09	-5.2E-09
OFF samples								
61	-2.9E-09	-1.4E-09	-11.3E-09	-3.6E-09	-4.4E-09	-10.5E-09	-4.4E-09	-5.2E-09
62	-4.4E-09	-2.9E-09	-5.2E-09	-5.9E-09	-3.6E-09	-9.7E-09	-3.6E-09	-7.5E-09
63	-5.2E-09	-5.2E-09	-7.5E-09	-8.2E-09	-9.0E-09	-9.0E-09	-5.9E-09	-13.6E-09
64	-9.7E-09	-5.9E-09	-8.2E-09	-10.5E-09	-9.7E-09	-6.7E-09	-589.6E-12	-4.4E-09
65	-4.4E-09	-5.9E-09	-6.7E-09	-9.0E-09	-10.5E-09	-5.9E-09	-5.2E-09	-8.2E-09
Statistics								
Min	-9.7E-09	-5.9E-09	-11.3E-09	-10.5E-09	-10.5E-09	-10.5E-09	-5.9E-09	-13.6E-09
Max	-2.9E-09	-1.4E-09	-5.2E-09	-3.6E-09	-3.6E-09	-5.9E-09	-589.6E-12	-4.4E-09
Average	-5.3E-09	-4.3E-09	-7.8E-09	-7.5E-09	-7.5E-09	-8.4E-09	-3.9E-09	-7.8E-09
Std Deviation	2.6E-09	2.0E-09	2.3E-09	2.7E-09	3.2E-09	2.0E-09	2.1E-09	3.6E-09

Parameter : Input Low Leakage Current : Iil<ADD[3]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-6.7E-09	-9.0E-09	-15.8E-09	-5.9E-09	-14.3E-09	-4.4E-09	-9.7E-09
67_OUT_REF	-5.2E-09	-3.6E-09	-10.5E-09	-8.2E-09	-9.7E-09	-10.5E-09	-7.5E-09	-3.6E-09
ON samples								
51	-6.7E-09	-8.2E-09	-5.9E-09	-2.1E-09	-5.9E-09	-8.2E-09	-6.7E-09	-8.2E-09
52	-10.5E-09	-9.0E-09	-8.2E-09	-7.5E-09	-8.2E-09	-10.5E-09	-5.2E-09	-5.2E-09
53	-6.7E-09	-9.0E-09	-9.0E-09	-8.2E-09	-12.0E-09	-5.9E-09	-9.7E-09	-9.7E-09
54	-11.3E-09	-11.3E-09	-8.2E-09	-9.0E-09	-8.2E-09	-10.5E-09	-7.5E-09	-5.9E-09
55	-5.9E-09	-5.9E-09	-7.5E-09	-7.5E-09	-8.2E-09	-6.7E-09	-7.5E-09	-9.0E-09
56	-9.7E-09	-8.2E-09	-9.0E-09	-9.7E-09	-7.5E-09	-12.0E-09	-9.7E-09	-12.0E-09
57	-8.2E-09	-9.0E-09	-4.4E-09	-7.5E-09	-9.0E-09	-9.7E-09	-2.1E-09	-4.4E-09
58	-6.7E-09	-9.0E-09	-11.3E-09	-9.0E-09	-9.7E-09	-6.7E-09	-12.8E-09	-11.3E-09
59	-5.9E-09	-11.3E-09	-6.7E-09	-7.5E-09	-9.0E-09	-6.7E-09	-5.9E-09	-7.5E-09
60	-10.5E-09	-9.7E-09	-10.5E-09	-6.7E-09	-7.5E-09	-12.0E-09	-9.0E-09	-12.8E-09
Statistics								
Min	-11.3E-09	-11.3E-09	-11.3E-09	-9.7E-09	-12.0E-09	-12.0E-09	-12.8E-09	-12.8E-09
Max	-5.9E-09	-5.9E-09	-4.4E-09	-2.1E-09	-5.9E-09	-5.9E-09	-2.1E-09	-4.4E-09
Average	-8.2E-09	-9.1E-09	-8.1E-09	-7.5E-09	-8.5E-09	-8.9E-09	-7.6E-09	-8.6E-09
Std Deviation	2.1E-09	1.5E-09	2.1E-09	2.1E-09	1.6E-09	2.3E-09	2.9E-09	2.9E-09

Measurements

Iil<ADD[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-6.7E-09	-9.0E-09	-15.8E-09	-5.9E-09	-14.3E-09	-4.4E-09	-9.7E-09
67_OUT_REF	-5.2E-09	-3.6E-09	-10.5E-09	-8.2E-09	-9.7E-09	-10.5E-09	-7.5E-09	-3.6E-09
OFF samples								
61	-5.2E-09	-8.2E-09	-7.5E-09	-9.7E-09	-9.7E-09	-8.2E-09	-11.3E-09	-10.5E-09
62	-9.7E-09	-6.7E-09	-9.7E-09	-6.7E-09	-14.3E-09	-13.6E-09	-12.0E-09	-9.0E-09
63	-13.6E-09	-8.2E-09	-6.7E-09	-9.0E-09	-8.2E-09	-9.7E-09	-6.7E-09	-3.6E-09
64	-4.4E-09	-5.9E-09	-8.2E-09	-7.5E-09	-11.3E-09	-10.5E-09	-10.5E-09	-9.7E-09
65	-9.7E-09	-6.7E-09	-9.7E-09	-5.9E-09	-9.0E-09	-15.1E-09	-6.7E-09	-5.9E-09
Statistics								
Min	-13.6E-09	-8.2E-09	-9.7E-09	-9.7E-09	-14.3E-09	-15.1E-09	-12.0E-09	-10.5E-09
Max	-4.4E-09	-5.9E-09	-6.7E-09	-5.9E-09	-8.2E-09	-8.2E-09	-6.7E-09	-3.6E-09
Average	-8.5E-09	-7.2E-09	-8.4E-09	-7.8E-09	-10.5E-09	-11.4E-09	-9.4E-09	-7.8E-09
Std Deviation	3.8E-09	1.0E-09	1.4E-09	1.6E-09	2.4E-09	2.8E-09	2.6E-09	2.9E-09

Parameter : Input Low Leakage Current : Iil<ADD[4]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-18.1E-09	-12.0E-09	-14.3E-09	-17.4E-09	-19.7E-09	-13.6E-09	-9.7E-09	-20.4E-09
67_OUT_REF	-21.2E-09	-15.1E-09	-17.4E-09	-14.3E-09	-17.4E-09	-14.3E-09	-15.1E-09	-15.1E-09
ON samples								
51	-15.8E-09	-18.1E-09	-17.4E-09	-12.8E-09	-19.7E-09	-15.8E-09	-15.8E-09	-16.6E-09
52	-15.8E-09	-17.4E-09	-9.7E-09	-11.3E-09	-14.3E-09	-15.1E-09	-12.8E-09	-18.1E-09
53	-13.6E-09	-14.3E-09	-15.8E-09	-16.6E-09	-18.1E-09	-17.4E-09	-14.3E-09	-18.1E-09
54	-15.8E-09	-14.3E-09	-15.1E-09	-12.8E-09	-15.8E-09	-10.5E-09	-16.6E-09	-15.1E-09
55	-14.3E-09	-20.4E-09	-13.6E-09	-11.3E-09	-13.6E-09	-14.3E-09	-12.8E-09	-14.3E-09
56	-15.1E-09	-19.7E-09	-13.6E-09	-12.0E-09	-18.1E-09	-14.3E-09	-19.7E-09	-13.6E-09
57	-16.6E-09	-13.6E-09	-17.4E-09	-14.3E-09	-15.1E-09	-11.3E-09	-18.1E-09	-18.1E-09
58	-15.8E-09	-14.3E-09	-12.8E-09	-10.5E-09	-16.6E-09	-15.8E-09	-12.0E-09	-16.6E-09
59	-16.6E-09	-13.6E-09	-9.0E-09	-12.8E-09	-13.6E-09	-12.8E-09	-12.8E-09	-14.3E-09
60	-14.3E-09	-15.8E-09	-15.1E-09	-14.3E-09	-18.1E-09	-15.1E-09	-18.9E-09	-14.3E-09
Statistics								
Min	-16.6E-09	-20.4E-09	-17.4E-09	-16.6E-09	-19.7E-09	-17.4E-09	-19.7E-09	-18.1E-09
Max	-13.6E-09	-13.6E-09	-9.0E-09	-10.5E-09	-13.6E-09	-10.5E-09	-12.0E-09	-13.6E-09
Average	-15.4E-09	-16.2E-09	-13.9E-09	-12.9E-09	-16.3E-09	-14.2E-09	-15.4E-09	-15.9E-09
Std Deviation	1.0E-09	2.6E-09	2.9E-09	1.8E-09	2.2E-09	2.1E-09	2.8E-09	1.8E-09

Measurements

Iil<ADD[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-18.1E-09	-12.0E-09	-14.3E-09	-17.4E-09	-19.7E-09	-13.6E-09	-9.7E-09	-20.4E-09
67_OUT_REF	-21.2E-09	-15.1E-09	-17.4E-09	-14.3E-09	-17.4E-09	-14.3E-09	-15.1E-09	-15.1E-09
OFF samples								
61	-15.1E-09	-16.6E-09	-16.6E-09	-14.3E-09	-16.6E-09	-18.1E-09	-22.0E-09	-18.1E-09
62	-15.8E-09	-19.7E-09	-15.1E-09	-14.3E-09	-15.1E-09	-12.8E-09	-15.1E-09	-15.8E-09
63	-16.6E-09	-14.3E-09	-15.8E-09	-12.8E-09	-17.4E-09	-17.4E-09	-18.9E-09	-17.4E-09
64	-12.8E-09	-17.4E-09	-16.6E-09	-14.3E-09	-11.3E-09	-15.8E-09	-15.1E-09	-13.6E-09
65	-13.6E-09	-12.0E-09	-13.6E-09	-16.6E-09	-15.8E-09	-11.3E-09	-18.1E-09	-20.4E-09
Statistics								
Min	-16.6E-09	-19.7E-09	-16.6E-09	-16.6E-09	-17.4E-09	-18.1E-09	-22.0E-09	-20.4E-09
Max	-12.8E-09	-12.0E-09	-13.6E-09	-12.8E-09	-11.3E-09	-11.3E-09	-15.1E-09	-13.6E-09
Average	-14.8E-09	-16.0E-09	-15.5E-09	-14.5E-09	-15.2E-09	-15.1E-09	-17.8E-09	-17.1E-09
Std Deviation	1.6E-09	2.9E-09	1.3E-09	1.4E-09	2.4E-09	3.0E-09	2.9E-09	2.6E-09

Parameter : Input Low Leakage Current : Iil<ADD[5]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.5E-09	-11.3E-09	-12.8E-09	-16.6E-09	-17.4E-09	-9.7E-09	-5.9E-09	-13.6E-09
67_OUT_REF	-11.3E-09	-9.0E-09	-9.0E-09	-9.7E-09	-12.8E-09	-11.3E-09	-9.0E-09	-13.6E-09
ON samples								
51	-13.6E-09	-11.3E-09	-7.5E-09	-8.2E-09	-7.5E-09	-9.0E-09	-9.0E-09	-9.0E-09
52	-12.8E-09	-14.3E-09	-10.5E-09	-9.7E-09	-10.5E-09	-10.5E-09	-15.1E-09	-8.2E-09
53	-9.7E-09	-5.9E-09	-9.7E-09	-13.6E-09	-12.0E-09	-12.8E-09	-12.0E-09	-9.0E-09
54	-10.5E-09	-11.3E-09	-14.3E-09	-10.5E-09	-11.3E-09	-11.3E-09	-13.6E-09	-9.7E-09
55	-12.8E-09	-12.0E-09	-15.1E-09	-13.6E-09	-9.0E-09	-8.2E-09	-12.0E-09	-7.5E-09
56	-12.8E-09	-10.5E-09	-9.7E-09	-12.0E-09	-12.8E-09	-10.5E-09	-13.6E-09	-9.7E-09
57	-11.3E-09	-13.6E-09	-15.1E-09	-5.2E-09	-12.0E-09	-15.8E-09	-14.3E-09	-12.0E-09
58	-11.3E-09	-9.7E-09	-11.3E-09	-12.0E-09	-14.3E-09	-12.8E-09	-12.8E-09	-12.8E-09
59	-9.7E-09	-12.8E-09	-13.6E-09	-12.8E-09	-14.3E-09	-7.5E-09	-13.6E-09	-9.0E-09
60	-12.0E-09	-8.2E-09	-9.0E-09	-7.5E-09	-11.3E-09	-12.0E-09	-6.7E-09	-9.0E-09
Statistics								
Min	-13.6E-09	-14.3E-09	-15.1E-09	-13.6E-09	-14.3E-09	-15.8E-09	-15.1E-09	-12.8E-09
Max	-9.7E-09	-5.9E-09	-7.5E-09	-5.2E-09	-7.5E-09	-7.5E-09	-6.7E-09	-7.5E-09
Average	-11.7E-09	-11.0E-09	-11.6E-09	-10.5E-09	-11.5E-09	-11.0E-09	-12.3E-09	-9.6E-09
Std Deviation	1.4E-09	2.5E-09	2.7E-09	2.8E-09	2.2E-09	2.5E-09	2.6E-09	1.6E-09

Measurements

Iil<ADD[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.5E-09	-11.3E-09	-12.8E-09	-16.6E-09	-17.4E-09	-9.7E-09	-5.9E-09	-13.6E-09
67_OUT_REF	-11.3E-09	-9.0E-09	-9.0E-09	-9.7E-09	-12.8E-09	-11.3E-09	-9.0E-09	-13.6E-09
OFF samples								
61	-7.5E-09	-11.3E-09	-14.3E-09	-10.5E-09	-15.1E-09	-9.0E-09	-5.9E-09	-10.5E-09
62	-4.4E-09	-12.8E-09	-12.8E-09	-11.3E-09	-13.6E-09	-12.8E-09	-13.6E-09	-9.0E-09
63	-5.9E-09	-11.3E-09	-12.0E-09	-12.0E-09	-11.3E-09	-14.3E-09	-11.3E-09	-12.8E-09
64	-12.8E-09	-15.1E-09	-14.3E-09	-11.3E-09	-11.3E-09	-15.8E-09	-12.0E-09	-13.6E-09
65	-10.5E-09	-11.3E-09	-12.0E-09	-15.8E-09	-9.7E-09	-14.3E-09	-14.3E-09	-11.3E-09
Statistics								
Min	-12.8E-09	-15.1E-09	-14.3E-09	-15.8E-09	-15.1E-09	-15.8E-09	-14.3E-09	-13.6E-09
Max	-4.4E-09	-11.3E-09	-12.0E-09	-10.5E-09	-9.7E-09	-9.0E-09	-5.9E-09	-9.0E-09
Average	-8.2E-09	-12.3E-09	-13.1E-09	-12.2E-09	-12.2E-09	-13.3E-09	-11.4E-09	-11.4E-09
Std Deviation	3.4E-09	1.7E-09	1.2E-09	2.1E-09	2.1E-09	2.6E-09	3.3E-09	1.8E-09

Parameter : Input Low Leakage Current : Iil<ADD[6]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	-2.9E-09	173.3E-12	-3.6E-09	-1.4E-09	936.3E-12	2.5E-09	-5.2E-09
67_OUT_REF	-4.4E-09	936.3E-12	-3.6E-09	-2.9E-09	936.3E-12	-589.6E-12	-2.1E-09	-5.2E-09
ON samples								
51	-5.9E-09	-2.9E-09	-4.4E-09	-4.4E-09	-3.6E-09	936.3E-12	-2.1E-09	-589.6E-12
52	-4.4E-09	-4.4E-09	2.5E-09	-5.2E-09	3.2E-09	173.3E-12	-589.6E-12	-7.5E-09
53	-5.2E-09	2.5E-09	-2.1E-09	-2.1E-09	-2.9E-09	3.2E-09	-3.6E-09	-1.4E-09
54	-1.4E-09	-589.6E-12	-4.4E-09	-2.1E-09	-589.6E-12	-589.6E-12	-589.6E-12	-2.1E-09
55	-589.6E-12	2.5E-09	-4.4E-09	-5.2E-09	-589.6E-12	-589.6E-12	4.0E-09	-6.7E-09
56	-5.2E-09	-589.6E-12	936.3E-12	-1.4E-09	-589.6E-12	-4.4E-09	-7.5E-09	1.7E-09
57	-2.1E-09	936.3E-12	-2.9E-09	-1.4E-09	173.3E-12	-2.9E-09	-5.9E-09	-3.6E-09
58	-2.1E-09	-1.4E-09	-6.7E-09	936.3E-12	-4.4E-09	-1.4E-09	-2.1E-09	3.2E-09
59	-5.2E-09	-2.1E-09	-4.4E-09	936.3E-12	-3.6E-09	-2.9E-09	-2.1E-09	-5.2E-09
60	-3.6E-09	-3.6E-09	-3.6E-09	-4.4E-09	-5.9E-09	-7.5E-09	-5.9E-09	-9.7E-09
Statistics								
Min	-5.9E-09	-4.4E-09	-6.7E-09	-5.2E-09	-5.9E-09	-7.5E-09	-7.5E-09	-9.7E-09
Max	-589.6E-12	2.5E-09	2.5E-09	936.3E-12	3.2E-09	3.2E-09	4.0E-09	3.2E-09
Average	-3.6E-09	-971.1E-12	-3.0E-09	-2.4E-09	-1.9E-09	-1.6E-09	-2.6E-09	-3.2E-09
Std Deviation	1.9E-09	2.4E-09	2.7E-09	2.3E-09	2.7E-09	3.0E-09	3.3E-09	4.1E-09

Measurements

Iil<ADD[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	-2.9E-09	173.3E-12	-3.6E-09	-1.4E-09	936.3E-12	2.5E-09	-5.2E-09
67_OUT_REF	-4.4E-09	936.3E-12	-3.6E-09	-2.9E-09	936.3E-12	-589.6E-12	-2.1E-09	-5.2E-09
OFF samples								
61	-1.4E-09	-2.9E-09	173.3E-12	-5.2E-09	-4.4E-09	-1.4E-09	-5.2E-09	-2.1E-09
62	-1.4E-09	-2.1E-09	-5.2E-09	-2.9E-09	-3.6E-09	173.3E-12	-7.5E-09	-7.5E-09
63	-2.9E-09	-2.1E-09	-7.5E-09	-3.6E-09	-4.4E-09	-2.1E-09	3.2E-09	-4.4E-09
64	936.3E-12	-3.6E-09	-2.9E-09	173.3E-12	-6.7E-09	-2.1E-09	-2.9E-09	-589.6E-12
65	-2.9E-09	-2.9E-09	-2.1E-09	-1.4E-09	173.3E-12	-3.6E-09	-3.6E-09	3.2E-09
Statistics								
Min	-2.9E-09	-3.6E-09	-7.5E-09	-5.2E-09	-6.7E-09	-3.6E-09	-7.5E-09	-7.5E-09
Max	936.3E-12	-2.1E-09	173.3E-12	173.3E-12	173.3E-12	173.3E-12	3.2E-09	3.2E-09
Average	-1.5E-09	-2.7E-09	-3.5E-09	-2.6E-09	-3.8E-09	-1.8E-09	-3.2E-09	-2.3E-09
Std Deviation	1.6E-09	638.3E-12	2.9E-09	2.1E-09	2.5E-09	1.4E-09	4.0E-09	4.0E-09

Parameter : Input Low Leakage Current : Iil<ADD[7]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ADD[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-5.9E-09	-2.9E-09	-2.9E-09	-4.4E-09	-3.6E-09	-5.2E-09	-3.6E-09
67_OUT_REF	-5.2E-09	-2.9E-09	-5.9E-09	-7.5E-09	-5.9E-09	-2.9E-09	-2.1E-09	-2.1E-09
ON samples								
51	-6.7E-09	-7.5E-09	-7.5E-09	-5.2E-09	-9.0E-09	-4.4E-09	-5.9E-09	-5.2E-09
52	-3.6E-09	-5.2E-09	-2.9E-09	-4.4E-09	-2.1E-09	-3.6E-09	-4.4E-09	-7.5E-09
53	-8.2E-09	-5.9E-09	-4.4E-09	-6.7E-09	-8.2E-09	-7.5E-09	-2.9E-09	-2.9E-09
54	-4.4E-09	-2.9E-09	-589.6E-12	-6.7E-09	-3.6E-09	-7.5E-09	-2.1E-09	-2.9E-09
55	-2.9E-09	-4.4E-09	-3.6E-09	-2.9E-09	-3.6E-09	-5.2E-09	-2.9E-09	-3.6E-09
56	-1.4E-09	-2.1E-09	-589.6E-12	-5.2E-09	-9.0E-09	-7.5E-09	-2.9E-09	-2.9E-09
57	-7.5E-09	-5.9E-09	-5.2E-09	-5.9E-09	-2.9E-09	-2.1E-09	-2.1E-09	-1.4E-09
58	-5.9E-09	-9.0E-09	-9.0E-09	-2.1E-09	-1.4E-09	-5.9E-09	-2.9E-09	-5.9E-09
59	-3.6E-09	-3.6E-09	-1.4E-09	-3.6E-09	-3.6E-09	-6.7E-09	-3.6E-09	-3.6E-09
60	-4.4E-09	-7.5E-09	-5.9E-09	-5.2E-09	-5.2E-09	-4.4E-09	173.3E-12	936.3E-12
Statistics								
Min	-8.2E-09	-9.0E-09	-9.0E-09	-6.7E-09	-9.0E-09	-7.5E-09	-5.9E-09	-7.5E-09
Max	-1.4E-09	-2.1E-09	-589.6E-12	-2.1E-09	-1.4E-09	-2.1E-09	173.3E-12	936.3E-12
Average	-4.9E-09	-5.4E-09	-4.1E-09	-4.8E-09	-4.9E-09	-5.5E-09	-3.0E-09	-3.5E-09
Std Deviation	2.2E-09	2.2E-09	2.9E-09	1.5E-09	2.9E-09	1.8E-09	1.6E-09	2.4E-09

Measurements

Iil<ADD[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	-5.9E-09	-2.9E-09	-2.9E-09	-4.4E-09	-3.6E-09	-5.2E-09	-3.6E-09
67_OUT_REF	-5.2E-09	-2.9E-09	-5.9E-09	-7.5E-09	-5.9E-09	-2.9E-09	-2.1E-09	-2.1E-09
OFF samples								
61	-5.9E-09	-3.6E-09	-4.4E-09	-589.6E-12	-2.1E-09	173.3E-12	-1.4E-09	-5.9E-09
62	-2.9E-09	-5.2E-09	-3.6E-09	-8.2E-09	-3.6E-09	-2.9E-09	-4.4E-09	-3.6E-09
63	-7.5E-09	-5.2E-09	-2.1E-09	-3.6E-09	-2.9E-09	-6.7E-09	-6.7E-09	-3.6E-09
64	-5.9E-09	-4.4E-09	-3.6E-09	-5.9E-09	-3.6E-09	1.7E-09	-4.4E-09	-3.6E-09
65	-4.4E-09	-5.9E-09	-5.2E-09	-5.2E-09	-5.2E-09	-3.6E-09	-7.5E-09	-589.6E-12
Statistics								
Min	-7.5E-09	-5.9E-09	-5.2E-09	-8.2E-09	-5.2E-09	-6.7E-09	-7.5E-09	-5.9E-09
Max	-2.9E-09	-3.6E-09	-2.1E-09	-589.6E-12	-2.1E-09	1.7E-09	-1.4E-09	-589.6E-12
Average	-5.3E-09	-4.9E-09	-3.8E-09	-4.7E-09	-3.5E-09	-2.3E-09	-4.9E-09	-3.5E-09
Std Deviation	1.7E-09	869.9E-12	1.1E-09	2.8E-09	1.1E-09	3.3E-09	2.4E-09	1.9E-09

Parameter : Input Low Leakage Current : Iil<ADD[8]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

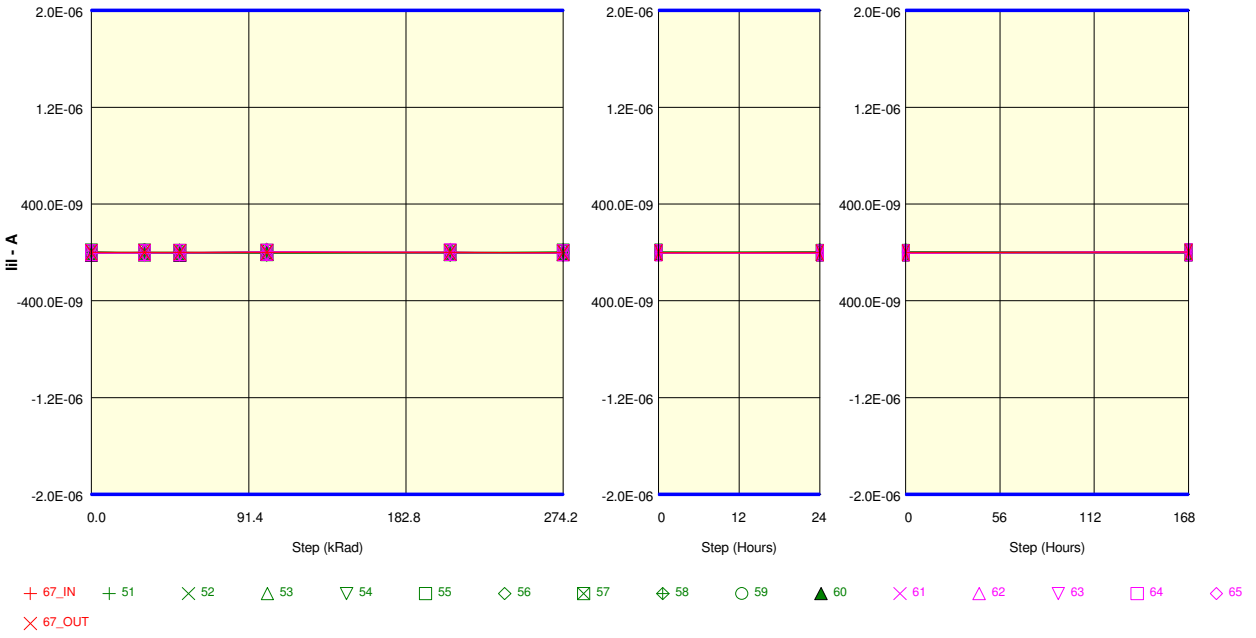
Measurements

Iil<ADD[8]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	173.3E-12	7.8E-09	3.2E-09	-1.4E-09	6.3E-09	-589.6E-12	-2.1E-09	936.3E-12
67_OUT_REF	-2.9E-09	936.3E-12	1.7E-09	-2.1E-09	4.0E-09	1.7E-09	1.7E-09	-2.1E-09
ON samples								
51	173.3E-12	173.3E-12	-2.1E-09	-589.6E-12	1.7E-09	4.8E-09	-1.4E-09	-1.4E-09
52	173.3E-12	4.0E-09	-3.6E-09	936.3E-12	173.3E-12	-2.9E-09	173.3E-12	-5.9E-09
53	173.3E-12	3.2E-09	2.5E-09	936.3E-12	936.3E-12	936.3E-12	-2.1E-09	1.7E-09
54	-589.6E-12	-589.6E-12	1.7E-09	936.3E-12	1.7E-09	936.3E-12	-589.6E-12	-589.6E-12
55	-1.4E-09	936.3E-12	-3.6E-09	-589.6E-12	-2.9E-09	2.5E-09	4.8E-09	-6.7E-09
56	1.7E-09	4.8E-09	2.5E-09	4.0E-09	6.3E-09	-589.6E-12	-1.4E-09	1.7E-09
57	-589.6E-12	1.7E-09	2.5E-09	936.3E-12	-589.6E-12	-2.1E-09	3.2E-09	-4.4E-09
58	-2.1E-09	2.5E-09	1.7E-09	4.0E-09	-589.6E-12	4.8E-09	6.3E-09	1.7E-09
59	-1.4E-09	936.3E-12	936.3E-12	4.8E-09	173.3E-12	173.3E-12	1.7E-09	-1.4E-09
60	-589.6E-12	6.3E-09	6.3E-09	2.5E-09	936.3E-12	4.0E-09	173.3E-12	-3.6E-09
Statistics								
Min	-2.1E-09	-589.6E-12	-3.6E-09	-589.6E-12	-2.9E-09	-2.9E-09	-2.1E-09	-6.7E-09
Max	1.7E-09	6.3E-09	6.3E-09	4.8E-09	6.3E-09	4.8E-09	6.3E-09	1.7E-09
Average	-437.0E-12	2.4E-09	860.0E-12	1.8E-09	783.7E-12	1.2E-09	1.1E-09	-1.9E-09
Std Deviation	1.1E-09	2.2E-09	3.1E-09	1.9E-09	2.4E-09	2.7E-09	2.8E-09	3.2E-09

Measurements

Iil<ADD[8]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	173.3E-12	7.8E-09	3.2E-09	-1.4E-09	6.3E-09	-589.6E-12	-2.1E-09	936.3E-12
67_OUT_REF	-2.9E-09	936.3E-12	1.7E-09	-2.1E-09	4.0E-09	1.7E-09	1.7E-09	-2.1E-09
OFF samples								
61	936.3E-12	-1.4E-09	-1.4E-09	173.3E-12	936.3E-12	2.5E-09	2.5E-09	-4.4E-09
62	1.7E-09	-2.9E-09	4.8E-09	2.5E-09	3.2E-09	3.2E-09	173.3E-12	-589.6E-12
63	173.3E-12	-2.9E-09	-589.6E-12	4.8E-09	-1.4E-09	936.3E-12	-2.1E-09	-5.2E-09
64	4.8E-09	4.0E-09	2.5E-09	4.0E-09	-589.6E-12	-589.6E-12	173.3E-12	-3.6E-09
65	173.3E-12	7.8E-09	4.0E-09	4.8E-09	3.2E-09	4.0E-09	3.2E-09	2.5E-09
Statistics								
Min	173.3E-12	-2.9E-09	-1.4E-09	173.3E-12	-1.4E-09	-589.6E-12	-2.1E-09	-5.2E-09
Max	4.8E-09	7.8E-09	4.8E-09	4.8E-09	3.2E-09	4.0E-09	3.2E-09	2.5E-09
Average	1.5E-09	936.3E-12	1.9E-09	3.2E-09	1.1E-09	2.0E-09	783.7E-12	-2.3E-09
Std Deviation	1.9E-09	4.8E-09	2.7E-09	1.9E-09	2.1E-09	1.8E-09	2.1E-09	3.2E-09

Parameter : Input Low Leakage Current : Iil<ADD[9]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<ADD[9]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.1E-09	-1.4E-09	-2.9E-09	1.7E-09	-589.6E-12	-3.6E-09	2.5E-09	-2.1E-09
67_OUT_REF	-589.6E-12	1.7E-09	936.3E-12	173.3E-12	173.3E-12	-1.4E-09	-2.1E-09	3.2E-09
ON samples								
51	936.3E-12	-3.6E-09	-2.1E-09	-5.9E-09	-3.6E-09	-589.6E-12	-2.1E-09	-5.9E-09
52	4.0E-09	-5.2E-09	-3.6E-09	-2.9E-09	-2.1E-09	936.3E-12	173.3E-12	-5.2E-09
53	-2.1E-09	-2.9E-09	-2.1E-09	4.0E-09	1.7E-09	1.7E-09	-3.6E-09	173.3E-12
54	-3.6E-09	1.7E-09	-589.6E-12	936.3E-12	-2.1E-09	-5.9E-09	-3.6E-09	4.8E-09
55	4.0E-09	-1.4E-09	-2.1E-09	-1.4E-09	173.3E-12	-2.1E-09	-1.4E-09	-3.6E-09
56	1.7E-09	173.3E-12	173.3E-12	-3.6E-09	-589.6E-12	-4.4E-09	936.3E-12	1.7E-09
57	173.3E-12	-2.1E-09	-1.4E-09	936.3E-12	-2.1E-09	3.2E-09	-589.6E-12	-589.6E-12
58	-589.6E-12	173.3E-12	-589.6E-12	-589.6E-12	-3.6E-09	-589.6E-12	3.2E-09	1.7E-09
59	-1.4E-09	1.7E-09	-2.9E-09	4.0E-09	-3.6E-09	-1.4E-09	3.2E-09	3.2E-09
60	-6.7E-09	-2.1E-09	-9.7E-09	-589.6E-12	173.3E-12	173.3E-12	-1.4E-09	-2.1E-09
Statistics								
Min	-6.7E-09	-5.2E-09	-9.7E-09	-5.9E-09	-3.6E-09	-5.9E-09	-3.6E-09	-5.9E-09
Max	4.0E-09	1.7E-09	173.3E-12	4.0E-09	1.7E-09	3.2E-09	3.2E-09	4.8E-09
Average	-360.7E-12	-1.4E-09	-2.5E-09	-513.3E-12	-1.6E-09	-894.8E-12	-513.3E-12	-589.6E-12
Std Deviation	3.3E-09	2.3E-09	2.8E-09	3.2E-09	1.9E-09	2.7E-09	2.5E-09	3.6E-09

Measurements

Iil<ADD[9]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.1E-09	-1.4E-09	-2.9E-09	1.7E-09	-589.6E-12	-3.6E-09	2.5E-09	-2.1E-09
67_OUT_REF	-589.6E-12	1.7E-09	936.3E-12	173.3E-12	173.3E-12	-1.4E-09	-2.1E-09	3.2E-09
OFF samples								
61	-3.6E-09	-2.1E-09	-3.6E-09	1.7E-09	-4.4E-09	-2.1E-09	-2.1E-09	5.5E-09
62	-2.1E-09	-2.1E-09	-2.1E-09	4.8E-09	-589.6E-12	-2.1E-09	936.3E-12	-589.6E-12
63	-3.6E-09	-3.6E-09	173.3E-12	936.3E-12	1.7E-09	-4.4E-09	-4.4E-09	4.8E-09
64	-2.9E-09	936.3E-12	-2.1E-09	936.3E-12	1.7E-09	-2.1E-09	-4.4E-09	-3.6E-09
65	173.3E-12	-1.4E-09	-2.9E-09	-2.9E-09	1.7E-09	-2.9E-09	-3.6E-09	2.5E-09
Statistics								
Min	-3.6E-09	-3.6E-09	-3.6E-09	-2.9E-09	-4.4E-09	-4.4E-09	-4.4E-09	-3.6E-09
Max	173.3E-12	936.3E-12	173.3E-12	4.8E-09	1.7E-09	-2.1E-09	936.3E-12	5.5E-09
Average	-2.4E-09	-1.7E-09	-2.1E-09	1.1E-09	20.7E-12	-2.7E-09	-2.7E-09	1.7E-09
Std Deviation	1.6E-09	1.7E-09	1.4E-09	2.7E-09	2.7E-09	994.7E-12	2.3E-09	3.8E-09

Parameter : Input Low Leakage Current : Iil<BANK[0]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<BANK[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-8.2E-09	-3.6E-09	-4.4E-09	-4.4E-09	-5.9E-09	-5.2E-09	-9.7E-09
67_OUT_REF	-7.5E-09	-5.9E-09	-5.9E-09	-3.6E-09	-1.4E-09	-4.4E-09	-8.2E-09	-8.2E-09
ON samples								
51	-5.9E-09	-10.5E-09	-5.9E-09	-7.5E-09	-5.9E-09	-4.4E-09	-1.4E-09	-3.6E-09
52	-5.2E-09	-9.0E-09	-5.2E-09	-5.2E-09	-2.9E-09	-8.2E-09	-3.6E-09	-5.2E-09
53	-8.2E-09	-8.2E-09	-8.2E-09	-7.5E-09	-6.7E-09	-5.2E-09	-9.0E-09	-2.1E-09
54	-9.0E-09	-5.2E-09	-4.4E-09	-4.4E-09	-6.7E-09	-5.9E-09	-5.2E-09	-6.7E-09
55	-3.6E-09	-8.2E-09	-2.9E-09	-5.2E-09	-4.4E-09	-4.4E-09	-2.1E-09	-8.2E-09
56	-8.2E-09	-6.7E-09	-5.2E-09	-9.0E-09	-4.4E-09	-4.4E-09	-4.4E-09	-7.5E-09
57	-2.1E-09	-5.2E-09	-8.2E-09	-6.7E-09	-5.9E-09	-5.2E-09	-5.2E-09	-5.2E-09
58	-5.2E-09	-7.5E-09	-2.9E-09	-6.7E-09	-3.6E-09	-5.9E-09	-6.7E-09	-4.4E-09
59	-7.5E-09	-5.2E-09	-8.2E-09	-3.6E-09	-4.4E-09	-8.2E-09	-2.9E-09	-5.2E-09
60	-5.9E-09	-5.9E-09	-2.9E-09	-5.2E-09	-7.5E-09	-4.4E-09	-5.2E-09	-8.2E-09
Statistics								
Min	-9.0E-09	-10.5E-09	-8.2E-09	-9.0E-09	-7.5E-09	-8.2E-09	-9.0E-09	-8.2E-09
Max	-2.1E-09	-5.2E-09	-2.9E-09	-3.6E-09	-2.9E-09	-4.4E-09	-1.4E-09	-2.1E-09
Average	-6.1E-09	-7.2E-09	-5.4E-09	-6.1E-09	-5.2E-09	-5.6E-09	-4.6E-09	-5.6E-09
Std Deviation	2.2E-09	1.8E-09	2.2E-09	1.6E-09	1.5E-09	1.5E-09	2.2E-09	2.0E-09

Measurements

Iil<BANK[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-8.2E-09	-3.6E-09	-4.4E-09	-4.4E-09	-5.9E-09	-5.2E-09	-9.7E-09
67_OUT_REF	-7.5E-09	-5.9E-09	-5.9E-09	-3.6E-09	-1.4E-09	-4.4E-09	-8.2E-09	-8.2E-09
OFF samples								
61	-3.6E-09	-10.5E-09	-3.6E-09	-7.5E-09	-10.5E-09	-3.6E-09	-1.4E-09	-11.3E-09
62	-5.9E-09	-6.7E-09	-4.4E-09	-2.1E-09	-3.6E-09	-2.1E-09	-9.0E-09	-4.4E-09
63	-4.4E-09	-9.7E-09	-3.6E-09	-11.3E-09	-2.9E-09	-4.4E-09	-6.7E-09	-8.2E-09
64	936.3E-12	-9.7E-09	-2.9E-09	-6.7E-09	-4.4E-09	-3.6E-09	-4.4E-09	-3.6E-09
65	-2.9E-09	-8.2E-09	-4.4E-09	-5.9E-09	-9.0E-09	-1.4E-09	-3.6E-09	-9.0E-09
Statistics								
Min	-5.9E-09	-10.5E-09	-4.4E-09	-11.3E-09	-10.5E-09	-4.4E-09	-9.0E-09	-11.3E-09
Max	936.3E-12	-6.7E-09	-2.9E-09	-2.1E-09	-2.9E-09	-1.4E-09	-1.4E-09	-3.6E-09
Average	-3.2E-09	-9.0E-09	-3.8E-09	-6.7E-09	-6.1E-09	-3.0E-09	-5.0E-09	-7.3E-09
Std Deviation	2.6E-09	1.5E-09	638.3E-12	3.3E-09	3.4E-09	1.3E-09	2.9E-09	3.2E-09

Parameter : Input Low Leakage Current : Iil<BANK[1]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<BANK[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-13.6E-09	-9.7E-09	-8.2E-09	-7.5E-09	-15.1E-09	-13.6E-09	-6.7E-09
67_OUT_REF	-11.3E-09	-12.8E-09	-10.5E-09	-9.0E-09	-12.0E-09	-9.7E-09	-9.0E-09	-13.6E-09
ON samples								
51	-10.5E-09	-13.6E-09	-12.8E-09	-12.8E-09	-10.5E-09	-7.5E-09	-13.6E-09	-7.5E-09
52	-12.0E-09	-8.2E-09	-5.2E-09	-10.5E-09	-11.3E-09	-11.3E-09	-5.9E-09	-9.7E-09
53	-10.5E-09	-6.7E-09	-12.8E-09	-9.7E-09	-12.8E-09	-10.5E-09	-9.0E-09	-10.5E-09
54	-11.3E-09	-7.5E-09	-13.6E-09	-13.6E-09	-9.7E-09	-7.5E-09	-11.3E-09	-9.7E-09
55	-9.7E-09	-12.0E-09	-12.0E-09	-10.5E-09	-11.3E-09	-11.3E-09	-8.2E-09	-9.0E-09
56	-9.0E-09	-6.7E-09	-10.5E-09	-13.6E-09	-12.0E-09	-12.8E-09	-13.6E-09	-10.5E-09
57	-12.8E-09	-12.0E-09	-9.0E-09	-12.0E-09	-11.3E-09	-10.5E-09	-12.8E-09	-11.3E-09
58	-7.5E-09	-12.0E-09	-10.5E-09	-12.0E-09	-9.7E-09	-5.9E-09	-12.0E-09	-13.6E-09
59	-9.7E-09	-9.7E-09	-11.3E-09	-11.3E-09	-14.3E-09	-6.7E-09	-4.4E-09	-6.7E-09
60	-14.3E-09	-11.3E-09	-7.5E-09	-12.0E-09	-13.6E-09	-11.3E-09	-7.5E-09	-13.6E-09
Statistics								
Min	-14.3E-09	-13.6E-09	-13.6E-09	-13.6E-09	-14.3E-09	-12.8E-09	-13.6E-09	-13.6E-09
Max	-7.5E-09	-6.7E-09	-5.2E-09	-9.7E-09	-9.7E-09	-5.9E-09	-4.4E-09	-6.7E-09
Average	-10.7E-09	-10.0E-09	-10.5E-09	-11.8E-09	-11.7E-09	-9.5E-09	-9.8E-09	-10.2E-09
Std Deviation	2.0E-09	2.5E-09	2.6E-09	1.3E-09	1.5E-09	2.4E-09	3.3E-09	2.3E-09

Measurements

Iil<BANK[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-13.6E-09	-9.7E-09	-8.2E-09	-7.5E-09	-15.1E-09	-13.6E-09	-6.7E-09
67_OUT_REF	-11.3E-09	-12.8E-09	-10.5E-09	-9.0E-09	-12.0E-09	-9.7E-09	-9.0E-09	-13.6E-09
OFF samples								
61	-9.7E-09	-14.3E-09	-9.0E-09	-9.0E-09	-9.7E-09	-9.0E-09	-9.7E-09	-8.2E-09
62	-12.0E-09	-12.8E-09	-8.2E-09	-9.0E-09	-13.6E-09	-11.3E-09	-15.1E-09	-10.5E-09
63	-10.5E-09	-13.6E-09	-9.0E-09	-12.8E-09	-13.6E-09	-12.8E-09	-6.7E-09	-5.2E-09
64	-9.7E-09	-8.2E-09	-5.9E-09	-10.5E-09	-10.5E-09	-7.5E-09	-5.9E-09	-7.5E-09
65	-7.5E-09	-13.6E-09	-12.0E-09	-11.3E-09	-9.0E-09	-9.0E-09	-5.9E-09	-12.8E-09
Statistics								
Min	-12.0E-09	-14.3E-09	-12.0E-09	-12.8E-09	-13.6E-09	-12.8E-09	-15.1E-09	-12.8E-09
Max	-7.5E-09	-8.2E-09	-5.9E-09	-9.0E-09	-9.0E-09	-7.5E-09	-5.9E-09	-5.2E-09
Average	-9.9E-09	-12.5E-09	-8.8E-09	-10.5E-09	-11.3E-09	-9.9E-09	-8.7E-09	-8.8E-09
Std Deviation	1.7E-09	2.4E-09	2.2E-09	1.6E-09	2.2E-09	2.1E-09	3.9E-09	2.9E-09

Parameter : Input Low Leakage Current : Iil<BANK[2]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<BANK[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-13.6E-09	-7.5E-09	-9.0E-09	-8.2E-09	-12.0E-09	-5.2E-09	-12.8E-09
67_OUT_REF	-4.4E-09	-13.6E-09	-14.3E-09	-11.3E-09	-11.3E-09	-9.7E-09	-10.5E-09	-5.9E-09
ON samples								
51	-10.5E-09	-12.0E-09	-6.7E-09	-11.3E-09	-5.9E-09	-14.3E-09	-7.5E-09	-5.9E-09
52	-9.0E-09	-9.7E-09	-9.7E-09	-9.0E-09	-9.7E-09	-10.5E-09	-15.1E-09	-12.0E-09
53	-12.0E-09	-12.0E-09	-9.7E-09	-9.0E-09	-9.0E-09	-6.7E-09	-18.9E-09	-12.8E-09
54	-11.3E-09	-10.5E-09	-6.7E-09	-11.3E-09	-5.2E-09	-10.5E-09	-10.5E-09	-13.6E-09
55	-6.7E-09	-12.0E-09	-9.7E-09	-7.5E-09	-12.8E-09	-9.7E-09	-8.2E-09	-9.7E-09
56	-9.0E-09	-9.0E-09	-4.4E-09	-9.7E-09	-7.5E-09	-9.0E-09	-13.6E-09	-2.1E-09
57	-10.5E-09	-7.5E-09	-9.0E-09	-12.8E-09	-9.7E-09	-12.8E-09	-10.5E-09	-9.7E-09
58	-8.2E-09	-9.0E-09	-8.2E-09	-9.0E-09	-7.5E-09	-13.6E-09	-5.2E-09	-7.5E-09
59	-9.7E-09	-12.8E-09	-8.2E-09	-13.6E-09	-7.5E-09	-10.5E-09	-7.5E-09	-11.3E-09
60	-15.8E-09	-8.2E-09	-9.0E-09	-12.8E-09	-6.7E-09	-16.6E-09	-12.8E-09	-7.5E-09
Statistics								
Min	-15.8E-09	-12.8E-09	-9.7E-09	-13.6E-09	-12.8E-09	-16.6E-09	-18.9E-09	-13.6E-09
Max	-6.7E-09	-7.5E-09	-4.4E-09	-7.5E-09	-5.2E-09	-6.7E-09	-5.2E-09	-2.1E-09
Average	-10.3E-09	-10.3E-09	-8.1E-09	-10.6E-09	-8.1E-09	-11.4E-09	-11.0E-09	-9.2E-09
Std Deviation	2.5E-09	1.9E-09	1.7E-09	2.0E-09	2.2E-09	2.9E-09	4.2E-09	3.5E-09

Measurements

Iil<BANK[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-13.6E-09	-7.5E-09	-9.0E-09	-8.2E-09	-12.0E-09	-5.2E-09	-12.8E-09
67_OUT_REF	-4.4E-09	-13.6E-09	-14.3E-09	-11.3E-09	-11.3E-09	-9.7E-09	-10.5E-09	-5.9E-09
OFF samples								
61	-12.0E-09	-12.8E-09	-10.5E-09	-9.0E-09	-9.0E-09	-9.7E-09	-5.2E-09	-13.6E-09
62	-12.0E-09	-12.8E-09	-10.5E-09	-9.7E-09	-8.2E-09	-8.2E-09	-13.6E-09	-9.7E-09
63	-9.7E-09	-11.3E-09	-9.7E-09	-10.5E-09	-10.5E-09	-12.0E-09	-10.5E-09	-9.7E-09
64	-16.6E-09	-9.7E-09	-8.2E-09	-9.7E-09	-8.2E-09	-9.7E-09	-2.9E-09	-8.2E-09
65	-12.0E-09	-13.6E-09	-12.8E-09	-10.5E-09	-5.2E-09	-10.5E-09	-10.5E-09	-15.1E-09
Statistics								
Min	-16.6E-09	-13.6E-09	-12.8E-09	-10.5E-09	-10.5E-09	-12.0E-09	-13.6E-09	-15.1E-09
Max	-9.7E-09	-9.7E-09	-8.2E-09	-9.0E-09	-5.2E-09	-8.2E-09	-2.9E-09	-8.2E-09
Average	-12.5E-09	-12.0E-09	-10.4E-09	-9.9E-09	-8.2E-09	-10.1E-09	-8.5E-09	-11.3E-09
Std Deviation	2.5E-09	1.5E-09	1.7E-09	638.4E-12	1.9E-09	1.4E-09	4.4E-09	2.9E-09

Parameter : Input Low Leakage Current : Iil<CK/>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<CK/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-34.2E-09	-48.8E-09	-40.3E-09	-41.5E-09	-37.8E-09	-45.2E-09	-39.1E-09	-42.7E-09
67_OUT_REF	-42.7E-09	-45.2E-09	-36.6E-09	-37.8E-09	-41.5E-09	-39.1E-09	-42.7E-09	-42.7E-09
ON samples								
51	-37.8E-09	-47.6E-09	-43.9E-09	-39.1E-09	-41.5E-09	-39.1E-09	-36.6E-09	-39.1E-09
52	-41.5E-09	-45.2E-09	-42.7E-09	-40.3E-09	-42.7E-09	-40.3E-09	-33.0E-09	-48.8E-09
53	-39.1E-09	-35.4E-09	-47.6E-09	-46.4E-09	-43.9E-09	-39.1E-09	-46.4E-09	-39.1E-09
54	-42.7E-09	-34.2E-09	-45.2E-09	-41.5E-09	-39.1E-09	-36.6E-09	-33.0E-09	-37.8E-09
55	-41.5E-09	-42.7E-09	-35.4E-09	-41.5E-09	-43.9E-09	-46.4E-09	-42.7E-09	-48.8E-09
56	-39.1E-09	-34.2E-09	-37.8E-09	-46.4E-09	-45.2E-09	-46.4E-09	-33.0E-09	-40.3E-09
57	-46.4E-09	-45.2E-09	-39.1E-09	-41.5E-09	-39.1E-09	-48.8E-09	-41.5E-09	-45.2E-09
58	-45.2E-09	-34.2E-09	-46.4E-09	-34.2E-09	-33.0E-09	-36.6E-09	-36.6E-09	-42.7E-09
59	-35.4E-09	-43.9E-09	-43.9E-09	-39.1E-09	-37.8E-09	-36.6E-09	-52.5E-09	-31.7E-09
60	-36.6E-09	-35.4E-09	-34.2E-09	-40.3E-09	-41.5E-09	-39.1E-09	-41.5E-09	-37.8E-09
Statistics								
Min	-46.4E-09	-47.6E-09	-47.6E-09	-46.4E-09	-45.2E-09	-48.8E-09	-52.5E-09	-48.8E-09
Max	-35.4E-09	-34.2E-09	-34.2E-09	-34.2E-09	-33.0E-09	-36.6E-09	-33.0E-09	-31.7E-09
Average	-40.5E-09	-39.8E-09	-41.6E-09	-41.0E-09	-40.8E-09	-40.9E-09	-39.7E-09	-41.1E-09
Std Deviation	3.6E-09	5.6E-09	4.7E-09	3.6E-09	3.6E-09	4.6E-09	6.5E-09	5.3E-09

Measurements

Iil<CK/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-34.2E-09	-48.8E-09	-40.3E-09	-41.5E-09	-37.8E-09	-45.2E-09	-39.1E-09	-42.7E-09
67_OUT_REF	-42.7E-09	-45.2E-09	-36.6E-09	-37.8E-09	-41.5E-09	-39.1E-09	-42.7E-09	-42.7E-09
OFF samples								
61	-43.9E-09	-37.8E-09	-37.8E-09	-35.4E-09	-40.3E-09	-45.2E-09	-39.1E-09	-43.9E-09
62	-41.5E-09	-33.0E-09	-42.7E-09	-50.0E-09	-39.1E-09	-43.9E-09	-41.5E-09	-46.4E-09
63	-43.9E-09	-42.7E-09	-42.7E-09	-41.5E-09	-40.3E-09	-40.3E-09	-47.6E-09	-41.5E-09
64	-34.2E-09	-40.3E-09	-39.1E-09	-40.3E-09	-42.7E-09	-39.1E-09	-40.3E-09	-45.2E-09
65	-40.3E-09	-48.8E-09	-41.5E-09	-43.9E-09	-37.8E-09	-34.2E-09	-45.2E-09	-45.2E-09
Statistics								
Min	-43.9E-09	-48.8E-09	-42.7E-09	-50.0E-09	-42.7E-09	-45.2E-09	-47.6E-09	-46.4E-09
Max	-34.2E-09	-33.0E-09	-37.8E-09	-35.4E-09	-37.8E-09	-34.2E-09	-39.1E-09	-41.5E-09
Average	-40.8E-09	-40.5E-09	-40.8E-09	-42.2E-09	-40.0E-09	-40.5E-09	-42.7E-09	-44.4E-09
Std Deviation	4.0E-09	5.9E-09	2.2E-09	5.4E-09	1.8E-09	4.4E-09	3.6E-09	1.9E-09

Parameter : Input Low Leakage Current : Iil<CK>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<CK>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-36.6E-09	-40.3E-09	-36.6E-09	-37.8E-09	-41.5E-09	-41.5E-09	-41.5E-09	-41.5E-09
67_OUT_REF	-39.1E-09	-36.6E-09	-42.7E-09	-35.4E-09	-48.8E-09	-39.1E-09	-40.3E-09	-37.8E-09
ON samples								
51	-39.1E-09	-40.3E-09	-43.9E-09	-41.5E-09	-35.4E-09	-41.5E-09	-36.6E-09	-43.9E-09
52	-40.3E-09	-42.7E-09	-45.2E-09	-33.0E-09	-45.2E-09	-43.9E-09	-45.2E-09	-40.3E-09
53	-31.7E-09	-33.0E-09	-39.1E-09	-35.4E-09	-36.6E-09	-35.4E-09	-34.2E-09	-45.2E-09
54	-36.6E-09	-36.6E-09	-41.5E-09	-48.8E-09	-39.1E-09	-40.3E-09	-34.2E-09	-35.4E-09
55	-41.5E-09	-43.9E-09	-34.2E-09	-43.9E-09	-45.2E-09	-43.9E-09	-36.6E-09	-31.7E-09
56	-40.3E-09	-39.1E-09	-45.2E-09	-40.3E-09	-40.3E-09	-41.5E-09	-42.7E-09	-41.5E-09
57	-42.7E-09	-39.1E-09	-35.4E-09	-45.2E-09	-39.1E-09	-36.6E-09	-39.1E-09	-36.6E-09
58	-43.9E-09	-36.6E-09	-37.8E-09	-43.9E-09	-42.7E-09	-33.0E-09	-35.4E-09	-36.6E-09
59	-33.0E-09	-39.1E-09	-45.2E-09	-46.4E-09	-40.3E-09	-41.5E-09	-45.2E-09	-46.4E-09
60	-36.6E-09	-47.6E-09	-41.5E-09	-37.8E-09	-36.6E-09	-45.2E-09	-43.9E-09	-36.6E-09
Statistics								
Min	-43.9E-09	-47.6E-09	-45.2E-09	-48.8E-09	-45.2E-09	-45.2E-09	-45.2E-09	-46.4E-09
Max	-31.7E-09	-33.0E-09	-34.2E-09	-33.0E-09	-35.4E-09	-33.0E-09	-34.2E-09	-31.7E-09
Average	-38.6E-09	-39.8E-09	-40.9E-09	-41.6E-09	-40.0E-09	-40.3E-09	-39.3E-09	-39.4E-09
Std Deviation	4.0E-09	4.2E-09	4.1E-09	5.0E-09	3.4E-09	4.0E-09	4.5E-09	4.8E-09

Measurements

Iil<CK>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-36.6E-09	-40.3E-09	-36.6E-09	-37.8E-09	-41.5E-09	-41.5E-09	-41.5E-09	-41.5E-09
67_OUT_REF	-39.1E-09	-36.6E-09	-42.7E-09	-35.4E-09	-48.8E-09	-39.1E-09	-40.3E-09	-37.8E-09
OFF samples								
61	-35.4E-09	-35.4E-09	-34.2E-09	-45.2E-09	-41.5E-09	-35.4E-09	-42.7E-09	-36.6E-09
62	-40.3E-09	-42.7E-09	-39.1E-09	-42.7E-09	-43.9E-09	-45.2E-09	-42.7E-09	-35.4E-09
63	-35.4E-09	-48.8E-09	-45.2E-09	-34.2E-09	-40.3E-09	-35.4E-09	-40.3E-09	-41.5E-09
64	-39.1E-09	-34.2E-09	-36.6E-09	-37.8E-09	-40.3E-09	-43.9E-09	-39.1E-09	-35.4E-09
65	-46.4E-09	-40.3E-09	-37.8E-09	-41.5E-09	-42.7E-09	-41.5E-09	-42.7E-09	-41.5E-09
Statistics								
Min	-46.4E-09	-48.8E-09	-45.2E-09	-45.2E-09	-43.9E-09	-45.2E-09	-42.7E-09	-41.5E-09
Max	-35.4E-09	-34.2E-09	-34.2E-09	-34.2E-09	-40.3E-09	-35.4E-09	-39.1E-09	-35.4E-09
Average	-39.3E-09	-40.3E-09	-38.6E-09	-40.3E-09	-41.7E-09	-40.3E-09	-41.5E-09	-38.1E-09
Std Deviation	4.5E-09	5.9E-09	4.1E-09	4.3E-09	1.6E-09	4.6E-09	1.7E-09	3.2E-09

Parameter : Input Low Leakage Current : Iil<CKE>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<CKE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-7.3E-09	-7.3E-09	-9.8E-09	-12.2E-09	-6.1E-09	-11.0E-09	-7.3E-09
67_OUT_REF	-11.0E-09	-11.0E-09	-8.5E-09	-6.1E-09	-11.0E-09	-3.7E-09	-13.4E-09	-13.4E-09
ON samples								
51	-4.9E-09	-6.1E-09	-9.8E-09	-9.8E-09	-8.5E-09	-6.1E-09	-18.3E-09	-4.9E-09
52	-3.7E-09	-7.3E-09	-4.9E-09	-11.0E-09	-6.1E-09	-14.6E-09	-11.0E-09	-14.6E-09
53	-7.3E-09	-13.4E-09	-4.9E-09	-18.3E-09	-4.9E-09	-6.1E-09	-14.6E-09	-11.0E-09
54	-9.8E-09	-9.8E-09	-12.2E-09	-1.2E-09	-11.0E-09	-1.2E-09	-14.6E-09	-7.3E-09
55	-8.5E-09	-7.3E-09	-13.4E-09	-7.3E-09	-1.2E-09	-3.7E-09	-11.0E-09	-11.0E-09
56	-15.9E-09	-8.5E-09	-12.2E-09	-12.2E-09	-12.2E-09	-13.4E-09	-8.5E-09	-2.4E-09
57	-9.8E-09	-3.7E-09	-7.3E-09	-11.0E-09	-7.3E-09	-8.5E-09	-9.8E-09	-11.0E-09
58	-11.0E-09	-7.3E-09	-6.1E-09	-2.4E-09	-6.1E-09	-11.0E-09	-17.1E-09	-7.3E-09
59	-8.5E-09	-8.5E-09	-6.1E-09	-9.8E-09	-13.4E-09	-11.0E-09	-9.8E-09	-8.5E-09
60	-3.7E-09	-8.5E-09	-9.8E-09	-8.5E-09	-6.1E-09	-4.9E-09	-14.6E-09	-9.8E-09
Statistics								
Min	-15.9E-09	-13.4E-09	-13.4E-09	-18.3E-09	-13.4E-09	-14.6E-09	-18.3E-09	-14.6E-09
Max	-3.7E-09	-3.7E-09	-4.9E-09	-1.2E-09	-1.2E-09	-1.2E-09	-8.5E-09	-2.4E-09
Average	-8.3E-09	-8.1E-09	-8.7E-09	-9.2E-09	-7.7E-09	-8.1E-09	-12.9E-09	-8.8E-09
Std Deviation	3.7E-09	2.5E-09	3.2E-09	4.9E-09	3.7E-09	4.4E-09	3.4E-09	3.5E-09

Measurements

Iil<CKE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-7.3E-09	-7.3E-09	-9.8E-09	-12.2E-09	-6.1E-09	-11.0E-09	-7.3E-09
67_OUT_REF	-11.0E-09	-11.0E-09	-8.5E-09	-6.1E-09	-11.0E-09	-3.7E-09	-13.4E-09	-13.4E-09
OFF samples								
61	-9.8E-09	-9.8E-09	-11.0E-09	-11.0E-09	-15.9E-09	-2.4E-09	-14.6E-09	-11.0E-09
62	-7.3E-09	-6.1E-09	-11.0E-09	-14.6E-09	-17.1E-09	-9.8E-09	-11.0E-09	-6.1E-09
63	-15.9E-09	-2.4E-09	-6.1E-09	-6.1E-09	-17.1E-09	-8.5E-09	-12.2E-09	-18.3E-09
64	-13.4E-09	-9.8E-09	-11.0E-09	-4.9E-09	-11.0E-09	-14.6E-09	-3.7E-09	-18.3E-09
65	-12.2E-09	-7.3E-09	-6.1E-09	-9.8E-09	-9.8E-09	-6.1E-09	-6.1E-09	-4.9E-09
Statistics								
Min	-15.9E-09	-9.8E-09	-11.0E-09	-14.6E-09	-17.1E-09	-14.6E-09	-14.6E-09	-18.3E-09
Max	-7.3E-09	-2.4E-09	-6.1E-09	-4.9E-09	-9.8E-09	-2.4E-09	-3.7E-09	-4.9E-09
Average	-11.7E-09	-7.1E-09	-9.0E-09	-9.3E-09	-14.2E-09	-8.3E-09	-9.5E-09	-11.7E-09
Std Deviation	3.3E-09	3.0E-09	2.7E-09	3.9E-09	3.5E-09	4.5E-09	4.5E-09	6.4E-09

Parameter : Input Low Leakage Current : Iil<DM>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

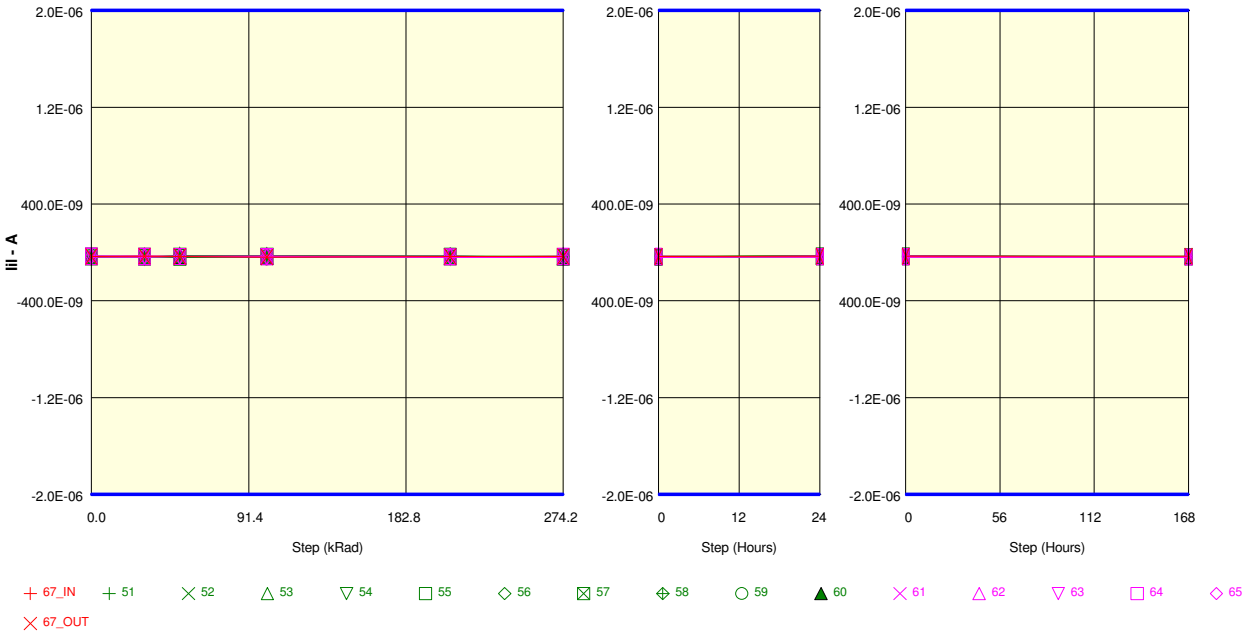
Measurements

Iil<DM>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-41.5E-09	-39.1E-09	-30.5E-09	-47.6E-09	-47.6E-09	-45.2E-09	-34.2E-09
67_OUT_REF	-26.9E-09	-35.4E-09	-40.3E-09	-37.8E-09	-41.5E-09	-40.3E-09	-30.5E-09	-40.3E-09
ON samples								
51	-45.2E-09	-39.1E-09	-31.7E-09	-36.6E-09	-43.9E-09	-35.4E-09	-34.2E-09	-41.5E-09
52	-37.8E-09	-37.8E-09	-34.2E-09	-40.3E-09	-36.6E-09	-43.9E-09	-39.1E-09	-40.3E-09
53	-43.9E-09	-34.2E-09	-35.4E-09	-42.7E-09	-34.2E-09	-31.7E-09	-39.1E-09	-41.5E-09
54	-34.2E-09	-40.3E-09	-42.7E-09	-42.7E-09	-39.1E-09	-41.5E-09	-36.6E-09	-37.8E-09
55	-39.1E-09	-37.8E-09	-37.8E-09	-37.8E-09	-40.3E-09	-47.6E-09	-41.5E-09	-36.6E-09
56	-36.6E-09	-35.4E-09	-37.8E-09	-40.3E-09	-42.7E-09	-42.7E-09	-33.0E-09	-40.3E-09
57	-36.6E-09	-33.0E-09	-40.3E-09	-37.8E-09	-45.2E-09	-41.5E-09	-34.2E-09	-37.8E-09
58	-40.3E-09	-36.6E-09	-42.7E-09	-37.8E-09	-43.9E-09	-42.7E-09	-33.0E-09	-34.2E-09
59	-39.1E-09	-45.2E-09	-34.2E-09	-43.9E-09	-36.6E-09	-33.0E-09	-50.0E-09	-45.2E-09
60	-40.3E-09	-36.6E-09	-30.5E-09	-40.3E-09	-42.7E-09	-41.5E-09	-39.1E-09	-41.5E-09
Statistics								
Min	-45.2E-09	-45.2E-09	-42.7E-09	-43.9E-09	-45.2E-09	-47.6E-09	-50.0E-09	-45.2E-09
Max	-34.2E-09	-33.0E-09	-30.5E-09	-36.6E-09	-34.2E-09	-31.7E-09	-33.0E-09	-34.2E-09
Average	-39.3E-09	-37.6E-09	-36.7E-09	-40.0E-09	-40.5E-09	-40.2E-09	-38.0E-09	-39.7E-09
Std Deviation	3.3E-09	3.4E-09	4.3E-09	2.5E-09	3.8E-09	5.1E-09	5.2E-09	3.1E-09

Measurements

Iil<DM>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-41.5E-09	-39.1E-09	-30.5E-09	-47.6E-09	-47.6E-09	-45.2E-09	-34.2E-09
67_OUT_REF	-26.9E-09	-35.4E-09	-40.3E-09	-37.8E-09	-41.5E-09	-40.3E-09	-30.5E-09	-40.3E-09
OFF samples								
61	-36.6E-09	-36.6E-09	-36.6E-09	-47.6E-09	-39.1E-09	-39.1E-09	-39.1E-09	-41.5E-09
62	-41.5E-09	-39.1E-09	-31.7E-09	-46.4E-09	-40.3E-09	-48.8E-09	-42.7E-09	-31.7E-09
63	-39.1E-09	-45.2E-09	-40.3E-09	-33.0E-09	-37.8E-09	-41.5E-09	-34.2E-09	-41.5E-09
64	-42.7E-09	-40.3E-09	-40.3E-09	-36.6E-09	-35.4E-09	-43.9E-09	-46.4E-09	-39.1E-09
65	-35.4E-09	-41.5E-09	-42.7E-09	-36.6E-09	-41.5E-09	-45.2E-09	-33.0E-09	-46.4E-09
Statistics								
Min	-42.7E-09	-45.2E-09	-42.7E-09	-47.6E-09	-41.5E-09	-48.8E-09	-46.4E-09	-46.4E-09
Max	-35.4E-09	-36.6E-09	-31.7E-09	-33.0E-09	-35.4E-09	-39.1E-09	-33.0E-09	-31.7E-09
Average	-39.1E-09	-40.5E-09	-38.3E-09	-40.0E-09	-38.8E-09	-43.7E-09	-39.1E-09	-40.0E-09
Std Deviation	3.1E-09	3.2E-09	4.3E-09	6.5E-09	2.3E-09	3.7E-09	5.7E-09	5.3E-09

Parameter : Input Low Leakage Current : Iil<DQ[0]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-35.4E-09	-31.7E-09	-34.2E-09	-29.3E-09	-33.0E-09	-31.7E-09	-34.2E-09	-39.1E-09
67_OUT_REF	-34.2E-09	-30.5E-09	-33.0E-09	-37.8E-09	-34.2E-09	-33.0E-09	-30.5E-09	-31.7E-09
ON samples								
51	-35.4E-09	-35.4E-09	-31.7E-09	-29.3E-09	-31.7E-09	-39.1E-09	-34.2E-09	-35.4E-09
52	-30.5E-09	-33.0E-09	-33.0E-09	-40.3E-09	-35.4E-09	-36.6E-09	-29.3E-09	-40.3E-09
53	-33.0E-09	-34.2E-09	-29.3E-09	-31.7E-09	-35.4E-09	-35.4E-09	-30.5E-09	-34.2E-09
54	-36.6E-09	-36.6E-09	-31.7E-09	-30.5E-09	-35.4E-09	-35.4E-09	-28.1E-09	-36.6E-09
55	-30.5E-09	-39.1E-09	-37.8E-09	-34.2E-09	-31.7E-09	-40.3E-09	-34.2E-09	-33.0E-09
56	-34.2E-09	-33.0E-09	-37.8E-09	-30.5E-09	-30.5E-09	-36.6E-09	-34.2E-09	-34.2E-09
57	-31.7E-09	-30.5E-09	-41.5E-09	-34.2E-09	-33.0E-09	-36.6E-09	-35.4E-09	-35.4E-09
58	-37.8E-09	-33.0E-09	-33.0E-09	-34.2E-09	-31.7E-09	-33.0E-09	-30.5E-09	-35.4E-09
59	-36.6E-09	-34.2E-09	-33.0E-09	-37.8E-09	-36.6E-09	-35.4E-09	-34.2E-09	-35.4E-09
60	-35.4E-09	-35.4E-09	-28.1E-09	-31.7E-09	-33.0E-09	-31.7E-09	-31.7E-09	-31.7E-09
Statistics								
Min	-37.8E-09	-39.1E-09	-41.5E-09	-40.3E-09	-36.6E-09	-40.3E-09	-35.4E-09	-40.3E-09
Max	-30.5E-09	-30.5E-09	-28.1E-09	-29.3E-09	-30.5E-09	-31.7E-09	-28.1E-09	-31.7E-09
Average	-34.2E-09	-34.4E-09	-33.7E-09	-33.4E-09	-33.4E-09	-36.0E-09	-32.2E-09	-35.2E-09
Std Deviation	2.6E-09	2.4E-09	4.2E-09	3.5E-09	2.1E-09	2.5E-09	2.5E-09	2.3E-09

Measurements

Iil<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-35.4E-09	-31.7E-09	-34.2E-09	-29.3E-09	-33.0E-09	-31.7E-09	-34.2E-09	-39.1E-09
67_OUT_REF	-34.2E-09	-30.5E-09	-33.0E-09	-37.8E-09	-34.2E-09	-33.0E-09	-30.5E-09	-31.7E-09
OFF samples								
61	-39.1E-09	-37.8E-09	-34.2E-09	-30.5E-09	-41.5E-09	-41.5E-09	-29.3E-09	-37.8E-09
62	-33.0E-09	-36.6E-09	-33.0E-09	-31.7E-09	-34.2E-09	-34.2E-09	-36.6E-09	-36.6E-09
63	-29.3E-09	-31.7E-09	-34.2E-09	-33.0E-09	-37.8E-09	-31.7E-09	-37.8E-09	-37.8E-09
64	-33.0E-09	-34.2E-09	-34.2E-09	-39.1E-09	-36.6E-09	-36.6E-09	-33.0E-09	-37.8E-09
65	-30.5E-09	-31.7E-09	-30.5E-09	-34.2E-09	-30.5E-09	-37.8E-09	-36.6E-09	-33.0E-09
Statistics								
Min	-39.1E-09	-37.8E-09	-34.2E-09	-39.1E-09	-41.5E-09	-41.5E-09	-37.8E-09	-37.8E-09
Max	-29.3E-09	-31.7E-09	-30.5E-09	-30.5E-09	-30.5E-09	-31.7E-09	-29.3E-09	-33.0E-09
Average	-33.0E-09	-34.4E-09	-33.2E-09	-33.7E-09	-36.1E-09	-36.4E-09	-34.7E-09	-36.6E-09
Std Deviation	3.8E-09	2.8E-09	1.6E-09	3.3E-09	4.1E-09	3.7E-09	3.5E-09	2.1E-09

Parameter : Input Low Leakage Current : Iil<DQ[1]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-13.4E-09	-11.0E-09	-13.4E-09	-11.0E-09	-8.5E-09	-12.2E-09	-12.2E-09
67_OUT_REF	-7.3E-09	-8.5E-09	-9.8E-09	-8.5E-09	-13.4E-09	-8.5E-09	-13.4E-09	-11.0E-09
ON samples								
51	-6.1E-09	-8.5E-09	-13.4E-09	-11.0E-09	-13.4E-09	-7.3E-09	-17.1E-09	-4.9E-09
52	-6.1E-09	-9.8E-09	-11.0E-09	-6.1E-09	-9.8E-09	-14.6E-09	-13.4E-09	-8.5E-09
53	-9.8E-09	-11.0E-09	-14.6E-09	-8.5E-09	-11.0E-09	-11.0E-09	-12.2E-09	-9.8E-09
54	-12.2E-09	-7.3E-09	-12.2E-09	-7.3E-09	-14.6E-09	-9.8E-09	-13.4E-09	-7.3E-09
55	-12.2E-09	-11.0E-09	-8.5E-09	-6.1E-09	-8.5E-09	-9.8E-09	-8.5E-09	-13.4E-09
56	-13.4E-09	-14.6E-09	-8.5E-09	-11.0E-09	-9.8E-09	-13.4E-09	-11.0E-09	-8.5E-09
57	-7.3E-09	-9.8E-09	-14.6E-09	-17.1E-09	-13.4E-09	-7.3E-09	-11.0E-09	-13.4E-09
58	-13.4E-09	-13.4E-09	-15.9E-09	-9.8E-09	-11.0E-09	-8.5E-09	-3.7E-09	-9.8E-09
59	-9.8E-09	-12.2E-09	-8.5E-09	-14.6E-09	-11.0E-09	-17.1E-09	-12.2E-09	-9.8E-09
60	-9.8E-09	-15.9E-09	-9.8E-09	-8.5E-09	-14.6E-09	-8.5E-09	-11.0E-09	-11.0E-09
Statistics								
Min	-13.4E-09	-15.9E-09	-15.9E-09	-17.1E-09	-14.6E-09	-17.1E-09	-17.1E-09	-13.4E-09
Max	-6.1E-09	-7.3E-09	-8.5E-09	-6.1E-09	-8.5E-09	-7.3E-09	-3.7E-09	-4.9E-09
Average	-10.0E-09	-11.4E-09	-11.7E-09	-10.0E-09	-11.7E-09	-10.7E-09	-11.4E-09	-9.6E-09
Std Deviation	2.8E-09	2.7E-09	2.8E-09	3.6E-09	2.2E-09	3.3E-09	3.5E-09	2.6E-09

Measurements

Iil<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-13.4E-09	-11.0E-09	-13.4E-09	-11.0E-09	-8.5E-09	-12.2E-09	-12.2E-09
67_OUT_REF	-7.3E-09	-8.5E-09	-9.8E-09	-8.5E-09	-13.4E-09	-8.5E-09	-13.4E-09	-11.0E-09
OFF samples								
61	-8.5E-09	-13.4E-09	-12.2E-09	-15.9E-09	-12.2E-09	-9.8E-09	-9.8E-09	-14.6E-09
62	-9.8E-09	-12.2E-09	-7.3E-09	-9.8E-09	-9.8E-09	-14.6E-09	-7.3E-09	-14.6E-09
63	-4.9E-09	-9.8E-09	-12.2E-09	-13.4E-09	-9.8E-09	-7.3E-09	-8.5E-09	-8.5E-09
64	-6.1E-09	-9.8E-09	-4.9E-09	-9.8E-09	-11.0E-09	-11.0E-09	-12.2E-09	-13.4E-09
65	-6.1E-09	-13.4E-09	-7.3E-09	-15.9E-09	-7.3E-09	-7.3E-09	-9.8E-09	-9.8E-09
Statistics								
Min	-9.8E-09	-13.4E-09	-12.2E-09	-15.9E-09	-12.2E-09	-14.6E-09	-12.2E-09	-14.6E-09
Max	-4.9E-09	-9.8E-09	-4.9E-09	-9.8E-09	-7.3E-09	-7.3E-09	-7.3E-09	-8.5E-09
Average	-7.1E-09	-11.7E-09	-8.8E-09	-12.9E-09	-10.0E-09	-10.0E-09	-9.5E-09	-12.2E-09
Std Deviation	2.0E-09	1.9E-09	3.3E-09	3.1E-09	1.8E-09	3.0E-09	1.8E-09	2.9E-09

Parameter : Input Low Leakage Current : Iil<DQ[2]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-23.2E-09	-31.7E-09	-26.9E-09	-30.5E-09	-25.6E-09	-29.3E-09	-29.3E-09	-29.3E-09
67_OUT_REF	-25.6E-09	-31.7E-09	-25.6E-09	-26.9E-09	-25.6E-09	-30.5E-09	-26.9E-09	-30.5E-09
ON samples								
51	-26.9E-09	-33.0E-09	-26.9E-09	-20.8E-09	-26.9E-09	-26.9E-09	-30.5E-09	-24.4E-09
52	-29.3E-09	-26.9E-09	-23.2E-09	-24.4E-09	-24.4E-09	-30.5E-09	-31.7E-09	-26.9E-09
53	-26.9E-09	-33.0E-09	-29.3E-09	-20.8E-09	-24.4E-09	-28.1E-09	-25.6E-09	-30.5E-09
54	-26.9E-09	-25.6E-09	-25.6E-09	-30.5E-09	-23.2E-09	-31.7E-09	-30.5E-09	-29.3E-09
55	-31.7E-09	-31.7E-09	-26.9E-09	-31.7E-09	-29.3E-09	-28.1E-09	-33.0E-09	-26.9E-09
56	-25.6E-09	-26.9E-09	-30.5E-09	-30.5E-09	-25.6E-09	-28.1E-09	-28.1E-09	-26.9E-09
57	-24.4E-09	-29.3E-09	-26.9E-09	-26.9E-09	-26.9E-09	-28.1E-09	-34.2E-09	-34.2E-09
58	-30.5E-09	-31.7E-09	-30.5E-09	-28.1E-09	-24.4E-09	-29.3E-09	-26.9E-09	-30.5E-09
59	-28.1E-09	-24.4E-09	-23.2E-09	-22.0E-09	-30.5E-09	-29.3E-09	-28.1E-09	-33.0E-09
60	-30.5E-09	-30.5E-09	-28.1E-09	-23.2E-09	-28.1E-09	-28.1E-09	-23.2E-09	-28.1E-09
Statistics								
Min	-31.7E-09	-33.0E-09	-30.5E-09	-31.7E-09	-30.5E-09	-31.7E-09	-34.2E-09	-34.2E-09
Max	-24.4E-09	-24.4E-09	-23.2E-09	-20.8E-09	-23.2E-09	-26.9E-09	-23.2E-09	-24.4E-09
Average	-28.1E-09	-29.3E-09	-27.1E-09	-25.9E-09	-26.4E-09	-28.8E-09	-29.2E-09	-29.1E-09
Std Deviation	2.4E-09	3.2E-09	2.6E-09	4.2E-09	2.4E-09	1.4E-09	3.4E-09	3.0E-09

Measurements

Iil<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-23.2E-09	-31.7E-09	-26.9E-09	-30.5E-09	-25.6E-09	-29.3E-09	-29.3E-09	-29.3E-09
67_OUT_REF	-25.6E-09	-31.7E-09	-25.6E-09	-26.9E-09	-25.6E-09	-30.5E-09	-26.9E-09	-30.5E-09
OFF samples								
61	-29.3E-09	-28.1E-09	-25.6E-09	-28.1E-09	-26.9E-09	-28.1E-09	-30.5E-09	-26.9E-09
62	-29.3E-09	-25.6E-09	-25.6E-09	-23.2E-09	-26.9E-09	-25.6E-09	-35.4E-09	-34.2E-09
63	-24.4E-09	-30.5E-09	-28.1E-09	-28.1E-09	-25.6E-09	-24.4E-09	-34.2E-09	-26.9E-09
64	-24.4E-09	-30.5E-09	-23.2E-09	-25.6E-09	-30.5E-09	-30.5E-09	-35.4E-09	-31.7E-09
65	-25.6E-09	-31.7E-09	-25.6E-09	-23.2E-09	-26.9E-09	-29.3E-09	-28.1E-09	-29.3E-09
Statistics								
Min	-29.3E-09	-31.7E-09	-28.1E-09	-28.1E-09	-30.5E-09	-30.5E-09	-35.4E-09	-34.2E-09
Max	-24.4E-09	-25.6E-09	-23.2E-09	-23.2E-09	-25.6E-09	-24.4E-09	-28.1E-09	-26.9E-09
Average	-26.6E-09	-29.3E-09	-25.6E-09	-25.6E-09	-27.3E-09	-27.6E-09	-32.7E-09	-29.8E-09
Std Deviation	2.5E-09	2.4E-09	1.7E-09	2.4E-09	1.9E-09	2.5E-09	3.3E-09	3.2E-09

Parameter : Input Low Leakage Current : Iil<DQ[3]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-36.6E-09	-33.0E-09	-31.7E-09	-42.7E-09	-33.0E-09	-35.4E-09	-36.6E-09	-35.4E-09
67_OUT_REF	-39.1E-09	-35.4E-09	-39.1E-09	-36.6E-09	-33.0E-09	-35.4E-09	-39.1E-09	-33.0E-09
ON samples								
51	-35.4E-09	-31.7E-09	-36.6E-09	-35.4E-09	-35.4E-09	-39.1E-09	-35.4E-09	-31.7E-09
52	-31.7E-09	-39.1E-09	-31.7E-09	-37.8E-09	-37.8E-09	-39.1E-09	-30.5E-09	-33.0E-09
53	-30.5E-09	-34.2E-09	-34.2E-09	-35.4E-09	-35.4E-09	-35.4E-09	-35.4E-09	-39.1E-09
54	-39.1E-09	-37.8E-09	-34.2E-09	-37.8E-09	-40.3E-09	-40.3E-09	-30.5E-09	-34.2E-09
55	-34.2E-09	-39.1E-09	-36.6E-09	-31.7E-09	-36.6E-09	-37.8E-09	-36.6E-09	-33.0E-09
56	-39.1E-09	-36.6E-09	-31.7E-09	-37.8E-09	-42.7E-09	-31.7E-09	-34.2E-09	-33.0E-09
57	-34.2E-09	-39.1E-09	-37.8E-09	-39.1E-09	-42.7E-09	-34.2E-09	-33.0E-09	-34.2E-09
58	-39.1E-09	-36.6E-09	-39.1E-09	-35.4E-09	-34.2E-09	-36.6E-09	-35.4E-09	-34.2E-09
59	-36.6E-09	-39.1E-09	-34.2E-09	-34.2E-09	-37.8E-09	-42.7E-09	-33.0E-09	-33.0E-09
60	-34.2E-09	-36.6E-09	-36.6E-09	-36.6E-09	-42.7E-09	-34.2E-09	-31.7E-09	-34.2E-09
Statistics								
Min	-39.1E-09	-39.1E-09	-39.1E-09	-39.1E-09	-42.7E-09	-42.7E-09	-36.6E-09	-39.1E-09
Max	-30.5E-09	-31.7E-09	-31.7E-09	-31.7E-09	-34.2E-09	-31.7E-09	-30.5E-09	-31.7E-09
Average	-35.4E-09	-37.0E-09	-35.3E-09	-36.1E-09	-38.6E-09	-37.1E-09	-33.6E-09	-33.9E-09
Std Deviation	3.0E-09	2.4E-09	2.5E-09	2.2E-09	3.3E-09	3.3E-09	2.2E-09	2.0E-09

Measurements

Iil<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-36.6E-09	-33.0E-09	-31.7E-09	-42.7E-09	-33.0E-09	-35.4E-09	-36.6E-09	-35.4E-09
67_OUT_REF	-39.1E-09	-35.4E-09	-39.1E-09	-36.6E-09	-33.0E-09	-35.4E-09	-39.1E-09	-33.0E-09
OFF samples								
61	-30.5E-09	-37.8E-09	-33.0E-09	-35.4E-09	-42.7E-09	-33.0E-09	-41.5E-09	-36.6E-09
62	-30.5E-09	-37.8E-09	-37.8E-09	-37.8E-09	-37.8E-09	-36.6E-09	-34.2E-09	-37.8E-09
63	-28.1E-09	-36.6E-09	-42.7E-09	-36.6E-09	-39.1E-09	-40.3E-09	-34.2E-09	-36.6E-09
64	-30.5E-09	-35.4E-09	-36.6E-09	-37.8E-09	-41.5E-09	-36.6E-09	-39.1E-09	-34.2E-09
65	-35.4E-09	-33.0E-09	-37.8E-09	-41.5E-09	-34.2E-09	-37.8E-09	-30.5E-09	-33.0E-09
Statistics								
Min	-35.4E-09	-37.8E-09	-42.7E-09	-41.5E-09	-42.7E-09	-40.3E-09	-41.5E-09	-37.8E-09
Max	-28.1E-09	-33.0E-09	-33.0E-09	-35.4E-09	-34.2E-09	-33.0E-09	-30.5E-09	-33.0E-09
Average	-31.0E-09	-36.1E-09	-37.6E-09	-37.8E-09	-39.1E-09	-36.9E-09	-35.9E-09	-35.6E-09
Std Deviation	2.7E-09	2.0E-09	3.5E-09	2.3E-09	3.3E-09	2.6E-09	4.4E-09	2.0E-09

Parameter : Input Low Leakage Current : Iil<DQ[4]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

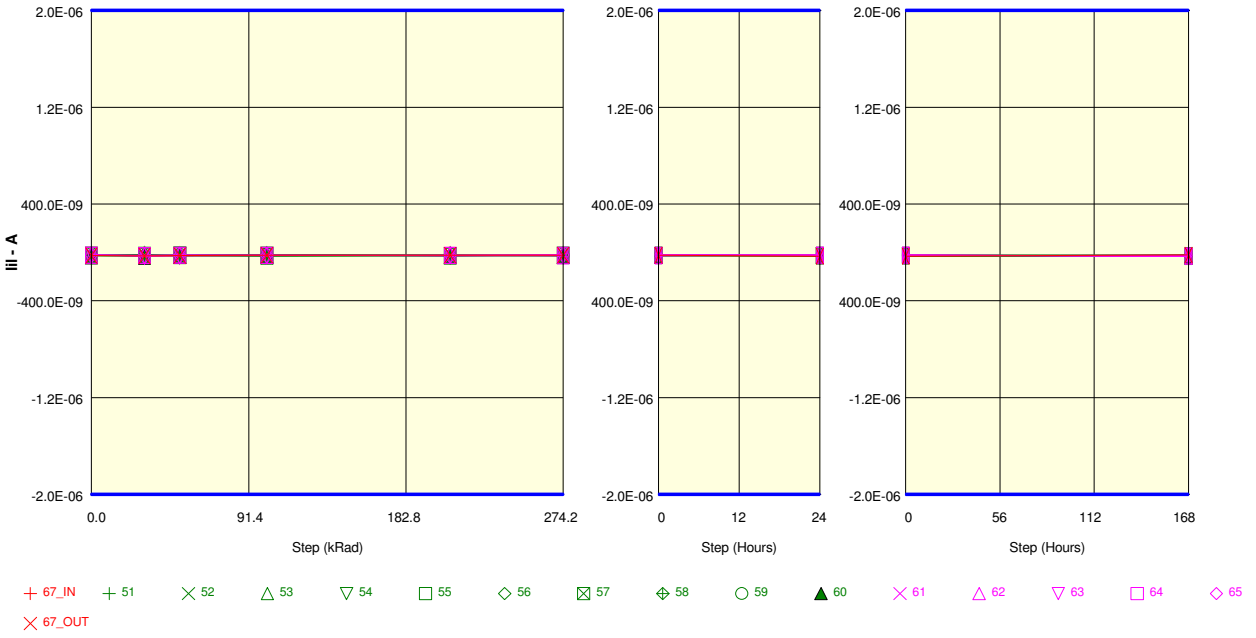
Measurements

Iil<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-31.7E-09	-25.6E-09	-34.2E-09	-25.6E-09	-31.7E-09	-28.1E-09	-26.9E-09
67_OUT_REF	-33.0E-09	-28.1E-09	-33.0E-09	-36.6E-09	-28.1E-09	-28.1E-09	-24.4E-09	-29.3E-09
ON samples								
51	-30.5E-09	-31.7E-09	-26.9E-09	-30.5E-09	-31.7E-09	-31.7E-09	-29.3E-09	-28.1E-09
52	-29.3E-09	-30.5E-09	-26.9E-09	-28.1E-09	-28.1E-09	-24.4E-09	-33.0E-09	-26.9E-09
53	-30.5E-09	-31.7E-09	-31.7E-09	-33.0E-09	-31.7E-09	-34.2E-09	-25.6E-09	-25.6E-09
54	-30.5E-09	-33.0E-09	-25.6E-09	-25.6E-09	-31.7E-09	-31.7E-09	-29.3E-09	-26.9E-09
55	-29.3E-09	-29.3E-09	-30.5E-09	-34.2E-09	-29.3E-09	-26.9E-09	-28.1E-09	-28.1E-09
56	-30.5E-09	-30.5E-09	-33.0E-09	-30.5E-09	-29.3E-09	-28.1E-09	-33.0E-09	-30.5E-09
57	-26.9E-09	-30.5E-09	-36.6E-09	-28.1E-09	-29.3E-09	-33.0E-09	-26.9E-09	-31.7E-09
58	-24.4E-09	-29.3E-09	-33.0E-09	-35.4E-09	-33.0E-09	-28.1E-09	-24.4E-09	-30.5E-09
59	-33.0E-09	-31.7E-09	-30.5E-09	-33.0E-09	-26.9E-09	-36.6E-09	-30.5E-09	-28.1E-09
60	-34.2E-09	-36.6E-09	-29.3E-09	-34.2E-09	-26.9E-09	-26.9E-09	-26.9E-09	-25.6E-09
Statistics								
Min	-34.2E-09	-36.6E-09	-36.6E-09	-35.4E-09	-33.0E-09	-36.6E-09	-33.0E-09	-31.7E-09
Max	-24.4E-09	-29.3E-09	-25.6E-09	-25.6E-09	-26.9E-09	-24.4E-09	-24.4E-09	-25.6E-09
Average	-29.9E-09	-31.5E-09	-30.4E-09	-31.3E-09	-29.8E-09	-30.2E-09	-28.7E-09	-28.2E-09
Std Deviation	2.8E-09	2.1E-09	3.4E-09	3.2E-09	2.2E-09	3.9E-09	2.9E-09	2.1E-09

Measurements

Iil<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-31.7E-09	-25.6E-09	-34.2E-09	-25.6E-09	-31.7E-09	-28.1E-09	-26.9E-09
67_OUT_REF	-33.0E-09	-28.1E-09	-33.0E-09	-36.6E-09	-28.1E-09	-28.1E-09	-24.4E-09	-29.3E-09
OFF samples								
61	-28.1E-09	-31.7E-09	-26.9E-09	-29.3E-09	-35.4E-09	-26.9E-09	-34.2E-09	-29.3E-09
62	-34.2E-09	-30.5E-09	-25.6E-09	-33.0E-09	-30.5E-09	-29.3E-09	-28.1E-09	-34.2E-09
63	-29.3E-09	-30.5E-09	-34.2E-09	-28.1E-09	-33.0E-09	-30.5E-09	-26.9E-09	-29.3E-09
64	-30.5E-09	-26.9E-09	-28.1E-09	-26.9E-09	-28.1E-09	-31.7E-09	-33.0E-09	-26.9E-09
65	-29.3E-09	-31.7E-09	-26.9E-09	-31.7E-09	-35.4E-09	-33.0E-09	-26.9E-09	-25.6E-09
Statistics								
Min	-34.2E-09	-31.7E-09	-34.2E-09	-33.0E-09	-35.4E-09	-33.0E-09	-34.2E-09	-34.2E-09
Max	-28.1E-09	-26.9E-09	-25.6E-09	-26.9E-09	-28.1E-09	-26.9E-09	-26.9E-09	-25.6E-09
Average	-30.3E-09	-30.3E-09	-28.3E-09	-29.8E-09	-32.5E-09	-30.3E-09	-29.8E-09	-29.1E-09
Std Deviation	2.3E-09	2.0E-09	3.4E-09	2.5E-09	3.2E-09	2.3E-09	3.5E-09	3.3E-09

Parameter : Input Low Leakage Current : Iil<DQ[5]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-19.5E-09	-30.5E-09	-29.3E-09	-25.6E-09	-24.4E-09	-25.6E-09	-30.5E-09	-26.9E-09
67_OUT_REF	-25.6E-09	-28.1E-09	-26.9E-09	-24.4E-09	-23.2E-09	-24.4E-09	-30.5E-09	-20.8E-09
ON samples								
51	-26.9E-09	-22.0E-09	-26.9E-09	-29.3E-09	-24.4E-09	-28.1E-09	-28.1E-09	-31.7E-09
52	-24.4E-09	-25.6E-09	-25.6E-09	-24.4E-09	-20.8E-09	-24.4E-09	-26.9E-09	-30.5E-09
53	-26.9E-09	-19.5E-09	-24.4E-09	-20.8E-09	-29.3E-09	-26.9E-09	-26.9E-09	-24.4E-09
54	-23.2E-09	-23.2E-09	-23.2E-09	-22.0E-09	-25.6E-09	-24.4E-09	-26.9E-09	-26.9E-09
55	-25.6E-09	-29.3E-09	-18.3E-09	-20.8E-09	-26.9E-09	-24.4E-09	-25.6E-09	-33.0E-09
56	-24.4E-09	-23.2E-09	-25.6E-09	-24.4E-09	-25.6E-09	-29.3E-09	-26.9E-09	-25.6E-09
57	-24.4E-09	-26.9E-09	-26.9E-09	-30.5E-09	-28.1E-09	-26.9E-09	-24.4E-09	-31.7E-09
58	-22.0E-09	-23.2E-09	-25.6E-09	-26.9E-09	-29.3E-09	-20.8E-09	-20.8E-09	-24.4E-09
59	-24.4E-09	-22.0E-09	-28.1E-09	-26.9E-09	-23.2E-09	-26.9E-09	-20.8E-09	-28.1E-09
60	-29.3E-09	-30.5E-09	-25.6E-09	-24.4E-09	-24.4E-09	-24.4E-09	-29.3E-09	-20.8E-09
Statistics								
Min	-29.3E-09	-30.5E-09	-28.1E-09	-30.5E-09	-29.3E-09	-29.3E-09	-29.3E-09	-33.0E-09
Max	-22.0E-09	-19.5E-09	-18.3E-09	-20.8E-09	-20.8E-09	-20.8E-09	-20.8E-09	-20.8E-09
Average	-25.1E-09	-24.5E-09	-25.0E-09	-25.0E-09	-25.8E-09	-25.6E-09	-25.6E-09	-27.7E-09
Std Deviation	2.1E-09	3.5E-09	2.7E-09	3.4E-09	2.7E-09	2.4E-09	2.9E-09	4.0E-09

Measurements

Iil<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-19.5E-09	-30.5E-09	-29.3E-09	-25.6E-09	-24.4E-09	-25.6E-09	-30.5E-09	-26.9E-09
67_OUT_REF	-25.6E-09	-28.1E-09	-26.9E-09	-24.4E-09	-23.2E-09	-24.4E-09	-30.5E-09	-20.8E-09
OFF samples								
61	-20.8E-09	-26.9E-09	-25.6E-09	-24.4E-09	-28.1E-09	-23.2E-09	-20.8E-09	-34.2E-09
62	-24.4E-09	-24.4E-09	-20.8E-09	-25.6E-09	-24.4E-09	-23.2E-09	-22.0E-09	-30.5E-09
63	-22.0E-09	-28.1E-09	-29.3E-09	-25.6E-09	-24.4E-09	-20.8E-09	-24.4E-09	-33.0E-09
64	-24.4E-09	-26.9E-09	-23.2E-09	-23.2E-09	-25.6E-09	-29.3E-09	-24.4E-09	-28.1E-09
65	-23.2E-09	-30.5E-09	-24.4E-09	-24.4E-09	-25.6E-09	-22.0E-09	-25.6E-09	-23.2E-09
Statistics								
Min	-24.4E-09	-30.5E-09	-29.3E-09	-25.6E-09	-28.1E-09	-29.3E-09	-25.6E-09	-34.2E-09
Max	-20.8E-09	-24.4E-09	-20.8E-09	-23.2E-09	-24.4E-09	-20.8E-09	-20.8E-09	-23.2E-09
Average	-22.9E-09	-27.3E-09	-24.7E-09	-24.7E-09	-25.6E-09	-23.7E-09	-23.4E-09	-29.8E-09
Std Deviation	1.6E-09	2.2E-09	3.2E-09	1.0E-09	1.5E-09	3.3E-09	2.0E-09	4.4E-09

Parameter : Input Low Leakage Current : Iil<DQ[6]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-30.5E-09	-20.8E-09	-23.2E-09	-25.6E-09	-23.2E-09	-34.2E-09	-24.4E-09
67_OUT_REF	-23.2E-09	-29.3E-09	-20.8E-09	-25.6E-09	-19.5E-09	-22.0E-09	-30.5E-09	-26.9E-09
ON samples								
51	-20.8E-09	-29.3E-09	-30.5E-09	-26.9E-09	-24.4E-09	-24.4E-09	-34.2E-09	-29.3E-09
52	-24.4E-09	-30.5E-09	-24.4E-09	-26.9E-09	-22.0E-09	-26.9E-09	-30.5E-09	-26.9E-09
53	-20.8E-09	-22.0E-09	-20.8E-09	-26.9E-09	-28.1E-09	-25.6E-09	-23.2E-09	-23.2E-09
54	-22.0E-09	-28.1E-09	-26.9E-09	-28.1E-09	-28.1E-09	-24.4E-09	-28.1E-09	-26.9E-09
55	-23.2E-09	-26.9E-09	-23.2E-09	-23.2E-09	-26.9E-09	-20.8E-09	-25.6E-09	-22.0E-09
56	-28.1E-09	-29.3E-09	-25.6E-09	-26.9E-09	-23.2E-09	-24.4E-09	-30.5E-09	-26.9E-09
57	-20.8E-09	-24.4E-09	-25.6E-09	-29.3E-09	-26.9E-09	-25.6E-09	-26.9E-09	-30.5E-09
58	-26.9E-09	-26.9E-09	-26.9E-09	-28.1E-09	-22.0E-09	-24.4E-09	-30.5E-09	-24.4E-09
59	-24.4E-09	-25.6E-09	-20.8E-09	-25.6E-09	-23.2E-09	-25.6E-09	-29.3E-09	-29.3E-09
60	-25.6E-09	-25.6E-09	-22.0E-09	-26.9E-09	-24.4E-09	-23.2E-09	-31.7E-09	-20.8E-09
Statistics								
Min	-28.1E-09	-30.5E-09	-30.5E-09	-29.3E-09	-28.1E-09	-26.9E-09	-34.2E-09	-30.5E-09
Max	-20.8E-09	-22.0E-09	-20.8E-09	-23.2E-09	-22.0E-09	-20.8E-09	-23.2E-09	-20.8E-09
Average	-23.7E-09	-26.9E-09	-24.7E-09	-26.9E-09	-24.9E-09	-24.5E-09	-29.1E-09	-26.0E-09
Std Deviation	2.6E-09	2.6E-09	3.1E-09	1.6E-09	2.4E-09	1.7E-09	3.2E-09	3.3E-09

Measurements

Iil<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-28.1E-09	-30.5E-09	-20.8E-09	-23.2E-09	-25.6E-09	-23.2E-09	-34.2E-09	-24.4E-09
67_OUT_REF	-23.2E-09	-29.3E-09	-20.8E-09	-25.6E-09	-19.5E-09	-22.0E-09	-30.5E-09	-26.9E-09
OFF samples								
61	-25.6E-09	-22.0E-09	-19.5E-09	-26.9E-09	-26.9E-09	-26.9E-09	-26.9E-09	-29.3E-09
62	-22.0E-09	-28.1E-09	-29.3E-09	-25.6E-09	-26.9E-09	-26.9E-09	-29.3E-09	-26.9E-09
63	-24.4E-09	-28.1E-09	-28.1E-09	-29.3E-09	-24.4E-09	-22.0E-09	-24.4E-09	-30.5E-09
64	-20.8E-09	-29.3E-09	-23.2E-09	-20.8E-09	-22.0E-09	-20.8E-09	-26.9E-09	-26.9E-09
65	-24.4E-09	-30.5E-09	-25.6E-09	-25.6E-09	-22.0E-09	-25.6E-09	-28.1E-09	-28.1E-09
Statistics								
Min	-25.6E-09	-30.5E-09	-29.3E-09	-29.3E-09	-26.9E-09	-26.9E-09	-29.3E-09	-30.5E-09
Max	-20.8E-09	-22.0E-09	-19.5E-09	-20.8E-09	-22.0E-09	-20.8E-09	-24.4E-09	-26.9E-09
Average	-23.4E-09	-27.6E-09	-25.1E-09	-25.6E-09	-24.4E-09	-24.4E-09	-27.1E-09	-28.3E-09
Std Deviation	2.0E-09	3.3E-09	3.9E-09	3.1E-09	2.4E-09	2.9E-09	1.8E-09	1.6E-09

Parameter : Input Low Leakage Current : Iil<DQ[7]>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-22.0E-09	-18.3E-09	-20.8E-09	-26.9E-09	-17.1E-09	-22.0E-09	-19.5E-09	-17.1E-09
67_OUT_REF	-18.3E-09	-23.2E-09	-19.5E-09	-20.8E-09	-18.3E-09	-23.2E-09	-19.5E-09	-22.0E-09
ON samples								
51	-18.3E-09	-22.0E-09	-18.3E-09	-23.2E-09	-15.9E-09	-19.5E-09	-25.6E-09	-18.3E-09
52	-18.3E-09	-13.4E-09	-18.3E-09	-23.2E-09	-20.8E-09	-20.8E-09	-19.5E-09	-15.9E-09
53	-17.1E-09	-19.5E-09	-17.1E-09	-25.6E-09	-20.8E-09	-17.1E-09	-20.8E-09	-15.9E-09
54	-23.2E-09	-25.6E-09	-22.0E-09	-24.4E-09	-23.2E-09	-20.8E-09	-22.0E-09	-22.0E-09
55	-17.1E-09	-23.2E-09	-18.3E-09	-14.6E-09	-17.1E-09	-20.8E-09	-20.8E-09	-25.6E-09
56	-19.5E-09	-23.2E-09	-20.8E-09	-22.0E-09	-19.5E-09	-15.9E-09	-15.9E-09	-23.2E-09
57	-26.9E-09	-23.2E-09	-23.2E-09	-23.2E-09	-26.9E-09	-22.0E-09	-23.2E-09	-25.6E-09
58	-17.1E-09	-19.5E-09	-15.9E-09	-22.0E-09	-22.0E-09	-15.9E-09	-26.9E-09	-20.8E-09
59	-17.1E-09	-20.8E-09	-19.5E-09	-22.0E-09	-22.0E-09	-18.3E-09	-23.2E-09	-19.5E-09
60	-18.3E-09	-20.8E-09	-19.5E-09	-22.0E-09	-18.3E-09	-18.3E-09	-20.8E-09	-23.2E-09
Statistics								
Min	-26.9E-09	-25.6E-09	-23.2E-09	-25.6E-09	-26.9E-09	-22.0E-09	-26.9E-09	-25.6E-09
Max	-17.1E-09	-13.4E-09	-15.9E-09	-14.6E-09	-15.9E-09	-15.9E-09	-15.9E-09	-15.9E-09
Average	-19.3E-09	-21.1E-09	-19.3E-09	-22.2E-09	-20.6E-09	-18.9E-09	-21.9E-09	-21.0E-09
Std Deviation	3.2E-09	3.3E-09	2.2E-09	2.9E-09	3.2E-09	2.2E-09	3.1E-09	3.6E-09

Measurements

Iil<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-22.0E-09	-18.3E-09	-20.8E-09	-26.9E-09	-17.1E-09	-22.0E-09	-19.5E-09	-17.1E-09
67_OUT_REF	-18.3E-09	-23.2E-09	-19.5E-09	-20.8E-09	-18.3E-09	-23.2E-09	-19.5E-09	-22.0E-09
OFF samples								
61	-20.8E-09	-20.8E-09	-24.4E-09	-23.2E-09	-19.5E-09	-22.0E-09	-23.2E-09	-17.1E-09
62	-25.6E-09	-19.5E-09	-19.5E-09	-25.6E-09	-22.0E-09	-19.5E-09	-26.9E-09	-23.2E-09
63	-22.0E-09	-20.8E-09	-22.0E-09	-24.4E-09	-19.5E-09	-20.8E-09	-17.1E-09	-14.6E-09
64	-17.1E-09	-25.6E-09	-23.2E-09	-23.2E-09	-23.2E-09	-26.9E-09	-20.8E-09	-15.9E-09
65	-18.3E-09	-18.3E-09	-19.5E-09	-15.9E-09	-19.5E-09	-22.0E-09	-19.5E-09	-22.0E-09
Statistics								
Min	-25.6E-09	-25.6E-09	-24.4E-09	-25.6E-09	-23.2E-09	-26.9E-09	-26.9E-09	-23.2E-09
Max	-17.1E-09	-18.3E-09	-19.5E-09	-15.9E-09	-19.5E-09	-19.5E-09	-17.1E-09	-14.6E-09
Average	-20.8E-09	-21.0E-09	-21.7E-09	-22.5E-09	-20.8E-09	-22.2E-09	-21.5E-09	-18.6E-09
Std Deviation	3.3E-09	2.8E-09	2.2E-09	3.8E-09	1.7E-09	2.8E-09	3.7E-09	3.8E-09

Parameter : Input Low Leakage Current : Iil<DQS/>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

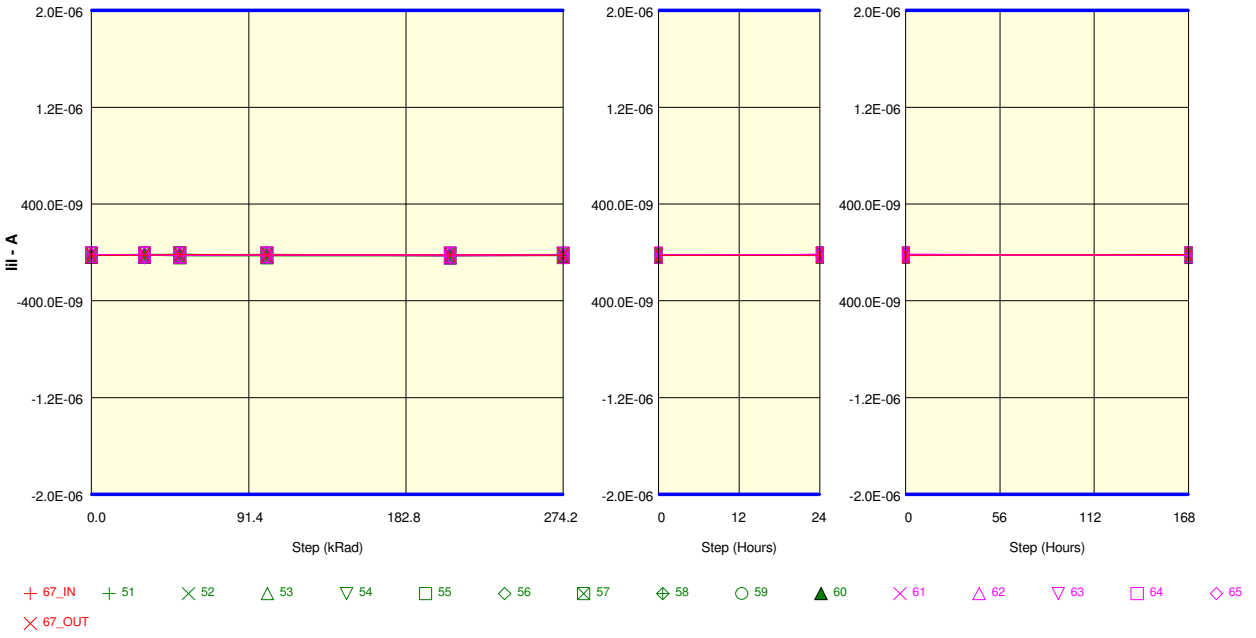
Measurements

Iil<DQS/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-18.3E-09	-13.4E-09	-20.8E-09	-18.3E-09	-15.9E-09	-14.6E-09	-17.1E-09	-17.1E-09
67_OUT_REF	-14.6E-09	-22.0E-09	-18.3E-09	-18.3E-09	-17.1E-09	-13.4E-09	-13.4E-09	-15.9E-09
ON samples								
51	-18.3E-09	-12.2E-09	-17.1E-09	-13.4E-09	-17.1E-09	-19.5E-09	-17.1E-09	-13.4E-09
52	-15.9E-09	-17.1E-09	-17.1E-09	-14.6E-09	-18.3E-09	-13.4E-09	-13.4E-09	-12.2E-09
53	-15.9E-09	-18.3E-09	-18.3E-09	-18.3E-09	-18.3E-09	-19.5E-09	-18.3E-09	-17.1E-09
54	-14.6E-09	-15.9E-09	-15.9E-09	-12.2E-09	-18.3E-09	-13.4E-09	-17.1E-09	-17.1E-09
55	-18.3E-09	-13.4E-09	-17.1E-09	-14.6E-09	-19.5E-09	-15.9E-09	-14.6E-09	-18.3E-09
56	-15.9E-09	-20.8E-09	-13.4E-09	-22.0E-09	-23.2E-09	-18.3E-09	-18.3E-09	-14.6E-09
57	-13.4E-09	-19.5E-09	-22.0E-09	-20.8E-09	-20.8E-09	-22.0E-09	-17.1E-09	-17.1E-09
58	-17.1E-09	-15.9E-09	-22.0E-09	-19.5E-09	-20.8E-09	-15.9E-09	-18.3E-09	-18.3E-09
59	-15.9E-09	-13.4E-09	-18.3E-09	-17.1E-09	-17.1E-09	-19.5E-09	-15.9E-09	-18.3E-09
60	-19.5E-09	-15.9E-09	-17.1E-09	-19.5E-09	-20.8E-09	-17.1E-09	-13.4E-09	-18.3E-09
Statistics								
Min	-19.5E-09	-20.8E-09	-22.0E-09	-22.0E-09	-23.2E-09	-22.0E-09	-18.3E-09	-18.3E-09
Max	-13.4E-09	-12.2E-09	-13.4E-09	-12.2E-09	-17.1E-09	-13.4E-09	-13.4E-09	-12.2E-09
Average	-16.5E-09	-16.2E-09	-17.8E-09	-17.2E-09	-19.4E-09	-17.5E-09	-16.4E-09	-16.5E-09
Std Deviation	1.8E-09	2.8E-09	2.6E-09	3.3E-09	1.9E-09	2.8E-09	1.9E-09	2.2E-09

Measurements

Iil<DQS/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-18.3E-09	-13.4E-09	-20.8E-09	-18.3E-09	-15.9E-09	-14.6E-09	-17.1E-09	-17.1E-09
67_OUT_REF	-14.6E-09	-22.0E-09	-18.3E-09	-18.3E-09	-17.1E-09	-13.4E-09	-13.4E-09	-15.9E-09
OFF samples								
61	-15.9E-09	-14.6E-09	-14.6E-09	-19.5E-09	-22.0E-09	-19.5E-09	-14.6E-09	-18.3E-09
62	-18.3E-09	-18.3E-09	-19.5E-09	-17.1E-09	-18.3E-09	-17.1E-09	-15.9E-09	-15.9E-09
63	-14.6E-09	-19.5E-09	-17.1E-09	-19.5E-09	-19.5E-09	-18.3E-09	-20.8E-09	-13.4E-09
64	-11.0E-09	-19.5E-09	-14.6E-09	-14.6E-09	-14.6E-09	-17.1E-09	-12.2E-09	-18.3E-09
65	-15.9E-09	-13.4E-09	-19.5E-09	-19.5E-09	-19.5E-09	-18.3E-09	-14.6E-09	-14.6E-09
Statistics								
Min	-18.3E-09	-19.5E-09	-19.5E-09	-19.5E-09	-22.0E-09	-19.5E-09	-20.8E-09	-18.3E-09
Max	-11.0E-09	-13.4E-09	-14.6E-09	-14.6E-09	-14.6E-09	-17.1E-09	-12.2E-09	-13.4E-09
Average	-15.1E-09	-17.1E-09	-17.1E-09	-18.1E-09	-18.8E-09	-18.1E-09	-15.6E-09	-16.1E-09
Std Deviation	2.7E-09	2.9E-09	2.4E-09	2.2E-09	2.7E-09	1.0E-09	3.2E-09	2.2E-09

Parameter : Input Low Leakage Current : Iil<DQS>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iil<DQS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-20.8E-09	-23.2E-09	-23.2E-09	-22.0E-09	-19.5E-09	-23.2E-09	-19.5E-09	-20.8E-09
67_OUT_REF	-23.2E-09	-23.2E-09	-19.5E-09	-22.0E-09	-22.0E-09	-23.2E-09	-23.2E-09	-18.3E-09
ON samples								
51	-22.0E-09	-23.2E-09	-17.1E-09	-25.6E-09	-20.8E-09	-22.0E-09	-23.2E-09	-23.2E-09
52	-22.0E-09	-19.5E-09	-22.0E-09	-20.8E-09	-20.8E-09	-22.0E-09	-24.4E-09	-20.8E-09
53	-19.5E-09	-19.5E-09	-22.0E-09	-15.9E-09	-24.4E-09	-24.4E-09	-19.5E-09	-23.2E-09
54	-24.4E-09	-24.4E-09	-17.1E-09	-23.2E-09	-24.4E-09	-26.9E-09	-24.4E-09	-22.0E-09
55	-22.0E-09	-22.0E-09	-20.8E-09	-20.8E-09	-24.4E-09	-22.0E-09	-18.3E-09	-18.3E-09
56	-25.6E-09	-20.8E-09	-25.6E-09	-20.8E-09	-20.8E-09	-22.0E-09	-23.2E-09	-22.0E-09
57	-24.4E-09	-23.2E-09	-28.1E-09	-28.1E-09	-29.3E-09	-25.6E-09	-22.0E-09	-19.5E-09
58	-18.3E-09	-25.6E-09	-24.4E-09	-24.4E-09	-26.9E-09	-20.8E-09	-20.8E-09	-18.3E-09
59	-19.5E-09	-17.1E-09	-17.1E-09	-20.8E-09	-20.8E-09	-24.4E-09	-25.6E-09	-23.2E-09
60	-23.2E-09	-22.0E-09	-23.2E-09	-22.0E-09	-28.1E-09	-22.0E-09	-22.0E-09	-25.6E-09
Statistics								
Min	-25.6E-09	-25.6E-09	-28.1E-09	-28.1E-09	-29.3E-09	-26.9E-09	-25.6E-09	-25.6E-09
Max	-18.3E-09	-17.1E-09	-17.1E-09	-15.9E-09	-20.8E-09	-20.8E-09	-18.3E-09	-18.3E-09
Average	-22.1E-09	-21.7E-09	-21.7E-09	-22.2E-09	-24.0E-09	-23.2E-09	-22.3E-09	-21.6E-09
Std Deviation	2.4E-09	2.6E-09	3.8E-09	3.3E-09	3.3E-09	2.0E-09	2.3E-09	2.4E-09

Measurements

Iil<DQS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-20.8E-09	-23.2E-09	-23.2E-09	-22.0E-09	-19.5E-09	-23.2E-09	-19.5E-09	-20.8E-09
67_OUT_REF	-23.2E-09	-23.2E-09	-19.5E-09	-22.0E-09	-22.0E-09	-23.2E-09	-23.2E-09	-18.3E-09
OFF samples								
61	-19.5E-09	-22.0E-09	-25.6E-09	-19.5E-09	-22.0E-09	-24.4E-09	-15.9E-09	-24.4E-09
62	-18.3E-09	-18.3E-09	-19.5E-09	-22.0E-09	-28.1E-09	-25.6E-09	-17.1E-09	-22.0E-09
63	-19.5E-09	-18.3E-09	-22.0E-09	-23.2E-09	-25.6E-09	-20.8E-09	-23.2E-09	-22.0E-09
64	-20.8E-09	-20.8E-09	-23.2E-09	-18.3E-09	-19.5E-09	-24.4E-09	-18.3E-09	-18.3E-09
65	-19.5E-09	-23.2E-09	-19.5E-09	-20.8E-09	-18.3E-09	-24.4E-09	-25.6E-09	-19.5E-09
Statistics								
Min	-20.8E-09	-23.2E-09	-25.6E-09	-23.2E-09	-28.1E-09	-25.6E-09	-25.6E-09	-24.4E-09
Max	-18.3E-09	-18.3E-09	-19.5E-09	-18.3E-09	-18.3E-09	-20.8E-09	-15.9E-09	-18.3E-09
Average	-19.5E-09	-20.5E-09	-22.0E-09	-20.8E-09	-22.7E-09	-23.9E-09	-20.0E-09	-21.2E-09
Std Deviation	863.0E-12	2.2E-09	2.6E-09	1.9E-09	4.1E-09	1.9E-09	4.2E-09	2.4E-09

Parameter : Input Low Leakage Current : Iil<ODT>
Test conditions : Vin=0V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iil<ODT>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-5.2E-09	-5.2E-09	-2.1E-09	-2.9E-09	-4.4E-09	-5.9E-09	2.5E-09	-2.1E-09
67_OUT_REF	936.3E-12	-9.0E-09	-2.9E-09	-5.2E-09	-589.6E-12	-5.2E-09	-2.9E-09	-5.2E-09
ON samples								
51	1.7E-09	-6.7E-09	-3.6E-09	-3.6E-09	-3.6E-09	-1.4E-09	-2.1E-09	-5.9E-09
52	-3.6E-09	-5.2E-09	173.3E-12	-589.6E-12	-2.9E-09	-6.7E-09	936.3E-12	-2.9E-09
53	-2.9E-09	-7.5E-09	-4.4E-09	936.3E-12	-7.5E-09	-4.4E-09	-5.9E-09	-2.9E-09
54	-5.9E-09	-5.9E-09	-1.4E-09	-2.1E-09	-4.4E-09	-2.9E-09	-2.1E-09	-2.1E-09
55	-3.6E-09	-4.4E-09	-2.1E-09	-4.4E-09	-4.4E-09	-6.7E-09	-5.9E-09	-6.7E-09
56	-589.6E-12	-5.9E-09	936.3E-12	-5.9E-09	-2.9E-09	-3.6E-09	-8.2E-09	-1.4E-09
57	-9.7E-09	-4.4E-09	-589.6E-12	-5.2E-09	-3.6E-09	-5.9E-09	-1.4E-09	-5.9E-09
58	-4.4E-09	-2.9E-09	-589.6E-12	-4.4E-09	-5.9E-09	936.3E-12	-589.6E-12	173.3E-12
59	-6.7E-09	173.3E-12	-2.1E-09	-2.1E-09	-4.4E-09	-2.1E-09	1.7E-09	-6.7E-09
60	-1.4E-09	-6.7E-09	-7.5E-09	-2.1E-09	-4.4E-09	-4.4E-09	-9.7E-09	-2.9E-09
Statistics								
Min	-9.7E-09	-7.5E-09	-7.5E-09	-5.9E-09	-7.5E-09	-6.7E-09	-9.7E-09	-6.7E-09
Max	1.7E-09	173.3E-12	936.3E-12	936.3E-12	-2.9E-09	936.3E-12	1.7E-09	173.3E-12
Average	-3.7E-09	-4.9E-09	-2.1E-09	-3.0E-09	-4.4E-09	-3.7E-09	-3.3E-09	-3.7E-09
Std Deviation	3.3E-09	2.2E-09	2.5E-09	2.1E-09	1.4E-09	2.5E-09	3.9E-09	2.4E-09

Measurements

Iil<ODT>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-5.2E-09	-5.2E-09	-2.1E-09	-2.9E-09	-4.4E-09	-5.9E-09	2.5E-09	-2.1E-09
67_OUT_REF	936.3E-12	-9.0E-09	-2.9E-09	-5.2E-09	-589.6E-12	-5.2E-09	-2.9E-09	-5.2E-09
OFF samples								
61	-1.4E-09	-2.1E-09	-8.2E-09	-2.9E-09	-1.4E-09	936.3E-12	-3.6E-09	-7.5E-09
62	-5.9E-09	-5.9E-09	-7.5E-09	-2.9E-09	-2.1E-09	-3.6E-09	-2.9E-09	-3.6E-09
63	-5.2E-09	-2.9E-09	-2.9E-09	-6.7E-09	-1.4E-09	-4.4E-09	-2.1E-09	-4.4E-09
64	-2.1E-09	173.3E-12	-5.2E-09	-589.6E-12	-3.6E-09	-4.4E-09	-2.1E-09	-4.4E-09
65	-589.6E-12	-5.2E-09	-589.6E-12	-3.6E-09	-5.9E-09	-5.9E-09	-6.7E-09	-589.6E-12
Statistics								
Min	-5.9E-09	-5.9E-09	-8.2E-09	-6.7E-09	-5.9E-09	-5.9E-09	-6.7E-09	-7.5E-09
Max	-589.6E-12	173.3E-12	-589.6E-12	-589.6E-12	-1.4E-09	936.3E-12	-2.1E-09	-589.6E-12
Average	-3.0E-09	-3.2E-09	-4.9E-09	-3.3E-09	-2.9E-09	-3.5E-09	-3.5E-09	-4.1E-09
Std Deviation	2.4E-09	2.4E-09	3.2E-09	2.2E-09	1.9E-09	2.6E-09	1.9E-09	2.4E-09

Parameter : Input High Leakage Current : Iih</CAS>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

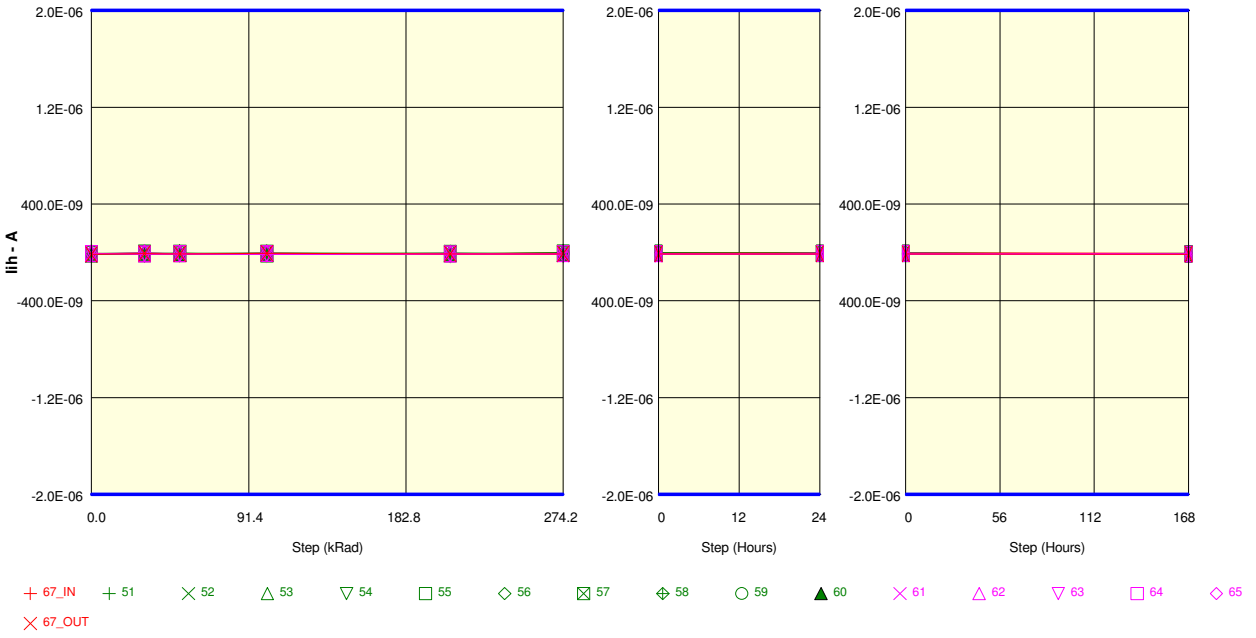
Measurements

Iih</CAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-25.6E-09	-23.2E-09	-28.1E-09	-20.8E-09	-20.8E-09	-23.2E-09	-15.9E-09	-22.0E-09
67_OUT_REF	-18.3E-09	-23.2E-09	-20.8E-09	-23.2E-09	-22.0E-09	-25.6E-09	-23.2E-09	-31.7E-09
ON samples								
51	-22.0E-09	-19.5E-09	-18.3E-09	-22.0E-09	-30.5E-09	-22.0E-09	-19.5E-09	-18.3E-09
52	-28.1E-09	-29.3E-09	-24.4E-09	-22.0E-09	-19.5E-09	-23.2E-09	-26.9E-09	-23.2E-09
53	-22.0E-09	-28.1E-09	-20.8E-09	-17.1E-09	-24.4E-09	-28.1E-09	-24.4E-09	-22.0E-09
54	-23.2E-09	-22.0E-09	-18.3E-09	-25.6E-09	-18.3E-09	-22.0E-09	-29.3E-09	-23.2E-09
55	-22.0E-09	-33.0E-09	-14.6E-09	-15.9E-09	-22.0E-09	-24.4E-09	-26.9E-09	-26.9E-09
56	-17.1E-09	-19.5E-09	-23.2E-09	-18.3E-09	-15.9E-09	-26.9E-09	-29.3E-09	-14.6E-09
57	-24.4E-09	-22.0E-09	-25.6E-09	-30.5E-09	-26.9E-09	-26.9E-09	-17.1E-09	-19.5E-09
58	-17.1E-09	-24.4E-09	-20.8E-09	-15.9E-09	-18.3E-09	-22.0E-09	-22.0E-09	-31.7E-09
59	-28.1E-09	-25.6E-09	-25.6E-09	-18.3E-09	-20.8E-09	-26.9E-09	-29.3E-09	-15.9E-09
60	-26.9E-09	-19.5E-09	-22.0E-09	-24.4E-09	-29.3E-09	-23.2E-09	-14.6E-09	-18.3E-09
Statistics								
Min	-28.1E-09	-33.0E-09	-25.6E-09	-30.5E-09	-30.5E-09	-28.1E-09	-29.3E-09	-31.7E-09
Max	-17.1E-09	-19.5E-09	-14.6E-09	-15.9E-09	-15.9E-09	-22.0E-09	-14.6E-09	-14.6E-09
Average	-23.1E-09	-24.3E-09	-21.4E-09	-21.0E-09	-22.6E-09	-24.5E-09	-23.9E-09	-21.4E-09
Std Deviation	4.0E-09	4.7E-09	3.6E-09	4.8E-09	5.0E-09	2.4E-09	5.4E-09	5.2E-09

Measurements

Iih</CAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-25.6E-09	-23.2E-09	-28.1E-09	-20.8E-09	-20.8E-09	-23.2E-09	-15.9E-09	-22.0E-09
67_OUT_REF	-18.3E-09	-23.2E-09	-20.8E-09	-23.2E-09	-22.0E-09	-25.6E-09	-23.2E-09	-31.7E-09
OFF samples								
61	-23.2E-09	-28.1E-09	-17.1E-09	-19.5E-09	-24.4E-09	-20.8E-09	-20.8E-09	-15.9E-09
62	-24.4E-09	-28.1E-09	-24.4E-09	-23.2E-09	-19.5E-09	-26.9E-09	-20.8E-09	-22.0E-09
63	-28.1E-09	-34.2E-09	-22.0E-09	-23.2E-09	-19.5E-09	-18.3E-09	-25.6E-09	-31.7E-09
64	-24.4E-09	-18.3E-09	-26.9E-09	-17.1E-09	-22.0E-09	-17.1E-09	-12.2E-09	-13.4E-09
65	-23.2E-09	-23.2E-09	-19.5E-09	-28.1E-09	-23.2E-09	-24.4E-09	-28.1E-09	-25.6E-09
Statistics								
Min	-28.1E-09	-34.2E-09	-26.9E-09	-28.1E-09	-24.4E-09	-26.9E-09	-28.1E-09	-31.7E-09
Max	-23.2E-09	-18.3E-09	-17.1E-09	-17.1E-09	-19.5E-09	-17.1E-09	-12.2E-09	-13.4E-09
Average	-24.7E-09	-26.4E-09	-22.0E-09	-22.2E-09	-21.7E-09	-21.5E-09	-21.5E-09	-21.7E-09
Std Deviation	2.0E-09	6.0E-09	3.9E-09	4.2E-09	2.2E-09	4.1E-09	6.1E-09	7.4E-09

Parameter : Input High Leakage Current : Iih</CS>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



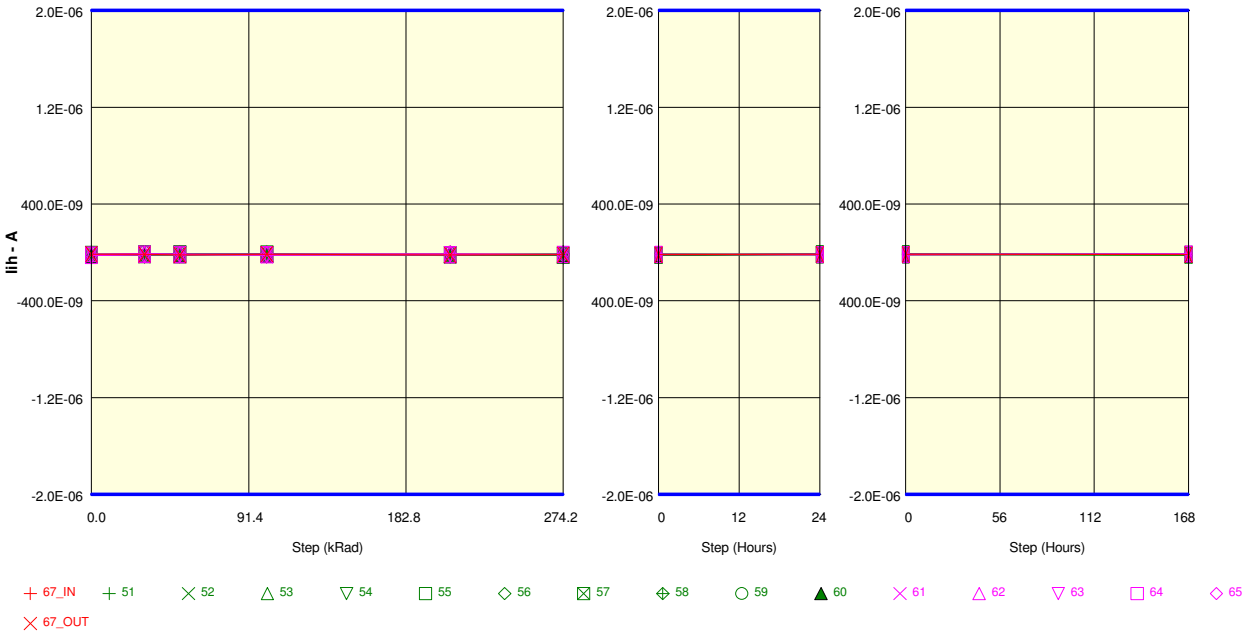
Measurements

Iih</CS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-4.9E-09	-11.0E-09	-6.1E-09	-12.2E-09	-2.4E-09	-2.4E-09	-6.1E-09
67_OUT_REF	-15.9E-09	-8.5E-09	-12.2E-09	-6.1E-09	-11.0E-09	-12.2E-09	-11.0E-09	-13.4E-09
ON samples								
51	-13.4E-09	-9.8E-09	-12.2E-09	-11.0E-09	-13.4E-09	-9.8E-09	-7.3E-09	-8.5E-09
52	-15.9E-09	-9.8E-09	-9.8E-09	-12.2E-09	-4.9E-09	-11.0E-09	-9.8E-09	-9.8E-09
53	-8.5E-09	-9.8E-09	-6.1E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-8.5E-09
54	-11.0E-09	-11.0E-09	-7.3E-09	-6.1E-09	-13.4E-09	-13.4E-09	-9.8E-09	-9.8E-09
55	-9.8E-09	-4.9E-09	-7.3E-09	-14.6E-09	-12.2E-09	-4.9E-09	-4.9E-09	-15.9E-09
56	-12.2E-09	-8.5E-09	-8.5E-09	-9.8E-09	-13.4E-09	-12.2E-09	-11.0E-09	-7.3E-09
57	-9.8E-09	-11.0E-09	-12.2E-09	-6.1E-09	-7.3E-09	-7.3E-09	-7.3E-09	-11.0E-09
58	-12.2E-09	-13.4E-09	-9.8E-09	-4.9E-09	-9.8E-09	-4.9E-09	-12.2E-09	-8.5E-09
59	-7.3E-09	-6.1E-09	-9.8E-09	-8.5E-09	-9.8E-09	-6.1E-09	-14.6E-09	-11.0E-09
60	-14.6E-09	-11.0E-09	-6.1E-09	-8.5E-09	-11.0E-09	-7.3E-09	-8.5E-09	-12.2E-09
Statistics								
Min	-15.9E-09	-13.4E-09	-12.2E-09	-14.6E-09	-13.4E-09	-13.4E-09	-14.6E-09	-15.9E-09
Max	-7.3E-09	-4.9E-09	-6.1E-09	-4.9E-09	-4.9E-09	-4.9E-09	-4.9E-09	-7.3E-09
Average	-11.5E-09	-9.5E-09	-8.9E-09	-9.3E-09	-10.6E-09	-8.7E-09	-9.6E-09	-10.3E-09
Std Deviation	2.7E-09	2.5E-09	2.2E-09	3.1E-09	2.8E-09	3.0E-09	2.8E-09	2.5E-09

Measurements

Iih</CS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-4.9E-09	-11.0E-09	-6.1E-09	-12.2E-09	-2.4E-09	-2.4E-09	-6.1E-09
67_OUT_REF	-15.9E-09	-8.5E-09	-12.2E-09	-6.1E-09	-11.0E-09	-12.2E-09	-11.0E-09	-13.4E-09
OFF samples								
61	-6.1E-09	-11.0E-09	-12.2E-09	-13.4E-09	-6.1E-09	-15.9E-09	-14.6E-09	-11.0E-09
62	-8.5E-09	-8.5E-09	-11.0E-09	-8.5E-09	-14.6E-09	-12.2E-09	-7.3E-09	-11.0E-09
63	-9.8E-09	-11.0E-09	-8.5E-09	-13.4E-09	-13.4E-09	-12.2E-09	-7.3E-09	-13.4E-09
64	-9.8E-09	-14.6E-09	-11.0E-09	-9.8E-09	-11.0E-09	-8.5E-09	-9.8E-09	-14.6E-09
65	-8.5E-09	-4.9E-09	-9.8E-09	-7.3E-09	-12.2E-09	-12.2E-09	-12.2E-09	-15.9E-09
Statistics								
Min	-9.8E-09	-14.6E-09	-12.2E-09	-13.4E-09	-14.6E-09	-15.9E-09	-14.6E-09	-15.9E-09
Max	-6.1E-09	-4.9E-09	-8.5E-09	-7.3E-09	-6.1E-09	-8.5E-09	-7.3E-09	-11.0E-09
Average	-8.5E-09	-10.0E-09	-10.5E-09	-10.5E-09	-11.5E-09	-12.2E-09	-10.3E-09	-13.2E-09
Std Deviation	1.5E-09	3.6E-09	1.4E-09	2.8E-09	3.3E-09	2.6E-09	3.2E-09	2.2E-09

Parameter : Input High Leakage Current : Iih</RAS>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



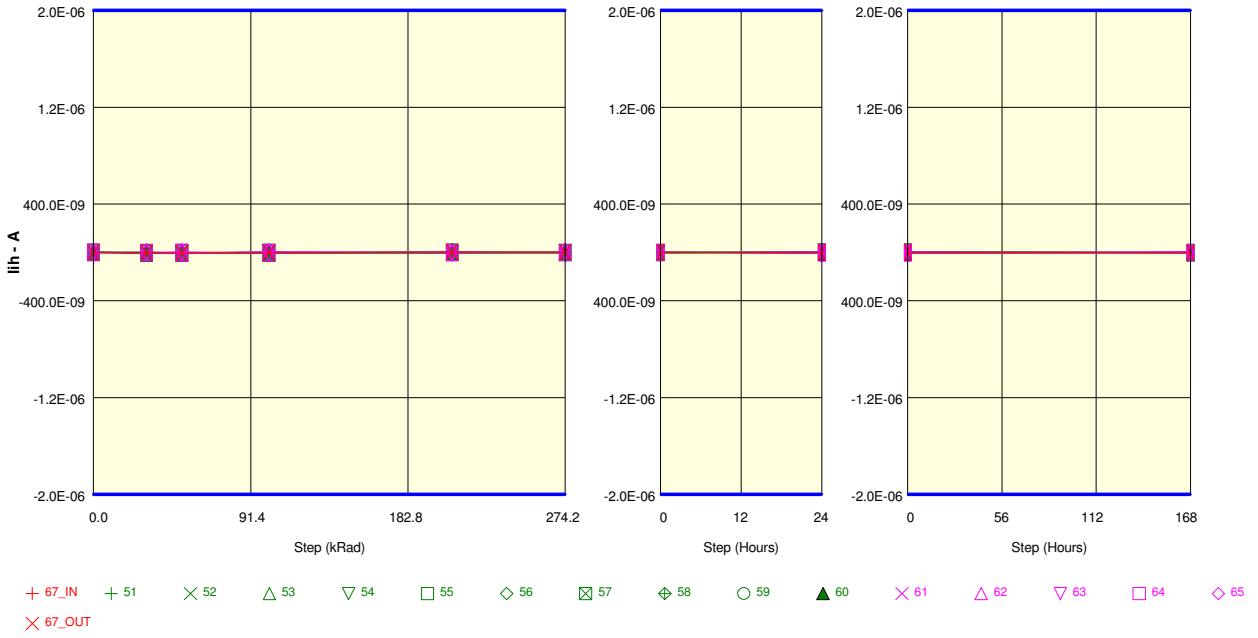
Measurements

Iih</RAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-24.4E-09	-20.8E-09	-19.5E-09	-13.4E-09	-12.2E-09	-17.1E-09	-14.6E-09	-14.6E-09
67_OUT_REF	-14.6E-09	-15.9E-09	-20.8E-09	-14.6E-09	-22.0E-09	-19.5E-09	-15.9E-09	-18.3E-09
ON samples								
51	-23.2E-09	-13.4E-09	-22.0E-09	-11.0E-09	-23.2E-09	-20.8E-09	-18.3E-09	-20.8E-09
52	-17.1E-09	-23.2E-09	-20.8E-09	-20.8E-09	-25.6E-09	-19.5E-09	-19.5E-09	-11.0E-09
53	-12.2E-09	-18.3E-09	-20.8E-09	-17.1E-09	-15.9E-09	-20.8E-09	-11.0E-09	-14.6E-09
54	-24.4E-09	-12.2E-09	-15.9E-09	-15.9E-09	-17.1E-09	-25.6E-09	-14.6E-09	-20.8E-09
55	-18.3E-09	-9.8E-09	-13.4E-09	-14.6E-09	-20.8E-09	-23.2E-09	-8.5E-09	-13.4E-09
56	-23.2E-09	-22.0E-09	-14.6E-09	-14.6E-09	-20.8E-09	-13.4E-09	-17.1E-09	-19.5E-09
57	-14.6E-09	-17.1E-09	-9.8E-09	-12.2E-09	-18.3E-09	-23.2E-09	-19.5E-09	-23.2E-09
58	-19.5E-09	-22.0E-09	-18.3E-09	-20.8E-09	-17.1E-09	-12.2E-09	-14.6E-09	-13.4E-09
59	-19.5E-09	-9.8E-09	-17.1E-09	-19.5E-09	-14.6E-09	-20.8E-09	-14.6E-09	-19.5E-09
60	-22.0E-09	-18.3E-09	-14.6E-09	-13.4E-09	-19.5E-09	-14.6E-09	-20.8E-09	-17.1E-09
Statistics								
Min	-24.4E-09	-23.2E-09	-22.0E-09	-20.8E-09	-25.6E-09	-25.6E-09	-20.8E-09	-23.2E-09
Max	-12.2E-09	-9.8E-09	-9.8E-09	-11.0E-09	-14.6E-09	-12.2E-09	-8.5E-09	-11.0E-09
Average	-19.4E-09	-16.6E-09	-16.7E-09	-16.0E-09	-19.3E-09	-19.4E-09	-15.9E-09	-17.3E-09
Std Deviation	4.0E-09	5.1E-09	3.8E-09	3.5E-09	3.4E-09	4.5E-09	3.9E-09	4.0E-09

Measurements

Iih</RAS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-24.4E-09	-20.8E-09	-19.5E-09	-13.4E-09	-12.2E-09	-17.1E-09	-14.6E-09	-14.6E-09
67_OUT_REF	-14.6E-09	-15.9E-09	-20.8E-09	-14.6E-09	-22.0E-09	-19.5E-09	-15.9E-09	-18.3E-09
OFF samples								
61	-18.3E-09	-9.8E-09	-15.9E-09	-23.2E-09	-19.5E-09	-13.4E-09	-14.6E-09	-13.4E-09
62	-11.0E-09	-13.4E-09	-17.1E-09	-13.4E-09	-15.9E-09	-19.5E-09	-15.9E-09	-14.6E-09
63	-18.3E-09	-11.0E-09	-13.4E-09	-17.1E-09	-17.1E-09	-14.6E-09	-19.5E-09	-17.1E-09
64	-25.6E-09	-18.3E-09	-20.8E-09	-22.0E-09	-20.8E-09	-18.3E-09	-17.1E-09	-12.2E-09
65	-23.2E-09	-20.8E-09	-17.1E-09	-15.9E-09	-12.2E-09	-18.3E-09	-20.8E-09	-14.6E-09
Statistics								
Min	-25.6E-09	-20.8E-09	-20.8E-09	-23.2E-09	-20.8E-09	-19.5E-09	-20.8E-09	-17.1E-09
Max	-11.0E-09	-9.8E-09	-13.4E-09	-13.4E-09	-12.2E-09	-13.4E-09	-14.6E-09	-12.2E-09
Average	-19.3E-09	-14.6E-09	-16.8E-09	-18.3E-09	-17.1E-09	-16.8E-09	-17.6E-09	-14.4E-09
Std Deviation	5.6E-09	4.7E-09	2.6E-09	4.1E-09	3.3E-09	2.6E-09	2.5E-09	1.8E-09

Parameter : Input High Leakage Current : Iih</RESET>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih</RESET>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	-2.9E-09	173.3E-12	-589.6E-12	173.3E-12	2.5E-09	-6.7E-09	936.3E-12
67_OUT_REF	-1.4E-09	-1.4E-09	-4.4E-09	-2.9E-09	2.5E-09	1.7E-09	-1.4E-09	-2.1E-09
ON samples								
51	936.3E-12	1.7E-09	-2.9E-09	173.3E-12	-2.9E-09	-2.9E-09	-5.2E-09	173.3E-12
52	-589.6E-12	936.3E-12	-1.4E-09	-3.6E-09	-5.2E-09	173.3E-12	-1.4E-09	-3.6E-09
53	936.3E-12	1.7E-09	-2.9E-09	-1.4E-09	-2.1E-09	-1.4E-09	-589.6E-12	173.3E-12
54	-2.9E-09	936.3E-12	-1.4E-09	2.5E-09	-5.2E-09	-4.4E-09	2.5E-09	173.3E-12
55	-2.9E-09	-8.2E-09	-2.1E-09	-1.4E-09	173.3E-12	-1.4E-09	3.2E-09	-589.6E-12
56	1.7E-09	-4.4E-09	-1.4E-09	-589.6E-12	173.3E-12	-1.4E-09	-4.4E-09	173.3E-12
57	3.2E-09	-3.6E-09	-2.1E-09	-2.9E-09	4.0E-09	936.3E-12	1.7E-09	-4.4E-09
58	2.5E-09	-5.9E-09	-2.1E-09	-6.7E-09	-1.4E-09	1.7E-09	3.2E-09	-1.4E-09
59	1.7E-09	-589.6E-12	173.3E-12	-2.9E-09	2.5E-09	-589.6E-12	173.3E-12	936.3E-12
60	173.3E-12	-2.9E-09	-3.6E-09	-3.6E-09	936.3E-12	173.3E-12	3.2E-09	-2.9E-09
Statistics								
Min	-2.9E-09	-8.2E-09	-3.6E-09	-6.7E-09	-5.2E-09	-4.4E-09	-5.2E-09	-4.4E-09
Max	3.2E-09	1.7E-09	173.3E-12	2.5E-09	4.0E-09	1.7E-09	3.2E-09	936.3E-12
Average	478.5E-12	-2.0E-09	-2.0E-09	-2.0E-09	-894.8E-12	-894.8E-12	249.6E-12	-1.1E-09
Std Deviation	2.1E-09	3.5E-09	1.1E-09	2.5E-09	3.0E-09	1.8E-09	3.1E-09	1.9E-09

Measurements

Iih</RESET>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	-2.9E-09	173.3E-12	-589.6E-12	173.3E-12	2.5E-09	-6.7E-09	936.3E-12
67_OUT_REF	-1.4E-09	-1.4E-09	-4.4E-09	-2.9E-09	2.5E-09	1.7E-09	-1.4E-09	-2.1E-09
OFF samples								
61	936.3E-12	-2.1E-09	-5.2E-09	2.5E-09	2.5E-09	-1.4E-09	4.0E-09	-2.9E-09
62	-589.6E-12	-589.6E-12	-2.9E-09	173.3E-12	-1.4E-09	-589.6E-12	-3.6E-09	4.8E-09
63	1.7E-09	173.3E-12	2.5E-09	-4.4E-09	936.3E-12	936.3E-12	-589.6E-12	-4.4E-09
64	-1.4E-09	-2.1E-09	-1.4E-09	-2.9E-09	-589.6E-12	-589.6E-12	-3.6E-09	173.3E-12
65	-2.1E-09	-2.9E-09	-2.9E-09	2.5E-09	-1.4E-09	173.3E-12	-589.6E-12	173.3E-12
Statistics								
Min	-2.1E-09	-2.9E-09	-5.2E-09	-4.4E-09	-1.4E-09	-1.4E-09	-3.6E-09	-4.4E-09
Max	1.7E-09	173.3E-12	2.5E-09	2.5E-09	2.5E-09	936.3E-12	4.0E-09	4.8E-09
Average	-284.4E-12	-1.5E-09	-2.0E-09	-437.0E-12	20.8E-12	-284.4E-12	-894.8E-12	-437.0E-12
Std Deviation	1.6E-09	1.3E-09	2.8E-09	3.1E-09	1.7E-09	869.9E-12	3.1E-09	3.5E-09

Parameter : Input High Leakage Current : Iih</WE>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

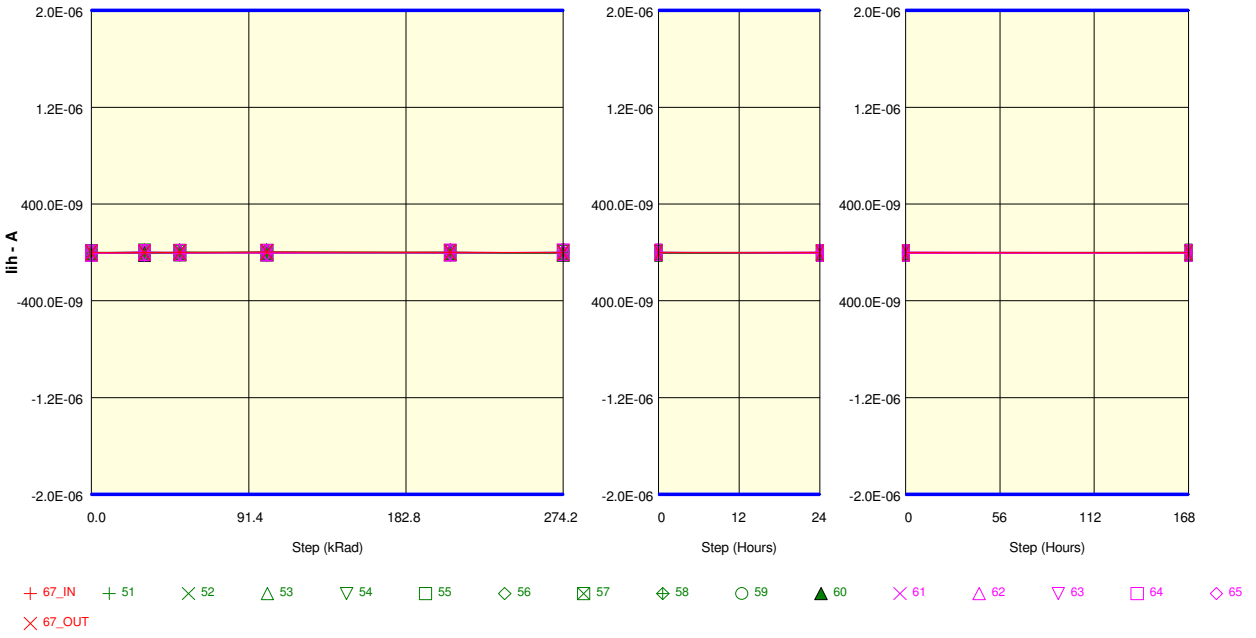
Measurements

Iih</WE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-9.8E-09	-7.3E-09	-14.6E-09	-12.2E-09	-7.3E-09	-9.8E-09	-13.4E-09
67_OUT_REF	-13.4E-09	-15.9E-09	-8.5E-09	-8.5E-09	-13.4E-09	-13.4E-09	-6.1E-09	-8.5E-09
ON samples								
51	-14.6E-09	-11.0E-09	-14.6E-09	-11.0E-09	-17.1E-09	-12.2E-09	-7.3E-09	-12.2E-09
52	-11.0E-09	-9.8E-09	-3.7E-09	-17.1E-09	-12.2E-09	-13.4E-09	-9.8E-09	-8.5E-09
53	-11.0E-09	-13.4E-09	-12.2E-09	-7.3E-09	-11.0E-09	-15.9E-09	-11.0E-09	-11.0E-09
54	-8.5E-09	-17.1E-09	-12.2E-09	-7.3E-09	-17.1E-09	-14.6E-09	-9.8E-09	-14.6E-09
55	-15.9E-09	-11.0E-09	-12.2E-09	-13.4E-09	-13.4E-09	-14.6E-09	-7.3E-09	-13.4E-09
56	-9.8E-09	-13.4E-09	-17.1E-09	-14.6E-09	-13.4E-09	-7.3E-09	-6.1E-09	-12.2E-09
57	-11.0E-09	-9.8E-09	-13.4E-09	-15.9E-09	-9.8E-09	-6.1E-09	-12.2E-09	-15.9E-09
58	-8.5E-09	-7.3E-09	-7.3E-09	-11.0E-09	-8.5E-09	-12.2E-09	-14.6E-09	-15.9E-09
59	-8.5E-09	-14.6E-09	-11.0E-09	-9.8E-09	-9.8E-09	-9.8E-09	-15.9E-09	-7.3E-09
60	-14.6E-09	-11.0E-09	-18.3E-09	-13.4E-09	-11.0E-09	-11.0E-09	-13.4E-09	-9.8E-09
Statistics								
Min	-15.9E-09	-17.1E-09	-18.3E-09	-17.1E-09	-17.1E-09	-15.9E-09	-15.9E-09	-15.9E-09
Max	-8.5E-09	-7.3E-09	-3.7E-09	-7.3E-09	-8.5E-09	-6.1E-09	-6.1E-09	-7.3E-09
Average	-11.4E-09	-11.8E-09	-12.2E-09	-12.1E-09	-12.3E-09	-11.7E-09	-10.7E-09	-12.1E-09
Std Deviation	2.8E-09	2.8E-09	4.3E-09	3.4E-09	3.0E-09	3.2E-09	3.3E-09	3.0E-09

Measurements

Iih</WE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.0E-09	-9.8E-09	-7.3E-09	-14.6E-09	-12.2E-09	-7.3E-09	-9.8E-09	-13.4E-09
67_OUT_REF	-13.4E-09	-15.9E-09	-8.5E-09	-8.5E-09	-13.4E-09	-13.4E-09	-6.1E-09	-8.5E-09
OFF samples								
61	-4.9E-09	-13.4E-09	-4.9E-09	-13.4E-09	-9.8E-09	-9.8E-09	-13.4E-09	-14.6E-09
62	-9.8E-09	-12.2E-09	-12.2E-09	-11.0E-09	-9.8E-09	-8.5E-09	-15.9E-09	-9.8E-09
63	-9.8E-09	-13.4E-09	-13.4E-09	-7.3E-09	-7.3E-09	-8.5E-09	-9.8E-09	-13.4E-09
64	-15.9E-09	-12.2E-09	-11.0E-09	-11.0E-09	-14.6E-09	-11.0E-09	-12.2E-09	-7.3E-09
65	-15.9E-09	-9.8E-09	-12.2E-09	-7.3E-09	-15.9E-09	-11.0E-09	-15.9E-09	-6.1E-09
Statistics								
Min	-15.9E-09	-13.4E-09	-13.4E-09	-13.4E-09	-15.9E-09	-11.0E-09	-15.9E-09	-14.6E-09
Max	-4.9E-09	-9.8E-09	-4.9E-09	-7.3E-09	-7.3E-09	-8.5E-09	-9.8E-09	-6.1E-09
Average	-11.2E-09	-12.2E-09	-10.7E-09	-10.0E-09	-11.5E-09	-9.8E-09	-13.4E-09	-10.3E-09
Std Deviation	4.7E-09	1.5E-09	3.4E-09	2.6E-09	3.6E-09	1.2E-09	2.6E-09	3.7E-09

Parameter : Input High Leakage Current : Iih<ADD[0]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<ADD[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.4E-09	173.3E-12	-3.6E-09	1.7E-09	-589.6E-12	-5.2E-09	-4.4E-09	-589.6E-12
67_OUT_REF	-1.4E-09	-1.4E-09	173.3E-12	3.2E-09	-589.6E-12	-2.9E-09	-2.9E-09	-1.4E-09
ON samples								
51	-3.6E-09	-4.4E-09	-3.6E-09	4.0E-09	-2.9E-09	173.3E-12	1.7E-09	-7.5E-09
52	173.3E-12	936.3E-12	-589.6E-12	-589.6E-12	-4.4E-09	-6.7E-09	-6.7E-09	-5.9E-09
53	-2.9E-09	-2.1E-09	173.3E-12	-4.4E-09	1.7E-09	-3.6E-09	936.3E-12	173.3E-12
54	-2.1E-09	3.2E-09	-2.1E-09	-589.6E-12	-4.4E-09	936.3E-12	-5.9E-09	-3.6E-09
55	-5.2E-09	-589.6E-12	-3.6E-09	-1.4E-09	-2.1E-09	-6.7E-09	-2.9E-09	1.7E-09
56	-589.6E-12	-1.4E-09	-5.2E-09	936.3E-12	-589.6E-12	-3.6E-09	-2.9E-09	-1.4E-09
57	-2.1E-09	-4.4E-09	173.3E-12	-2.1E-09	-2.1E-09	-2.1E-09	-2.9E-09	-2.9E-09
58	-6.7E-09	-1.4E-09	936.3E-12	1.7E-09	-589.6E-12	-2.1E-09	-5.2E-09	-1.4E-09
59	-4.4E-09	-4.4E-09	-589.6E-12	-3.6E-09	-2.1E-09	1.7E-09	-3.6E-09	-3.6E-09
60	936.3E-12	-7.5E-09	-589.6E-12	-589.6E-12	-589.6E-12	-2.9E-09	-4.4E-09	-3.6E-09
Statistics								
Min	-6.7E-09	-7.5E-09	-5.2E-09	-4.4E-09	-4.4E-09	-6.7E-09	-6.7E-09	-7.5E-09
Max	936.3E-12	3.2E-09	936.3E-12	4.0E-09	1.7E-09	1.7E-09	1.7E-09	1.7E-09
Average	-2.6E-09	-2.2E-09	-1.5E-09	-665.9E-12	-1.8E-09	-2.5E-09	-3.2E-09	-2.8E-09
Std Deviation	2.4E-09	3.1E-09	2.0E-09	2.5E-09	1.9E-09	2.9E-09	2.7E-09	2.7E-09

Measurements

Iih<ADD[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.4E-09	173.3E-12	-3.6E-09	1.7E-09	-589.6E-12	-5.2E-09	-4.4E-09	-589.6E-12
67_OUT_REF	-1.4E-09	-1.4E-09	173.3E-12	3.2E-09	-589.6E-12	-2.9E-09	-2.9E-09	-1.4E-09
OFF samples								
61	-1.4E-09	-589.6E-12	-5.2E-09	1.7E-09	-1.4E-09	936.3E-12	-1.4E-09	-3.6E-09
62	-1.4E-09	2.5E-09	936.3E-12	-4.4E-09	-1.4E-09	-2.1E-09	-2.1E-09	-5.2E-09
63	-3.6E-09	-3.6E-09	936.3E-12	-5.2E-09	1.7E-09	-589.6E-12	-2.1E-09	936.3E-12
64	-5.9E-09	-2.9E-09	-2.9E-09	173.3E-12	-3.6E-09	1.7E-09	-6.7E-09	-3.6E-09
65	-2.9E-09	173.3E-12	-3.6E-09	-1.4E-09	173.3E-12	-2.9E-09	3.2E-09	-2.1E-09
Statistics								
Min	-5.9E-09	-3.6E-09	-5.2E-09	-5.2E-09	-3.6E-09	-2.9E-09	-6.7E-09	-5.2E-09
Max	-1.4E-09	2.5E-09	936.3E-12	1.7E-09	1.7E-09	1.7E-09	3.2E-09	936.3E-12
Average	-3.0E-09	-894.8E-12	-2.0E-09	-1.8E-09	-894.8E-12	-589.6E-12	-1.8E-09	-2.7E-09
Std Deviation	1.9E-09	2.4E-09	2.8E-09	2.9E-09	2.0E-09	1.9E-09	3.5E-09	2.3E-09

Parameter : Input High Leakage Current : Iih<ADD[1]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.4E-09	-589.6E-12	-589.6E-12	-3.6E-09	-3.6E-09	-5.2E-09	-4.4E-09	-5.2E-09
67_OUT_REF	936.3E-12	2.5E-09	-2.1E-09	-7.5E-09	-4.4E-09	-589.6E-12	-5.9E-09	936.3E-12
ON samples								
51	-5.9E-09	-3.6E-09	-2.1E-09	-5.9E-09	-3.6E-09	-5.2E-09	-7.5E-09	-1.4E-09
52	-4.4E-09	-4.4E-09	-2.9E-09	-5.9E-09	-4.4E-09	-2.1E-09	-5.2E-09	-8.2E-09
53	-3.6E-09	-4.4E-09	-1.4E-09	-3.6E-09	-8.2E-09	-5.9E-09	-7.5E-09	-3.6E-09
54	-2.9E-09	-2.9E-09	-5.2E-09	-5.9E-09	-8.2E-09	-4.4E-09	-6.7E-09	-5.9E-09
55	-5.2E-09	936.3E-12	-2.1E-09	-6.7E-09	-6.7E-09	-5.9E-09	-3.6E-09	-1.4E-09
56	-1.4E-09	-5.9E-09	-3.6E-09	-4.4E-09	-589.6E-12	-4.4E-09	-4.4E-09	-5.2E-09
57	-2.9E-09	-5.9E-09	-3.6E-09	-2.1E-09	-6.7E-09	-3.6E-09	-7.5E-09	-2.1E-09
58	-4.4E-09	-1.4E-09	-2.1E-09	-4.4E-09	-3.6E-09	-2.1E-09	-6.7E-09	-2.9E-09
59	173.3E-12	-2.9E-09	-4.4E-09	-6.7E-09	-5.2E-09	-5.9E-09	-7.5E-09	-3.6E-09
60	-589.6E-12	-2.9E-09	-2.9E-09	-1.4E-09	-2.9E-09	-6.7E-09	-2.1E-09	-5.9E-09
Statistics								
Min	-5.9E-09	-5.9E-09	-5.2E-09	-6.7E-09	-8.2E-09	-6.7E-09	-7.5E-09	-8.2E-09
Max	173.3E-12	936.3E-12	-1.4E-09	-1.4E-09	-589.6E-12	-2.1E-09	-2.1E-09	-1.4E-09
Average	-3.1E-09	-3.3E-09	-3.0E-09	-4.7E-09	-5.0E-09	-4.6E-09	-5.9E-09	-4.0E-09
Std Deviation	2.0E-09	2.1E-09	1.2E-09	1.9E-09	2.5E-09	1.6E-09	1.9E-09	2.3E-09

Measurements

Iih<ADD[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.4E-09	-589.6E-12	-589.6E-12	-3.6E-09	-3.6E-09	-5.2E-09	-4.4E-09	-5.2E-09
67_OUT_REF	936.3E-12	2.5E-09	-2.1E-09	-7.5E-09	-4.4E-09	-589.6E-12	-5.9E-09	936.3E-12
OFF samples								
61	-3.6E-09	-5.2E-09	-4.4E-09	-6.7E-09	-3.6E-09	-9.0E-09	-9.0E-09	-5.2E-09
62	-2.9E-09	-5.9E-09	-2.1E-09	-5.9E-09	-3.6E-09	-5.9E-09	-1.4E-09	-2.9E-09
63	-6.7E-09	-7.5E-09	2.5E-09	-2.9E-09	-2.1E-09	-3.6E-09	-6.7E-09	-2.9E-09
64	-2.9E-09	-589.6E-12	-5.2E-09	-6.7E-09	-6.7E-09	-3.6E-09	-5.2E-09	-4.4E-09
65	-2.9E-09	-589.6E-12	-5.9E-09	-589.6E-12	-589.6E-12	-2.1E-09	-5.9E-09	-5.2E-09
Statistics								
Min	-6.7E-09	-7.5E-09	-5.9E-09	-6.7E-09	-6.7E-09	-9.0E-09	-9.0E-09	-5.2E-09
Max	-2.9E-09	-589.6E-12	2.5E-09	-589.6E-12	-589.6E-12	-2.1E-09	-1.4E-09	-2.9E-09
Average	-3.8E-09	-3.9E-09	-3.0E-09	-4.6E-09	-3.3E-09	-4.9E-09	-5.6E-09	-4.1E-09
Std Deviation	1.7E-09	3.2E-09	3.4E-09	2.7E-09	2.3E-09	2.7E-09	2.8E-09	1.2E-09

Parameter : Input High Leakage Current : Iih<ADD[10]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[10]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-4.4E-09	-4.4E-09	-5.2E-09	-2.1E-09	-9.0E-09	-10.5E-09	-5.9E-09
67_OUT_REF	-8.2E-09	-8.2E-09	-5.9E-09	-6.7E-09	-6.7E-09	-5.2E-09	-8.2E-09	-7.5E-09
ON samples								
51	-5.9E-09	-6.7E-09	-10.5E-09	-7.5E-09	-5.2E-09	-4.4E-09	-8.2E-09	-5.2E-09
52	-6.7E-09	-589.6E-12	-5.9E-09	-8.2E-09	-8.2E-09	-2.1E-09	-8.2E-09	-4.4E-09
53	-2.9E-09	-589.6E-12	-2.1E-09	-6.7E-09	-7.5E-09	-4.4E-09	-4.4E-09	-14.3E-09
54	-4.4E-09	173.3E-12	-1.4E-09	-5.2E-09	-6.7E-09	-2.9E-09	-3.6E-09	-8.2E-09
55	-7.5E-09	-4.4E-09	-4.4E-09	-3.6E-09	-3.6E-09	-9.0E-09	-2.1E-09	-7.5E-09
56	-10.5E-09	-10.5E-09	-5.9E-09	-9.7E-09	-4.4E-09	-5.9E-09	-7.5E-09	-8.2E-09
57	-6.7E-09	-589.6E-12	-12.0E-09	-9.7E-09	-6.7E-09	-3.6E-09	-10.5E-09	-9.7E-09
58	-5.9E-09	-7.5E-09	-7.5E-09	-9.7E-09	-9.0E-09	-7.5E-09	-4.4E-09	-7.5E-09
59	-6.7E-09	-9.0E-09	-7.5E-09	-10.5E-09	-9.7E-09	-8.2E-09	-12.0E-09	-7.5E-09
60	-3.6E-09	-8.2E-09	-8.2E-09	-9.0E-09	-9.0E-09	-3.6E-09	-4.4E-09	-8.2E-09
Statistics								
Min	-10.5E-09	-10.5E-09	-12.0E-09	-10.5E-09	-9.7E-09	-9.0E-09	-12.0E-09	-14.3E-09
Max	-2.9E-09	173.3E-12	-1.4E-09	-3.6E-09	-3.6E-09	-2.1E-09	-2.1E-09	-4.4E-09
Average	-6.1E-09	-4.8E-09	-6.5E-09	-8.0E-09	-7.0E-09	-5.2E-09	-6.5E-09	-8.1E-09
Std Deviation	2.2E-09	4.1E-09	3.4E-09	2.2E-09	2.1E-09	2.4E-09	3.2E-09	2.7E-09

Measurements

Iih<ADD[10]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-4.4E-09	-4.4E-09	-5.2E-09	-2.1E-09	-9.0E-09	-10.5E-09	-5.9E-09
67_OUT_REF	-8.2E-09	-8.2E-09	-5.9E-09	-6.7E-09	-6.7E-09	-5.2E-09	-8.2E-09	-7.5E-09
OFF samples								
61	-3.6E-09	-3.6E-09	-3.6E-09	-5.9E-09	-10.5E-09	-6.7E-09	-12.0E-09	-2.1E-09
62	-10.5E-09	-2.9E-09	-9.7E-09	-7.5E-09	-5.2E-09	-6.7E-09	-11.3E-09	-4.4E-09
63	-6.7E-09	-1.4E-09	-589.6E-12	-2.9E-09	-9.0E-09	-9.7E-09	-9.7E-09	-2.1E-09
64	-3.6E-09	-5.2E-09	-6.7E-09	-7.5E-09	-8.2E-09	-2.9E-09	-12.8E-09	-5.2E-09
65	-5.9E-09	-4.4E-09	-5.9E-09	-8.2E-09	-5.2E-09	-7.5E-09	-8.2E-09	-2.1E-09
Statistics								
Min	-10.5E-09	-5.2E-09	-9.7E-09	-8.2E-09	-10.5E-09	-9.7E-09	-12.8E-09	-5.2E-09
Max	-3.6E-09	-1.4E-09	-589.6E-12	-2.9E-09	-5.2E-09	-2.9E-09	-8.2E-09	-2.1E-09
Average	-6.1E-09	-3.5E-09	-5.3E-09	-6.4E-09	-7.6E-09	-6.7E-09	-10.8E-09	-3.2E-09
Std Deviation	2.8E-09	1.5E-09	3.4E-09	2.1E-09	2.4E-09	2.5E-09	1.8E-09	1.5E-09

Parameter : Input High Leakage Current : Iih<ADD[11]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

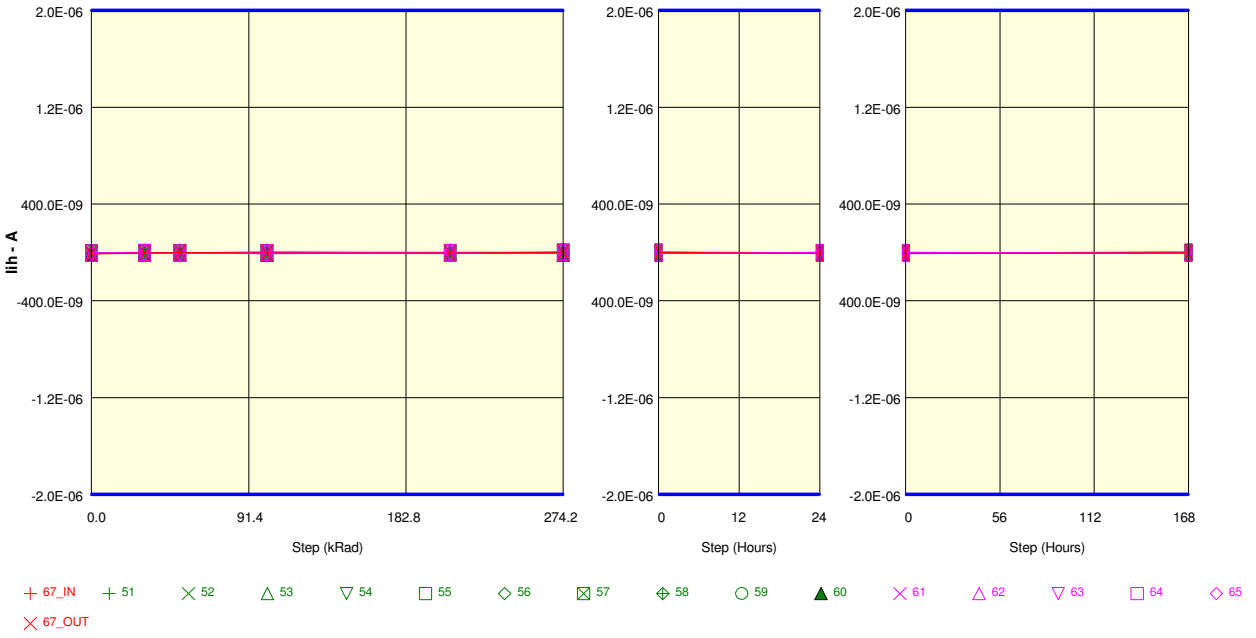
Measurements

Iih<ADD[11]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	173.3E-12	-2.9E-09	-2.1E-09	4.0E-09	-4.4E-09	-6.7E-09	-4.4E-09
67_OUT_REF	-2.1E-09	1.7E-09	173.3E-12	-5.2E-09	936.3E-12	-589.6E-12	-5.2E-09	-2.9E-09
ON samples								
51	936.3E-12	-1.4E-09	-7.5E-09	936.3E-12	936.3E-12	-2.9E-09	2.5E-09	173.3E-12
52	-2.1E-09	-5.2E-09	-3.6E-09	2.5E-09	-2.9E-09	936.3E-12	-1.4E-09	-2.9E-09
53	2.5E-09	-589.6E-12	936.3E-12	-589.6E-12	173.3E-12	-589.6E-12	-1.4E-09	-2.1E-09
54	936.3E-12	-5.9E-09	3.2E-09	173.3E-12	-589.6E-12	5.5E-09	2.5E-09	-2.9E-09
55	-2.9E-09	936.3E-12	-1.4E-09	-589.6E-12	-3.6E-09	2.5E-09	936.3E-12	173.3E-12
56	-5.2E-09	-2.1E-09	-589.6E-12	-1.4E-09	-2.1E-09	3.2E-09	4.0E-09	5.5E-09
57	936.3E-12	4.0E-09	3.2E-09	-4.4E-09	2.5E-09	173.3E-12	-589.6E-12	936.3E-12
58	-5.2E-09	1.7E-09	936.3E-12	-2.1E-09	-4.4E-09	-589.6E-12	-1.4E-09	-589.6E-12
59	936.3E-12	-3.6E-09	936.3E-12	4.0E-09	-2.1E-09	936.3E-12	-589.6E-12	-2.9E-09
60	-5.2E-09	-3.6E-09	2.5E-09	1.7E-09	-589.6E-12	1.7E-09	-3.6E-09	-589.6E-12
Statistics								
Min	-5.2E-09	-5.9E-09	-7.5E-09	-4.4E-09	-4.4E-09	-2.9E-09	-3.6E-09	-2.9E-09
Max	2.5E-09	4.0E-09	3.2E-09	4.0E-09	2.5E-09	5.5E-09	4.0E-09	5.5E-09
Average	-1.4E-09	-1.6E-09	-131.8E-12	20.8E-12	-1.3E-09	1.1E-09	97.1E-12	-513.3E-12
Std Deviation	3.0E-09	3.2E-09	3.3E-09	2.4E-09	2.1E-09	2.3E-09	2.3E-09	2.6E-09

Measurements

Iih<ADD[11]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	173.3E-12	-2.9E-09	-2.1E-09	4.0E-09	-4.4E-09	-6.7E-09	-4.4E-09
67_OUT_REF	-2.1E-09	1.7E-09	173.3E-12	-5.2E-09	936.3E-12	-589.6E-12	-5.2E-09	-2.9E-09
OFF samples								
61	1.7E-09	4.8E-09	-2.1E-09	-2.1E-09	-1.4E-09	-4.4E-09	4.0E-09	-3.6E-09
62	-3.6E-09	-3.6E-09	1.7E-09	-1.4E-09	-4.4E-09	173.3E-12	2.5E-09	-5.2E-09
63	173.3E-12	-589.6E-12	-589.6E-12	-2.1E-09	936.3E-12	-589.6E-12	1.7E-09	2.5E-09
64	173.3E-12	936.3E-12	-1.4E-09	-3.6E-09	-3.6E-09	-2.1E-09	-5.2E-09	-589.6E-12
65	-2.9E-09	173.3E-12	173.3E-12	1.7E-09	-2.1E-09	-2.9E-09	936.3E-12	-1.4E-09
Statistics								
Min	-3.6E-09	-3.6E-09	-2.1E-09	-3.6E-09	-4.4E-09	-4.4E-09	-5.2E-09	-5.2E-09
Max	1.7E-09	4.8E-09	1.7E-09	1.7E-09	936.3E-12	173.3E-12	4.0E-09	2.5E-09
Average	-894.8E-12	325.9E-12	-437.0E-12	-1.5E-09	-2.1E-09	-2.0E-09	783.7E-12	-1.7E-09
Std Deviation	2.3E-09	3.0E-09	1.5E-09	2.0E-09	2.1E-09	1.8E-09	3.5E-09	2.9E-09

Parameter : Input High Leakage Current : Iih<ADD[12]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



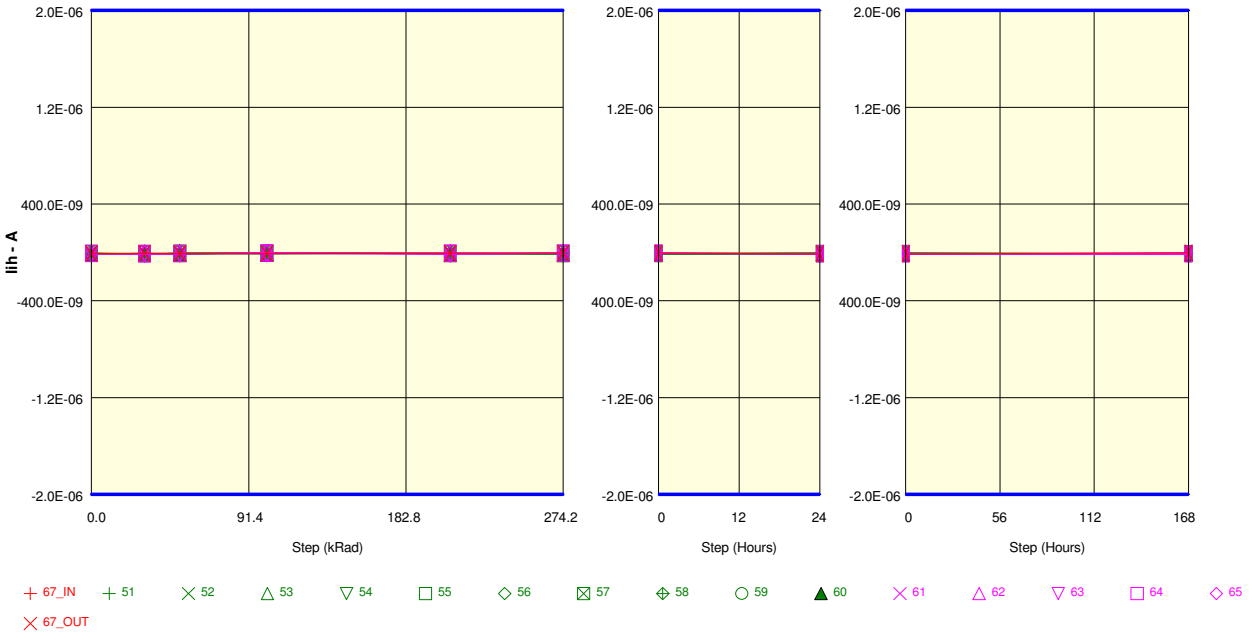
Measurements

Iih<ADD[12]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.6E-09	-1.4E-09	-3.6E-09	-5.2E-09	-2.9E-09	-3.6E-09	-5.2E-09	-2.9E-09
67_OUT_REF	-10.5E-09	-3.6E-09	1.7E-09	-5.2E-09	-4.4E-09	173.3E-12	-8.2E-09	-1.4E-09
ON samples								
51	-3.6E-09	-2.9E-09	-2.9E-09	-5.9E-09	-8.2E-09	-1.4E-09	-1.4E-09	-4.4E-09
52	-6.7E-09	-5.9E-09	-6.7E-09	-6.7E-09	-5.2E-09	-5.9E-09	-3.6E-09	-4.4E-09
53	-3.6E-09	-9.7E-09	173.3E-12	-4.4E-09	-2.9E-09	-2.9E-09	-3.6E-09	-2.1E-09
54	-2.9E-09	-3.6E-09	-6.7E-09	-2.9E-09	-589.6E-12	1.7E-09	-5.2E-09	1.7E-09
55	-2.1E-09	-589.6E-12	-4.4E-09	-2.1E-09	-2.1E-09	-4.4E-09	936.3E-12	-6.7E-09
56	-8.2E-09	-9.0E-09	-4.4E-09	-8.2E-09	-3.6E-09	-2.1E-09	-2.1E-09	-2.1E-09
57	-7.5E-09	-6.7E-09	-2.1E-09	-2.1E-09	-3.6E-09	2.5E-09	-1.4E-09	-589.6E-12
58	-2.9E-09	-589.6E-12	-2.1E-09	2.5E-09	-5.2E-09	-2.1E-09	-3.6E-09	-1.4E-09
59	-7.5E-09	-3.6E-09	-3.6E-09	-3.6E-09	-4.4E-09	-4.4E-09	-2.9E-09	173.3E-12
60	173.3E-12	-5.9E-09	-2.1E-09	-7.5E-09	-2.9E-09	-5.2E-09	173.3E-12	-1.4E-09
Statistics								
Min	-8.2E-09	-9.7E-09	-6.7E-09	-8.2E-09	-8.2E-09	-5.9E-09	-5.2E-09	-6.7E-09
Max	173.3E-12	-589.6E-12	173.3E-12	2.5E-09	-589.6E-12	2.5E-09	936.3E-12	1.7E-09
Average	-4.5E-09	-4.9E-09	-3.5E-09	-4.1E-09	-3.9E-09	-2.4E-09	-2.3E-09	-2.1E-09
Std Deviation	2.8E-09	3.2E-09	2.2E-09	3.2E-09	2.1E-09	2.8E-09	1.9E-09	2.5E-09

Measurements

Iih<ADD[12]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.6E-09	-1.4E-09	-3.6E-09	-5.2E-09	-2.9E-09	-3.6E-09	-5.2E-09	-2.9E-09
67_OUT_REF	-10.5E-09	-3.6E-09	1.7E-09	-5.2E-09	-4.4E-09	173.3E-12	-8.2E-09	-1.4E-09
OFF samples								
61	-8.2E-09	-3.6E-09	-7.5E-09	2.5E-09	936.3E-12	-589.6E-12	-4.4E-09	-2.9E-09
62	-7.5E-09	-7.5E-09	-3.6E-09	-5.2E-09	-4.4E-09	173.3E-12	-6.7E-09	-2.1E-09
63	-4.4E-09	-4.4E-09	-5.9E-09	-9.0E-09	-3.6E-09	-6.7E-09	-2.9E-09	-6.7E-09
64	-5.9E-09	173.3E-12	-4.4E-09	-2.9E-09	-2.1E-09	-2.9E-09	-3.6E-09	1.7E-09
65	-5.2E-09	-1.4E-09	-2.1E-09	-3.6E-09	-4.4E-09	-1.4E-09	-3.6E-09	2.5E-09
Statistics								
Min	-8.2E-09	-7.5E-09	-7.5E-09	-9.0E-09	-4.4E-09	-6.7E-09	-6.7E-09	-6.7E-09
Max	-4.4E-09	173.3E-12	-2.1E-09	2.5E-09	936.3E-12	173.3E-12	-2.9E-09	2.5E-09
Average	-6.2E-09	-3.3E-09	-4.7E-09	-3.6E-09	-2.7E-09	-2.3E-09	-4.3E-09	-1.5E-09
Std Deviation	1.6E-09	2.9E-09	2.1E-09	4.1E-09	2.3E-09	2.7E-09	1.5E-09	3.7E-09

Parameter : Input High Leakage Current : Iih<ADD[13]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<ADD[13]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.5E-09	-9.0E-09	-7.5E-09	-2.9E-09	-5.9E-09	-9.0E-09	-12.0E-09	-5.9E-09
67_OUT_REF	-8.2E-09	-6.7E-09	-9.0E-09	-8.2E-09	-7.5E-09	-5.2E-09	-10.5E-09	-2.9E-09
ON samples								
51	-6.7E-09	-9.0E-09	-12.8E-09	-10.5E-09	-5.9E-09	-8.2E-09	-5.9E-09	-8.2E-09
52	-14.3E-09	-6.7E-09	-9.7E-09	-5.9E-09	-9.7E-09	-11.3E-09	-5.2E-09	-10.5E-09
53	-7.5E-09	-9.7E-09	-5.2E-09	-5.9E-09	-8.2E-09	-9.0E-09	-12.0E-09	-8.2E-09
54	-8.2E-09	-13.6E-09	-5.2E-09	-9.0E-09	-6.7E-09	-6.7E-09	-8.2E-09	-15.8E-09
55	-6.7E-09	-10.5E-09	-9.7E-09	-7.5E-09	-9.0E-09	-7.5E-09	-7.5E-09	-8.2E-09
56	-11.3E-09	-8.2E-09	-8.2E-09	-5.2E-09	-8.2E-09	-12.8E-09	-11.3E-09	-11.3E-09
57	-7.5E-09	-6.7E-09	-11.3E-09	-5.2E-09	-7.5E-09	-12.0E-09	-10.5E-09	-11.3E-09
58	-9.0E-09	-10.5E-09	-11.3E-09	-5.2E-09	-6.7E-09	-6.7E-09	-3.6E-09	-9.0E-09
59	-12.0E-09	-6.7E-09	-8.2E-09	-6.7E-09	-9.0E-09	-6.7E-09	-8.2E-09	-9.0E-09
60	-6.7E-09	-12.0E-09	-7.5E-09	-6.7E-09	-10.5E-09	-10.5E-09	-9.0E-09	-7.5E-09
Statistics								
Min	-14.3E-09	-13.6E-09	-12.8E-09	-10.5E-09	-10.5E-09	-12.8E-09	-12.0E-09	-15.8E-09
Max	-6.7E-09	-6.7E-09	-5.2E-09	-5.2E-09	-5.9E-09	-6.7E-09	-3.6E-09	-7.5E-09
Average	-9.0E-09	-9.4E-09	-8.9E-09	-6.8E-09	-8.1E-09	-9.1E-09	-8.1E-09	-9.9E-09
Std Deviation	2.7E-09	2.4E-09	2.6E-09	1.8E-09	1.5E-09	2.4E-09	2.7E-09	2.5E-09

Measurements

Iih<ADD[13]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.5E-09	-9.0E-09	-7.5E-09	-2.9E-09	-5.9E-09	-9.0E-09	-12.0E-09	-5.9E-09
67_OUT_REF	-8.2E-09	-6.7E-09	-9.0E-09	-8.2E-09	-7.5E-09	-5.2E-09	-10.5E-09	-2.9E-09
OFF samples								
61	-9.0E-09	-12.0E-09	-9.7E-09	-4.4E-09	-6.7E-09	-7.5E-09	-12.0E-09	-9.0E-09
62	-10.5E-09	-10.5E-09	-11.3E-09	-9.0E-09	-9.7E-09	-8.2E-09	-10.5E-09	-12.0E-09
63	-12.0E-09	-7.5E-09	-6.7E-09	-6.7E-09	-4.4E-09	-5.2E-09	-9.0E-09	-12.0E-09
64	-5.9E-09	-13.6E-09	-12.0E-09	-2.9E-09	-10.5E-09	-6.7E-09	-12.8E-09	-14.3E-09
65	-12.8E-09	-9.0E-09	-8.2E-09	-7.5E-09	-13.6E-09	-7.5E-09	-8.2E-09	-5.2E-09
Statistics								
Min	-12.8E-09	-13.6E-09	-12.0E-09	-9.0E-09	-13.6E-09	-8.2E-09	-12.8E-09	-14.3E-09
Max	-5.9E-09	-7.5E-09	-6.7E-09	-2.9E-09	-4.4E-09	-5.2E-09	-8.2E-09	-5.2E-09
Average	-10.1E-09	-10.5E-09	-9.6E-09	-6.1E-09	-9.0E-09	-7.0E-09	-10.5E-09	-10.5E-09
Std Deviation	2.7E-09	2.4E-09	2.2E-09	2.4E-09	3.5E-09	1.2E-09	1.9E-09	3.5E-09

Parameter : Input High Leakage Current : Iih<ADD[14]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[14]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-8.2E-09	-3.6E-09	-8.2E-09	-7.5E-09	-6.7E-09	-589.6E-12	-1.4E-09
67_OUT_REF	-3.6E-09	-5.2E-09	-5.2E-09	-3.6E-09	-2.9E-09	-4.4E-09	-9.0E-09	-10.5E-09
ON samples								
51	-7.5E-09	-4.4E-09	-2.1E-09	-9.0E-09	-5.9E-09	-8.2E-09	-9.7E-09	-5.2E-09
52	-2.1E-09	-8.2E-09	-7.5E-09	-5.9E-09	-5.9E-09	-5.2E-09	-2.9E-09	-5.9E-09
53	-6.7E-09	-2.9E-09	-2.9E-09	-2.9E-09	-5.2E-09	-5.2E-09	-8.2E-09	-5.9E-09
54	-5.9E-09	936.3E-12	-4.4E-09	-9.7E-09	-5.2E-09	-8.2E-09	-1.4E-09	-4.4E-09
55	-5.9E-09	-7.5E-09	-3.6E-09	-10.5E-09	-9.7E-09	-7.5E-09	-5.2E-09	-2.9E-09
56	-8.2E-09	-1.4E-09	-2.1E-09	-5.2E-09	-8.2E-09	-4.4E-09	-11.3E-09	-1.4E-09
57	-4.4E-09	-4.4E-09	-3.6E-09	-2.1E-09	-2.1E-09	-5.9E-09	-3.6E-09	-2.9E-09
58	-6.7E-09	-6.7E-09	-2.1E-09	-5.2E-09	-2.9E-09	-9.0E-09	-5.2E-09	173.3E-12
59	-2.9E-09	-2.9E-09	-3.6E-09	-9.0E-09	-9.0E-09	-5.9E-09	-6.7E-09	-4.4E-09
60	-2.9E-09	-2.9E-09	-5.9E-09	-12.0E-09	-7.5E-09	-5.9E-09	-5.2E-09	-5.2E-09
Statistics								
Min	-8.2E-09	-8.2E-09	-7.5E-09	-12.0E-09	-9.7E-09	-9.0E-09	-11.3E-09	-5.9E-09
Max	-2.1E-09	936.3E-12	-2.1E-09	-2.1E-09	-2.1E-09	-4.4E-09	-1.4E-09	173.3E-12
Average	-5.3E-09	-4.0E-09	-3.8E-09	-7.2E-09	-6.2E-09	-6.5E-09	-5.9E-09	-3.8E-09
Std Deviation	2.1E-09	2.8E-09	1.8E-09	3.4E-09	2.5E-09	1.6E-09	3.1E-09	2.0E-09

Measurements

Iih<ADD[14]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-6.7E-09	-8.2E-09	-3.6E-09	-8.2E-09	-7.5E-09	-6.7E-09	-589.6E-12	-1.4E-09
67_OUT_REF	-3.6E-09	-5.2E-09	-5.2E-09	-3.6E-09	-2.9E-09	-4.4E-09	-9.0E-09	-10.5E-09
OFF samples								
61	-6.7E-09	936.3E-12	-3.6E-09	-7.5E-09	-4.4E-09	-4.4E-09	-2.9E-09	-6.7E-09
62	-3.6E-09	-5.2E-09	-7.5E-09	-9.7E-09	173.3E-12	-7.5E-09	-6.7E-09	-4.4E-09
63	-8.2E-09	-4.4E-09	-3.6E-09	-6.7E-09	-4.4E-09	-6.7E-09	-5.9E-09	-5.9E-09
64	-5.9E-09	936.3E-12	-9.7E-09	-3.6E-09	-7.5E-09	-5.9E-09	-6.7E-09	-8.2E-09
65	-8.2E-09	-8.2E-09	-7.5E-09	-8.2E-09	-8.2E-09	-4.4E-09	-2.9E-09	-3.6E-09
Statistics								
Min	-8.2E-09	-8.2E-09	-9.7E-09	-9.7E-09	-8.2E-09	-7.5E-09	-6.7E-09	-8.2E-09
Max	-3.6E-09	936.3E-12	-3.6E-09	-3.6E-09	173.3E-12	-4.4E-09	-2.9E-09	-3.6E-09
Average	-6.5E-09	-3.2E-09	-6.4E-09	-7.2E-09	-4.9E-09	-5.8E-09	-5.0E-09	-5.8E-09
Std Deviation	1.9E-09	4.0E-09	2.7E-09	2.3E-09	3.3E-09	1.4E-09	2.0E-09	1.8E-09

Parameter : Input High Leakage Current : Iih<ADD[15]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

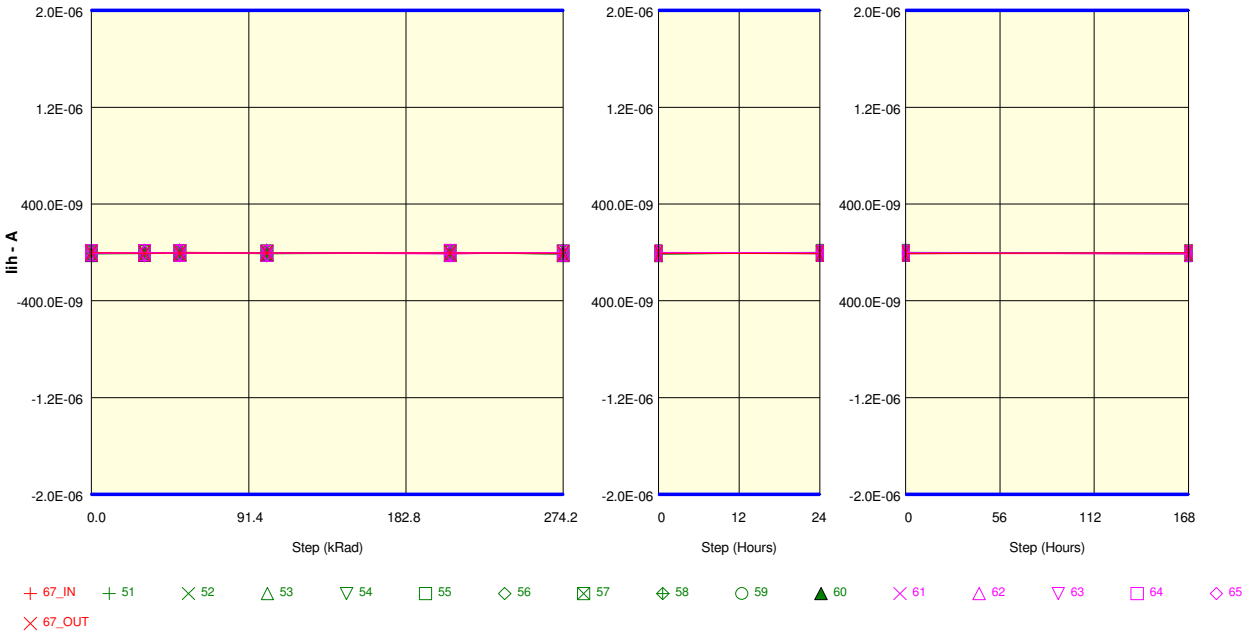
Measurements

Iih<ADD[15]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.7E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-15.8E-09	-15.8E-09	-15.1E-09
67_OUT_REF	-11.3E-09	-15.8E-09	-14.3E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.8E-09	-5.9E-09
ON samples								
51	-7.5E-09	-12.8E-09	-10.5E-09	-15.1E-09	-10.5E-09	-13.6E-09	-14.3E-09	-12.0E-09
52	-12.8E-09	-15.1E-09	-11.3E-09	-10.5E-09	-7.5E-09	-15.1E-09	-9.7E-09	-12.8E-09
53	-13.6E-09	-12.0E-09	-9.0E-09	-10.5E-09	-12.8E-09	-14.3E-09	-14.3E-09	-9.0E-09
54	-11.3E-09	-17.4E-09	-12.0E-09	-12.0E-09	-12.0E-09	-12.8E-09	-18.1E-09	-8.2E-09
55	-10.5E-09	-9.7E-09	-11.3E-09	-7.5E-09	-8.2E-09	-15.8E-09	-16.6E-09	-14.3E-09
56	-7.5E-09	-11.3E-09	-12.0E-09	-12.8E-09	-9.7E-09	-14.3E-09	-16.6E-09	-7.5E-09
57	-9.7E-09	-14.3E-09	-12.0E-09	-10.5E-09	-12.0E-09	-15.1E-09	-12.8E-09	-12.8E-09
58	-13.6E-09	-15.1E-09	-13.6E-09	-12.0E-09	-11.3E-09	-17.4E-09	-15.8E-09	-9.7E-09
59	-10.5E-09	-10.5E-09	-10.5E-09	-8.2E-09	-11.3E-09	-15.1E-09	-12.0E-09	-11.3E-09
60	-8.2E-09	-14.3E-09	-8.2E-09	-12.0E-09	-9.7E-09	-12.8E-09	-12.0E-09	-11.3E-09
Statistics								
Min	-13.6E-09	-17.4E-09	-13.6E-09	-15.1E-09	-12.8E-09	-17.4E-09	-18.1E-09	-14.3E-09
Max	-7.5E-09	-9.7E-09	-8.2E-09	-7.5E-09	-7.5E-09	-12.8E-09	-9.7E-09	-7.5E-09
Average	-10.5E-09	-13.3E-09	-11.0E-09	-11.1E-09	-10.5E-09	-14.6E-09	-14.2E-09	-10.9E-09
Std Deviation	2.3E-09	2.4E-09	1.6E-09	2.2E-09	1.7E-09	1.4E-09	2.6E-09	2.2E-09

Measurements

Iih<ADD[15]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.7E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-15.8E-09	-15.8E-09	-15.1E-09
67_OUT_REF	-11.3E-09	-15.8E-09	-14.3E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.8E-09	-5.9E-09
OFF samples								
61	-12.0E-09	-3.6E-09	-14.3E-09	-11.3E-09	-13.6E-09	-12.8E-09	-14.3E-09	-12.0E-09
62	-13.6E-09	-6.7E-09	-8.2E-09	-11.3E-09	-12.8E-09	-11.3E-09	-17.4E-09	-5.9E-09
63	-7.5E-09	-10.5E-09	-13.6E-09	-13.6E-09	-10.5E-09	-12.0E-09	-15.1E-09	-14.3E-09
64	-11.3E-09	-12.0E-09	-9.7E-09	-12.0E-09	-12.8E-09	-12.0E-09	-13.6E-09	-10.5E-09
65	-12.0E-09	-12.8E-09	-9.7E-09	-12.0E-09	-10.5E-09	-16.6E-09	-13.6E-09	-12.0E-09
Statistics								
Min	-13.6E-09	-12.8E-09	-14.3E-09	-13.6E-09	-13.6E-09	-16.6E-09	-17.4E-09	-14.3E-09
Max	-7.5E-09	-3.6E-09	-8.2E-09	-11.3E-09	-10.5E-09	-11.3E-09	-13.6E-09	-5.9E-09
Average	-11.3E-09	-9.1E-09	-11.1E-09	-12.0E-09	-12.0E-09	-12.9E-09	-14.8E-09	-11.0E-09
Std Deviation	2.3E-09	3.9E-09	2.7E-09	934.5E-12	1.4E-09	2.1E-09	1.6E-09	3.1E-09

Parameter : Input High Leakage Current : Iih<ADD[2]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<ADD[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.6E-09	-5.2E-09	-589.6E-12	-2.1E-09	-6.7E-09	-7.5E-09	-6.7E-09	-3.6E-09
67_OUT_REF	-2.9E-09	-5.9E-09	-4.4E-09	-3.6E-09	-5.2E-09	-5.9E-09	-8.2E-09	-2.1E-09
ON samples								
51	-7.5E-09	-5.2E-09	-6.7E-09	-4.4E-09	-7.5E-09	-2.1E-09	-4.4E-09	-6.7E-09
52	-1.4E-09	-2.1E-09	-5.9E-09	-2.1E-09	-2.9E-09	-12.8E-09	-1.4E-09	-3.6E-09
53	-12.0E-09	-8.2E-09	-3.6E-09	-2.1E-09	-8.2E-09	-4.4E-09	-9.7E-09	-4.4E-09
54	-5.2E-09	-6.7E-09	-2.9E-09	-9.0E-09	-2.9E-09	-6.7E-09	-4.4E-09	-8.2E-09
55	-7.5E-09	-2.1E-09	-2.1E-09	-4.4E-09	-5.2E-09	-5.2E-09	173.3E-12	-3.6E-09
56	-4.4E-09	-6.7E-09	-589.6E-12	-3.6E-09	-5.2E-09	-7.5E-09	-5.9E-09	-3.6E-09
57	-8.2E-09	-4.4E-09	-3.6E-09	-7.5E-09	-6.7E-09	-6.7E-09	-5.9E-09	-5.2E-09
58	-5.9E-09	-1.4E-09	-2.9E-09	-8.2E-09	-7.5E-09	-9.7E-09	-5.2E-09	-7.5E-09
59	-9.0E-09	936.3E-12	-6.7E-09	-9.0E-09	-7.5E-09	-8.2E-09	-6.7E-09	-6.7E-09
60	-6.7E-09	-7.5E-09	-2.1E-09	-5.2E-09	-5.2E-09	-10.5E-09	-4.4E-09	-10.5E-09
Statistics								
Min	-12.0E-09	-8.2E-09	-6.7E-09	-9.0E-09	-8.2E-09	-12.8E-09	-9.7E-09	-10.5E-09
Max	-1.4E-09	936.3E-12	-589.6E-12	-2.1E-09	-2.9E-09	-2.1E-09	173.3E-12	-3.6E-09
Average	-6.8E-09	-4.3E-09	-3.7E-09	-5.5E-09	-5.9E-09	-7.4E-09	-4.8E-09	-6.0E-09
Std Deviation	2.9E-09	3.0E-09	2.1E-09	2.7E-09	1.9E-09	3.1E-09	2.7E-09	2.3E-09

Measurements

Iih<ADD[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-3.6E-09	-5.2E-09	-589.6E-12	-2.1E-09	-6.7E-09	-7.5E-09	-6.7E-09	-3.6E-09
67_OUT_REF	-2.9E-09	-5.9E-09	-4.4E-09	-3.6E-09	-5.2E-09	-5.9E-09	-8.2E-09	-2.1E-09
OFF samples								
61	-4.4E-09	-9.7E-09	-6.7E-09	-5.2E-09	-3.6E-09	-4.4E-09	-9.0E-09	-1.4E-09
62	-3.6E-09	-3.6E-09	-6.7E-09	-5.2E-09	-10.5E-09	-589.6E-12	-5.2E-09	-6.7E-09
63	-4.4E-09	-1.4E-09	-5.9E-09	-6.7E-09	-4.4E-09	-5.9E-09	-8.2E-09	-9.0E-09
64	-2.9E-09	-1.4E-09	-2.9E-09	-5.9E-09	173.3E-12	-5.9E-09	-4.4E-09	-5.9E-09
65	-6.7E-09	-5.2E-09	-3.6E-09	-6.7E-09	-5.9E-09	-8.2E-09	-5.2E-09	-10.5E-09
Statistics								
Min	-6.7E-09	-9.7E-09	-6.7E-09	-6.7E-09	-10.5E-09	-8.2E-09	-9.0E-09	-10.5E-09
Max	-2.9E-09	-1.4E-09	-2.9E-09	-5.2E-09	173.3E-12	-589.6E-12	-4.4E-09	-1.4E-09
Average	-4.4E-09	-4.3E-09	-5.2E-09	-5.9E-09	-4.9E-09	-5.0E-09	-6.4E-09	-6.7E-09
Std Deviation	1.4E-09	3.5E-09	1.8E-09	763.0E-12	3.9E-09	2.8E-09	2.1E-09	3.5E-09

Parameter : Input High Leakage Current : Iih<ADD[3]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-5.9E-09	-8.2E-09	-5.9E-09	-7.5E-09	-8.2E-09	-10.5E-09	-5.2E-09	-8.2E-09
67_OUT_REF	-7.5E-09	-5.9E-09	-9.7E-09	-6.7E-09	-7.5E-09	-10.5E-09	-9.0E-09	-3.6E-09
ON samples								
51	-9.7E-09	-11.3E-09	-7.5E-09	-5.9E-09	-9.7E-09	-5.9E-09	-9.0E-09	-5.2E-09
52	-12.8E-09	-589.6E-12	-8.2E-09	-5.2E-09	-9.0E-09	-7.5E-09	-10.5E-09	-1.4E-09
53	-9.7E-09	-7.5E-09	-9.7E-09	-5.9E-09	-5.9E-09	-5.9E-09	-8.2E-09	-3.6E-09
54	-7.5E-09	-8.2E-09	-7.5E-09	-5.9E-09	-5.2E-09	-5.2E-09	-7.5E-09	-8.2E-09
55	-6.7E-09	-5.9E-09	-3.6E-09	-8.2E-09	-7.5E-09	-7.5E-09	-9.0E-09	-5.9E-09
56	-7.5E-09	-4.4E-09	-7.5E-09	-8.2E-09	-6.7E-09	-5.9E-09	-8.2E-09	-10.5E-09
57	-8.2E-09	-5.2E-09	-5.9E-09	-5.9E-09	-9.7E-09	-9.7E-09	-12.0E-09	-12.8E-09
58	-9.0E-09	-9.0E-09	-8.2E-09	-11.3E-09	-7.5E-09	-4.4E-09	-8.2E-09	-5.2E-09
59	-9.7E-09	-8.2E-09	-12.0E-09	-9.7E-09	-8.2E-09	-9.0E-09	-8.2E-09	-4.4E-09
60	-6.7E-09	-8.2E-09	-8.2E-09	-8.2E-09	-5.9E-09	-10.5E-09	-5.9E-09	-3.6E-09
Statistics								
Min	-12.8E-09	-11.3E-09	-12.0E-09	-11.3E-09	-9.7E-09	-10.5E-09	-12.0E-09	-12.8E-09
Max	-6.7E-09	-589.6E-12	-3.6E-09	-5.2E-09	-5.2E-09	-4.4E-09	-5.9E-09	-1.4E-09
Average	-8.8E-09	-6.8E-09	-7.8E-09	-7.5E-09	-7.5E-09	-7.2E-09	-8.7E-09	-6.1E-09
Std Deviation	1.9E-09	3.0E-09	2.2E-09	2.0E-09	1.6E-09	2.0E-09	1.7E-09	3.5E-09

Measurements

Iih<ADD[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-5.9E-09	-8.2E-09	-5.9E-09	-7.5E-09	-8.2E-09	-10.5E-09	-5.2E-09	-8.2E-09
67_OUT_REF	-7.5E-09	-5.9E-09	-9.7E-09	-6.7E-09	-7.5E-09	-10.5E-09	-9.0E-09	-3.6E-09
OFF samples								
61	-9.7E-09	-12.0E-09	-7.5E-09	-8.2E-09	-4.4E-09	-7.5E-09	-12.0E-09	-5.2E-09
62	-4.4E-09	-4.4E-09	-5.2E-09	-5.9E-09	-3.6E-09	-8.2E-09	-7.5E-09	-2.1E-09
63	-5.9E-09	-9.0E-09	-7.5E-09	-10.5E-09	-7.5E-09	-12.0E-09	-7.5E-09	-4.4E-09
64	-5.2E-09	-9.0E-09	-7.5E-09	-8.2E-09	-10.5E-09	-10.5E-09	-8.2E-09	-10.5E-09
65	-10.5E-09	-8.2E-09	-8.2E-09	-7.5E-09	-2.9E-09	-6.7E-09	-8.2E-09	-6.7E-09
Statistics								
Min	-10.5E-09	-12.0E-09	-8.2E-09	-10.5E-09	-10.5E-09	-12.0E-09	-12.0E-09	-10.5E-09
Max	-4.4E-09	-4.4E-09	-5.2E-09	-5.9E-09	-2.9E-09	-6.7E-09	-7.5E-09	-2.1E-09
Average	-7.2E-09	-8.5E-09	-7.2E-09	-8.1E-09	-5.8E-09	-9.0E-09	-8.7E-09	-5.8E-09
Std Deviation	2.8E-09	2.7E-09	1.2E-09	1.7E-09	3.2E-09	2.2E-09	1.9E-09	3.1E-09

Parameter : Input High Leakage Current : Iih<ADD[4]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-16.6E-09	-15.8E-09	-12.0E-09	-10.5E-09	-13.6E-09	-18.1E-09	-12.0E-09
67_OUT_REF	-13.6E-09	-17.4E-09	-15.1E-09	-14.3E-09	-18.1E-09	-14.3E-09	-19.7E-09	-13.6E-09
ON samples								
51	-17.4E-09	-15.1E-09	-10.5E-09	-11.3E-09	-12.8E-09	-10.5E-09	-15.8E-09	-12.8E-09
52	-18.9E-09	-12.0E-09	-14.3E-09	-15.1E-09	-13.6E-09	-13.6E-09	-12.0E-09	-17.4E-09
53	-12.0E-09	-9.0E-09	-15.8E-09	-13.6E-09	-13.6E-09	-15.1E-09	-18.1E-09	-15.8E-09
54	-15.1E-09	-14.3E-09	-14.3E-09	-14.3E-09	-15.1E-09	-15.8E-09	-18.1E-09	-14.3E-09
55	-12.0E-09	-16.6E-09	-15.1E-09	-15.1E-09	-12.8E-09	-17.4E-09	-15.1E-09	-18.9E-09
56	-16.6E-09	-13.6E-09	-12.8E-09	-15.8E-09	-17.4E-09	-16.6E-09	-18.9E-09	-15.1E-09
57	-21.2E-09	-10.5E-09	-14.3E-09	-15.8E-09	-14.3E-09	-12.8E-09	-17.4E-09	-18.1E-09
58	-17.4E-09	-18.9E-09	-10.5E-09	-14.3E-09	-12.8E-09	-17.4E-09	-15.1E-09	-14.3E-09
59	-20.4E-09	-12.8E-09	-18.1E-09	-13.6E-09	-14.3E-09	-10.5E-09	-15.1E-09	-18.9E-09
60	-18.9E-09	-20.4E-09	-13.6E-09	-18.1E-09	-14.3E-09	-15.8E-09	-12.8E-09	-14.3E-09
Statistics								
Min	-21.2E-09	-20.4E-09	-18.1E-09	-18.1E-09	-17.4E-09	-17.4E-09	-18.9E-09	-18.9E-09
Max	-12.0E-09	-9.0E-09	-10.5E-09	-11.3E-09	-12.8E-09	-10.5E-09	-12.0E-09	-12.8E-09
Average	-17.0E-09	-14.3E-09	-13.9E-09	-14.7E-09	-14.1E-09	-14.6E-09	-15.8E-09	-16.0E-09
Std Deviation	3.2E-09	3.6E-09	2.3E-09	1.8E-09	1.4E-09	2.6E-09	2.3E-09	2.2E-09

Measurements

Iih<ADD[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-16.6E-09	-15.8E-09	-12.0E-09	-10.5E-09	-13.6E-09	-18.1E-09	-12.0E-09
67_OUT_REF	-13.6E-09	-17.4E-09	-15.1E-09	-14.3E-09	-18.1E-09	-14.3E-09	-19.7E-09	-13.6E-09
OFF samples								
61	-15.1E-09	-15.1E-09	-15.8E-09	-13.6E-09	-15.8E-09	-14.3E-09	-16.6E-09	-14.3E-09
62	-12.8E-09	-17.4E-09	-12.0E-09	-12.8E-09	-17.4E-09	-14.3E-09	-15.8E-09	-17.4E-09
63	-18.9E-09	-15.1E-09	-17.4E-09	-12.0E-09	-14.3E-09	-15.8E-09	-19.7E-09	-14.3E-09
64	-18.1E-09	-15.1E-09	-11.3E-09	-15.1E-09	-18.1E-09	-18.1E-09	-20.4E-09	-18.9E-09
65	-19.7E-09	-16.6E-09	-16.6E-09	-12.8E-09	-13.6E-09	-14.3E-09	-12.0E-09	-15.8E-09
Statistics								
Min	-19.7E-09	-17.4E-09	-17.4E-09	-15.1E-09	-18.1E-09	-18.1E-09	-20.4E-09	-18.9E-09
Max	-12.8E-09	-15.1E-09	-11.3E-09	-12.0E-09	-13.6E-09	-14.3E-09	-12.0E-09	-14.3E-09
Average	-16.9E-09	-15.8E-09	-14.6E-09	-13.3E-09	-15.8E-09	-15.4E-09	-16.9E-09	-16.2E-09
Std Deviation	2.9E-09	1.1E-09	2.8E-09	1.2E-09	1.9E-09	1.7E-09	3.4E-09	2.0E-09

Parameter : Input High Leakage Current : Iih<ADD[5]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

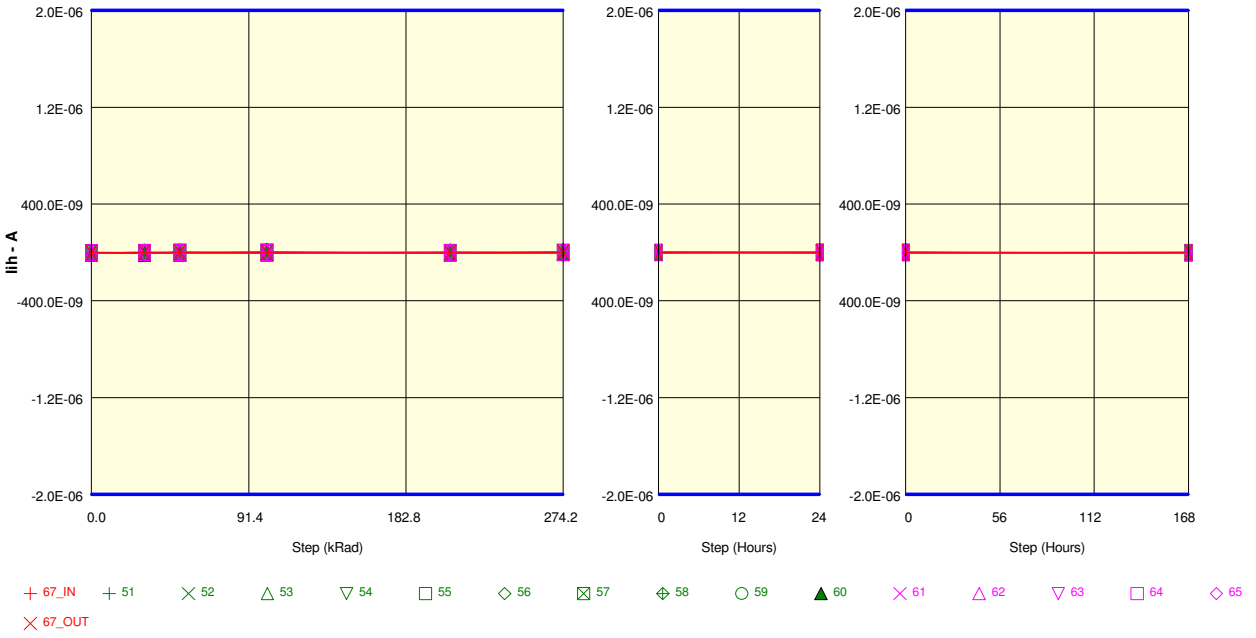
Measurements

Iih<ADD[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-9.7E-09	-8.2E-09	-13.6E-09	-9.7E-09	-10.5E-09	-7.5E-09	-8.2E-09
67_OUT_REF	-12.8E-09	-8.2E-09	-10.5E-09	-9.0E-09	-15.8E-09	-12.0E-09	-9.7E-09	-11.3E-09
ON samples								
51	-8.2E-09	-9.0E-09	-11.3E-09	-10.5E-09	-9.0E-09	-9.7E-09	-9.0E-09	-7.5E-09
52	-9.7E-09	-9.0E-09	-10.5E-09	-11.3E-09	-11.3E-09	-10.5E-09	-18.1E-09	-7.5E-09
53	-12.8E-09	-8.2E-09	-12.0E-09	-9.0E-09	-6.7E-09	-10.5E-09	-9.0E-09	-9.0E-09
54	-10.5E-09	-7.5E-09	-13.6E-09	-14.3E-09	-12.8E-09	-11.3E-09	-7.5E-09	-9.7E-09
55	-10.5E-09	-12.0E-09	-11.3E-09	-10.5E-09	-9.0E-09	-13.6E-09	-13.6E-09	-7.5E-09
56	-9.0E-09	-9.0E-09	-12.0E-09	-13.6E-09	-11.3E-09	-13.6E-09	-9.0E-09	-13.6E-09
57	-14.3E-09	-7.5E-09	-9.0E-09	-11.3E-09	-12.0E-09	-5.9E-09	-5.9E-09	-9.7E-09
58	-7.5E-09	-14.3E-09	-11.3E-09	-12.8E-09	-11.3E-09	-10.5E-09	-12.0E-09	-12.8E-09
59	-7.5E-09	-12.0E-09	-11.3E-09	-9.0E-09	-14.3E-09	-5.9E-09	-10.5E-09	-9.7E-09
60	-12.0E-09	-7.5E-09	-12.8E-09	-7.5E-09	-15.8E-09	-15.1E-09	-5.9E-09	-9.7E-09
Statistics								
Min	-14.3E-09	-14.3E-09	-13.6E-09	-14.3E-09	-15.8E-09	-15.1E-09	-18.1E-09	-13.6E-09
Max	-7.5E-09	-7.5E-09	-9.0E-09	-7.5E-09	-6.7E-09	-5.9E-09	-5.9E-09	-7.5E-09
Average	-10.2E-09	-9.6E-09	-11.5E-09	-11.0E-09	-11.3E-09	-10.7E-09	-10.1E-09	-9.7E-09
Std Deviation	2.3E-09	2.4E-09	1.2E-09	2.2E-09	2.7E-09	3.0E-09	3.7E-09	2.1E-09

Measurements

Iih<ADD[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.2E-09	-9.7E-09	-8.2E-09	-13.6E-09	-9.7E-09	-10.5E-09	-7.5E-09	-8.2E-09
67_OUT_REF	-12.8E-09	-8.2E-09	-10.5E-09	-9.0E-09	-15.8E-09	-12.0E-09	-9.7E-09	-11.3E-09
OFF samples								
61	-12.0E-09	-7.5E-09	-14.3E-09	-8.2E-09	-14.3E-09	-11.3E-09	-9.7E-09	-15.1E-09
62	-9.7E-09	-9.7E-09	-9.7E-09	-9.0E-09	-15.8E-09	-11.3E-09	-11.3E-09	-9.0E-09
63	-9.7E-09	-11.3E-09	-10.5E-09	-12.0E-09	-11.3E-09	-13.6E-09	-9.0E-09	-5.9E-09
64	-11.3E-09	-14.3E-09	-11.3E-09	-11.3E-09	-10.5E-09	-12.0E-09	-12.8E-09	-11.3E-09
65	-12.8E-09	-9.7E-09	-10.5E-09	-9.0E-09	-10.5E-09	-10.5E-09	-9.7E-09	-9.0E-09
Statistics								
Min	-12.8E-09	-14.3E-09	-14.3E-09	-12.0E-09	-15.8E-09	-13.6E-09	-12.8E-09	-15.1E-09
Max	-9.7E-09	-7.5E-09	-9.7E-09	-8.2E-09	-10.5E-09	-10.5E-09	-9.0E-09	-5.9E-09
Average	-11.1E-09	-10.5E-09	-11.3E-09	-9.9E-09	-12.5E-09	-11.7E-09	-10.5E-09	-10.1E-09
Std Deviation	1.4E-09	2.5E-09	1.8E-09	1.7E-09	2.4E-09	1.2E-09	1.5E-09	3.4E-09

Parameter : Input High Leakage Current : Iih<ADD[6]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<ADD[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	936.3E-12	-2.1E-09	-1.4E-09	-5.2E-09	-2.1E-09	173.3E-12	173.3E-12
67_OUT_REF	-2.1E-09	-589.6E-12	-589.6E-12	-2.1E-09	-1.4E-09	936.3E-12	1.7E-09	936.3E-12
ON samples								
51	-2.9E-09	173.3E-12	2.5E-09	936.3E-12	-1.4E-09	173.3E-12	-589.6E-12	-5.9E-09
52	-2.9E-09	173.3E-12	-1.4E-09	173.3E-12	-589.6E-12	-3.6E-09	-2.9E-09	-7.5E-09
53	-589.6E-12	-2.1E-09	-5.2E-09	-589.6E-12	-3.6E-09	4.0E-09	-2.1E-09	936.3E-12
54	-5.2E-09	-4.4E-09	1.7E-09	173.3E-12	-3.6E-09	-2.1E-09	-589.6E-12	-4.4E-09
55	-7.5E-09	-1.4E-09	-3.6E-09	-5.9E-09	-2.1E-09	-2.9E-09	-2.1E-09	-589.6E-12
56	-2.9E-09	-3.6E-09	-2.1E-09	-589.6E-12	173.3E-12	1.7E-09	-3.6E-09	-2.1E-09
57	-2.1E-09	-3.6E-09	-1.4E-09	2.5E-09	-2.1E-09	-589.6E-12	173.3E-12	-2.1E-09
58	-3.6E-09	-2.1E-09	-589.6E-12	-4.4E-09	3.2E-09	173.3E-12	-4.4E-09	-5.2E-09
59	-4.4E-09	-4.4E-09	-1.4E-09	1.7E-09	-3.6E-09	-4.4E-09	1.7E-09	-2.1E-09
60	-1.4E-09	-6.7E-09	-2.1E-09	1.7E-09	-1.4E-09	1.7E-09	-589.6E-12	-2.9E-09
Statistics								
Min	-7.5E-09	-6.7E-09	-5.2E-09	-5.9E-09	-3.6E-09	-4.4E-09	-4.4E-09	-7.5E-09
Max	-589.6E-12	173.3E-12	2.5E-09	2.5E-09	3.2E-09	4.0E-09	1.7E-09	936.3E-12
Average	-3.3E-09	-2.8E-09	-1.4E-09	-437.0E-12	-1.5E-09	-589.6E-12	-1.5E-09	-3.2E-09
Std Deviation	2.0E-09	2.2E-09	2.2E-09	2.7E-09	2.1E-09	2.7E-09	1.9E-09	2.5E-09

Measurements

Iih<ADD[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-589.6E-12	936.3E-12	-2.1E-09	-1.4E-09	-5.2E-09	-2.1E-09	173.3E-12	173.3E-12
67_OUT_REF	-2.1E-09	-589.6E-12	-589.6E-12	-2.1E-09	-1.4E-09	936.3E-12	1.7E-09	936.3E-12
OFF samples								
61	-2.9E-09	-589.6E-12	-4.4E-09	-1.4E-09	173.3E-12	3.2E-09	173.3E-12	-5.9E-09
62	-589.6E-12	-2.1E-09	-589.6E-12	-589.6E-12	-2.9E-09	-589.6E-12	-2.1E-09	-2.9E-09
63	-2.1E-09	-2.1E-09	-2.9E-09	936.3E-12	936.3E-12	-589.6E-12	-589.6E-12	-2.9E-09
64	-2.1E-09	-589.6E-12	173.3E-12	-589.6E-12	-4.4E-09	-589.6E-12	1.7E-09	-3.6E-09
65	-5.9E-09	936.3E-12	-5.2E-09	936.3E-12	-1.4E-09	-1.4E-09	-5.2E-09	-589.6E-12
Statistics								
Min	-5.9E-09	-2.1E-09	-5.2E-09	-1.4E-09	-4.4E-09	-1.4E-09	-5.2E-09	-5.9E-09
Max	-589.6E-12	936.3E-12	173.3E-12	936.3E-12	936.3E-12	3.2E-09	1.7E-09	-589.6E-12
Average	-2.7E-09	-894.8E-12	-2.6E-09	-131.8E-12	-1.5E-09	20.8E-12	-1.2E-09	-3.2E-09
Std Deviation	2.0E-09	1.3E-09	2.3E-09	1.0E-09	2.2E-09	1.8E-09	2.6E-09	1.9E-09

Parameter : Input High Leakage Current : Iih<ADD[7]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

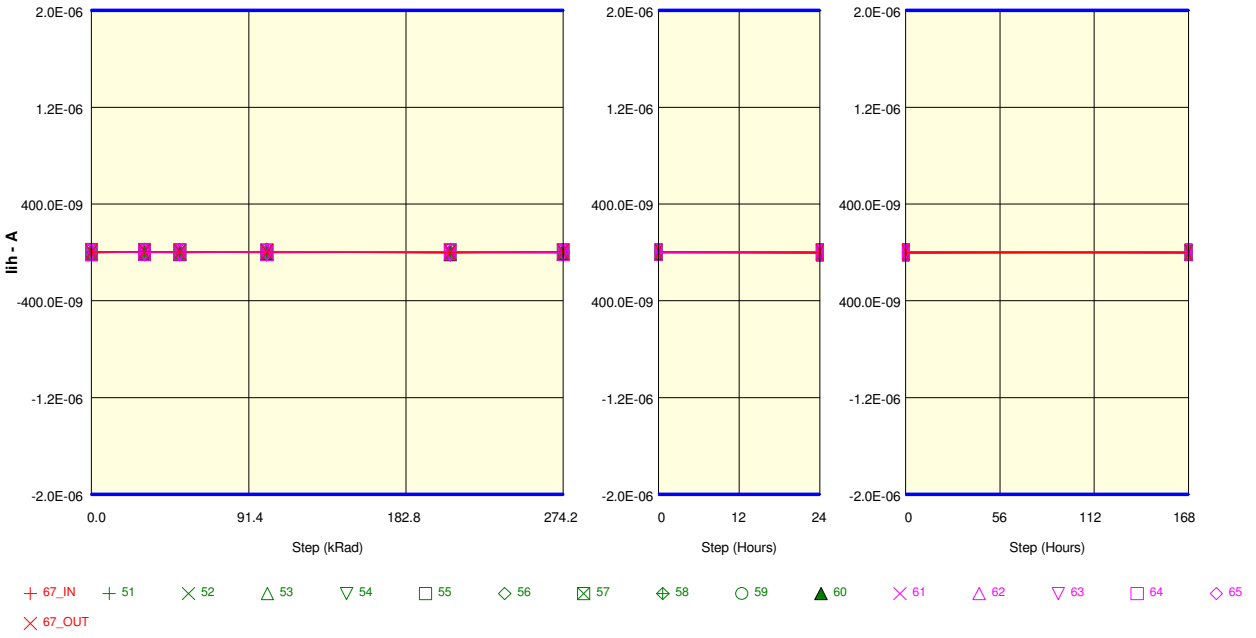
Measurements

Iih<ADD[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-3.6E-09	-1.4E-09	-589.6E-12	-2.1E-09	-3.6E-09	-2.1E-09	-1.4E-09
67_OUT_REF	-2.9E-09	173.3E-12	-4.4E-09	-1.4E-09	-8.2E-09	-6.7E-09	-1.4E-09	-4.4E-09
ON samples								
51	-4.4E-09	-4.4E-09	-2.9E-09	-2.1E-09	-5.9E-09	-589.6E-12	-589.6E-12	-2.9E-09
52	-7.5E-09	-5.2E-09	-4.4E-09	-5.9E-09	-1.4E-09	-6.7E-09	-2.9E-09	936.3E-12
53	-4.4E-09	-3.6E-09	-2.9E-09	-5.9E-09	-6.7E-09	1.7E-09	-6.7E-09	-5.9E-09
54	-3.6E-09	1.7E-09	-1.4E-09	-6.7E-09	-2.9E-09	-4.4E-09	-589.6E-12	-1.4E-09
55	-5.2E-09	-5.2E-09	-5.2E-09	-2.9E-09	-3.6E-09	-5.2E-09	-2.9E-09	-5.2E-09
56	-5.9E-09	-589.6E-12	-3.6E-09	-5.2E-09	-6.7E-09	-6.7E-09	-5.2E-09	-9.0E-09
57	-4.4E-09	-3.6E-09	-5.9E-09	-2.1E-09	-6.7E-09	-2.1E-09	-1.4E-09	-3.6E-09
58	-1.4E-09	-589.6E-12	-6.7E-09	-2.9E-09	-2.1E-09	-1.4E-09	-2.9E-09	-589.6E-12
59	-7.5E-09	-1.4E-09	-5.9E-09	-5.9E-09	-4.4E-09	1.7E-09	-4.4E-09	-5.9E-09
60	-4.4E-09	-5.2E-09	-3.6E-09	-8.2E-09	-9.0E-09	-4.4E-09	-3.6E-09	-2.9E-09
Statistics								
Min	-7.5E-09	-5.2E-09	-6.7E-09	-8.2E-09	-9.0E-09	-6.7E-09	-6.7E-09	-9.0E-09
Max	-1.4E-09	1.7E-09	-1.4E-09	-2.1E-09	-1.4E-09	1.7E-09	-589.6E-12	936.3E-12
Average	-4.9E-09	-2.8E-09	-4.3E-09	-4.8E-09	-4.9E-09	-2.8E-09	-3.1E-09	-3.6E-09
Std Deviation	1.8E-09	2.4E-09	1.7E-09	2.1E-09	2.4E-09	3.1E-09	2.0E-09	2.9E-09

Measurements

Iih<ADD[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-3.6E-09	-1.4E-09	-589.6E-12	-2.1E-09	-3.6E-09	-2.1E-09	-1.4E-09
67_OUT_REF	-2.9E-09	173.3E-12	-4.4E-09	-1.4E-09	-8.2E-09	-6.7E-09	-1.4E-09	-4.4E-09
OFF samples								
61	-2.1E-09	-6.7E-09	-3.6E-09	-2.9E-09	-2.9E-09	936.3E-12	3.2E-09	-2.9E-09
62	-2.1E-09	-2.1E-09	-4.4E-09	-5.2E-09	-589.6E-12	-5.9E-09	-5.9E-09	-2.1E-09
63	173.3E-12	-4.4E-09	-4.4E-09	-4.4E-09	-4.4E-09	-8.2E-09	-2.9E-09	-3.6E-09
64	-6.7E-09	-1.4E-09	-2.1E-09	-3.6E-09	-7.5E-09	-5.2E-09	-3.6E-09	-5.2E-09
65	-3.6E-09	-3.6E-09	-7.5E-09	173.3E-12	-3.6E-09	-5.2E-09	-2.1E-09	-4.4E-09
Statistics								
Min	-6.7E-09	-6.7E-09	-7.5E-09	-5.2E-09	-7.5E-09	-8.2E-09	-5.9E-09	-5.2E-09
Max	173.3E-12	-1.4E-09	-2.1E-09	173.3E-12	-589.6E-12	936.3E-12	3.2E-09	-2.1E-09
Average	-2.9E-09	-3.6E-09	-4.4E-09	-3.2E-09	-3.8E-09	-4.7E-09	-2.3E-09	-3.6E-09
Std Deviation	2.5E-09	2.1E-09	1.9E-09	2.1E-09	2.5E-09	3.4E-09	3.4E-09	1.2E-09

Parameter : Input High Leakage Current : Iih<ADD[8]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<ADD[8]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	4.8E-09	1.7E-09	3.2E-09	4.0E-09	-1.4E-09	3.2E-09	2.5E-09	-4.4E-09
67_OUT_REF	1.7E-09	6.3E-09	2.5E-09	3.2E-09	173.3E-12	6.3E-09	936.3E-12	-2.9E-09
ON samples								
51	2.5E-09	-2.1E-09	-1.4E-09	1.7E-09	-1.4E-09	-1.4E-09	936.3E-12	1.7E-09
52	-2.9E-09	1.7E-09	2.5E-09	-1.4E-09	173.3E-12	-589.6E-12	4.8E-09	936.3E-12
53	-1.4E-09	-589.6E-12	-1.4E-09	3.2E-09	-2.1E-09	5.5E-09	173.3E-12	-589.6E-12
54	3.2E-09	1.7E-09	173.3E-12	173.3E-12	3.2E-09	936.3E-12	3.2E-09	-3.6E-09
55	7.8E-09	2.5E-09	4.0E-09	173.3E-12	-1.4E-09	3.2E-09	5.5E-09	2.5E-09
56	1.7E-09	4.0E-09	936.3E-12	5.5E-09	-2.9E-09	1.7E-09	173.3E-12	-2.1E-09
57	3.2E-09	7.0E-09	3.2E-09	-589.6E-12	-589.6E-12	1.7E-09	4.0E-09	4.0E-09
58	936.3E-12	4.8E-09	3.2E-09	-589.6E-12	-2.9E-09	-3.6E-09	-6.7E-09	-2.9E-09
59	-589.6E-12	4.0E-09	-589.6E-12	4.8E-09	4.0E-09	173.3E-12	173.3E-12	1.7E-09
60	936.3E-12	3.2E-09	173.3E-12	3.2E-09	3.2E-09	4.0E-09	-3.6E-09	1.7E-09
Statistics								
Min	-2.9E-09	-2.1E-09	-1.4E-09	-1.4E-09	-2.9E-09	-3.6E-09	-6.7E-09	-3.6E-09
Max	7.8E-09	7.0E-09	4.0E-09	5.5E-09	4.0E-09	5.5E-09	5.5E-09	4.0E-09
Average	1.5E-09	2.6E-09	1.1E-09	1.6E-09	-55.5E-12	1.2E-09	860.0E-12	325.9E-12
Std Deviation	3.0E-09	2.6E-09	2.0E-09	2.4E-09	2.6E-09	2.7E-09	3.8E-09	2.5E-09

Measurements

Iih<ADD[8]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	4.8E-09	1.7E-09	3.2E-09	4.0E-09	-1.4E-09	3.2E-09	2.5E-09	-4.4E-09
67_OUT_REF	1.7E-09	6.3E-09	2.5E-09	3.2E-09	173.3E-12	6.3E-09	936.3E-12	-2.9E-09
OFF samples								
61	-1.4E-09	3.2E-09	2.5E-09	7.0E-09	4.0E-09	936.3E-12	1.7E-09	-1.4E-09
62	-1.4E-09	4.0E-09	2.5E-09	936.3E-12	4.8E-09	936.3E-12	2.5E-09	4.8E-09
63	936.3E-12	3.2E-09	936.3E-12	-2.9E-09	1.7E-09	4.0E-09	2.5E-09	-1.4E-09
64	2.5E-09	1.7E-09	2.5E-09	1.7E-09	5.5E-09	936.3E-12	4.0E-09	-2.9E-09
65	173.3E-12	1.7E-09	-589.6E-12	936.3E-12	-1.4E-09	4.8E-09	5.5E-09	936.3E-12
Statistics								
Min	-1.4E-09	1.7E-09	-589.6E-12	-2.9E-09	-1.4E-09	936.3E-12	1.7E-09	-2.9E-09
Max	2.5E-09	4.0E-09	2.5E-09	7.0E-09	5.5E-09	4.8E-09	5.5E-09	4.8E-09
Average	173.4E-12	2.8E-09	1.5E-09	1.5E-09	2.9E-09	2.3E-09	3.2E-09	20.8E-12
Std Deviation	1.6E-09	1.0E-09	1.4E-09	3.6E-09	2.8E-09	1.9E-09	1.5E-09	3.0E-09

Parameter : Input High Leakage Current : Iih<ADD[9]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<ADD[9]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	173.3E-12	-2.9E-09	173.3E-12	-2.1E-09	-589.6E-12	-2.1E-09	2.5E-09
67_OUT_REF	4.0E-09	-2.1E-09	-3.6E-09	-589.6E-12	5.5E-09	-1.4E-09	4.0E-09	3.2E-09
ON samples								
51	173.3E-12	3.2E-09	-2.9E-09	2.5E-09	2.5E-09	173.3E-12	-589.6E-12	-5.2E-09
52	-589.6E-12	3.2E-09	-2.1E-09	-2.9E-09	173.3E-12	-2.9E-09	173.3E-12	-4.4E-09
53	1.7E-09	1.7E-09	-2.1E-09	-589.6E-12	-2.1E-09	1.7E-09	4.0E-09	-1.4E-09
54	1.7E-09	4.0E-09	173.3E-12	1.7E-09	-2.9E-09	-2.1E-09	-2.1E-09	-3.6E-09
55	4.0E-09	-1.4E-09	-1.4E-09	-2.1E-09	-589.6E-12	936.3E-12	-589.6E-12	4.8E-09
56	173.3E-12	-1.4E-09	-2.1E-09	-2.1E-09	936.3E-12	-2.1E-09	-589.6E-12	-589.6E-12
57	-589.6E-12	-5.2E-09	173.3E-12	1.7E-09	2.5E-09	-589.6E-12	4.0E-09	-589.6E-12
58	936.3E-12	-2.1E-09	-2.1E-09	173.3E-12	936.3E-12	-3.6E-09	2.5E-09	-2.9E-09
59	-3.6E-09	-2.1E-09	-2.9E-09	1.7E-09	173.3E-12	-2.9E-09	936.3E-12	936.3E-12
60	-2.9E-09	3.2E-09	-5.9E-09	1.7E-09	173.3E-12	-589.6E-12	-589.6E-12	-589.6E-12
Statistics								
Min	-3.6E-09	-5.2E-09	-5.9E-09	-2.9E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.2E-09
Max	4.0E-09	4.0E-09	173.3E-12	2.5E-09	2.5E-09	1.7E-09	4.0E-09	4.8E-09
Average	97.0E-12	325.9E-12	-2.1E-09	173.3E-12	173.3E-12	-1.2E-09	707.4E-12	-1.4E-09
Std Deviation	2.2E-09	3.1E-09	1.7E-09	2.0E-09	1.7E-09	1.8E-09	2.1E-09	2.9E-09

Measurements

Iih<ADD[9]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-1.4E-09	173.3E-12	-2.9E-09	173.3E-12	-2.1E-09	-589.6E-12	-2.1E-09	2.5E-09
67_OUT_REF	4.0E-09	-2.1E-09	-3.6E-09	-589.6E-12	5.5E-09	-1.4E-09	4.0E-09	3.2E-09
OFF samples								
61	-2.1E-09	1.7E-09	-2.9E-09	1.7E-09	-2.9E-09	-2.1E-09	-589.6E-12	-1.4E-09
62	-1.4E-09	-5.9E-09	936.3E-12	3.2E-09	3.2E-09	-3.6E-09	-4.4E-09	-7.5E-09
63	936.3E-12	173.3E-12	936.3E-12	-3.6E-09	-589.6E-12	3.2E-09	936.3E-12	173.3E-12
64	-1.4E-09	-2.1E-09	-6.7E-09	6.3E-09	-589.6E-12	-2.9E-09	936.3E-12	-5.2E-09
65	-3.6E-09	173.3E-12	-589.6E-12	1.7E-09	-589.6E-12	-2.9E-09	936.3E-12	-3.6E-09
Statistics								
Min	-3.6E-09	-5.9E-09	-6.7E-09	-3.6E-09	-2.9E-09	-3.6E-09	-4.4E-09	-7.5E-09
Max	936.3E-12	1.7E-09	936.3E-12	6.3E-09	3.2E-09	3.2E-09	936.3E-12	173.3E-12
Average	-1.5E-09	-1.2E-09	-1.7E-09	1.9E-09	-284.4E-12	-1.7E-09	-437.0E-12	-3.5E-09
Std Deviation	1.7E-09	3.0E-09	3.2E-09	3.6E-09	2.2E-09	2.8E-09	2.3E-09	3.0E-09

Parameter : Input High Leakage Current : Iih<BANK[0]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<BANK[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-5.9E-09	-9.0E-09	-2.9E-09	-2.9E-09	-6.7E-09	-10.5E-09	-6.7E-09
67_OUT_REF	-6.7E-09	-5.2E-09	-2.1E-09	-2.1E-09	-2.1E-09	-2.1E-09	-7.5E-09	-5.9E-09
ON samples								
51	-589.6E-12	-7.5E-09	-6.7E-09	-589.6E-12	-2.9E-09	-6.7E-09	-5.9E-09	-5.9E-09
52	-11.3E-09	-9.7E-09	-6.7E-09	-589.6E-12	-5.2E-09	-2.1E-09	-7.5E-09	-12.0E-09
53	-5.9E-09	-4.4E-09	-6.7E-09	-5.9E-09	-4.4E-09	-2.9E-09	-7.5E-09	-5.2E-09
54	-8.2E-09	-5.2E-09	-8.2E-09	-7.5E-09	-2.9E-09	-5.2E-09	-1.4E-09	-8.2E-09
55	-5.2E-09	-3.6E-09	-4.4E-09	-4.4E-09	-5.9E-09	-7.5E-09	-3.6E-09	-4.4E-09
56	-7.5E-09	-5.9E-09	-4.4E-09	-3.6E-09	-5.2E-09	-3.6E-09	-5.2E-09	-5.9E-09
57	-6.7E-09	-8.2E-09	-2.9E-09	-2.9E-09	-5.9E-09	-2.9E-09	-4.4E-09	-9.0E-09
58	-2.9E-09	-7.5E-09	-2.9E-09	-2.9E-09	-5.2E-09	-589.6E-12	-4.4E-09	-2.9E-09
59	-4.4E-09	-9.0E-09	1.7E-09	-4.4E-09	-5.2E-09	-2.9E-09	-8.2E-09	-6.7E-09
60	-3.6E-09	-7.5E-09	-2.9E-09	-1.4E-09	-2.1E-09	-7.5E-09	-8.2E-09	-6.7E-09
Statistics								
Min	-11.3E-09	-9.7E-09	-8.2E-09	-7.5E-09	-5.9E-09	-7.5E-09	-8.2E-09	-12.0E-09
Max	-589.6E-12	-3.6E-09	1.7E-09	-589.6E-12	-2.1E-09	-589.6E-12	-1.4E-09	-2.9E-09
Average	-5.6E-09	-6.8E-09	-4.4E-09	-3.4E-09	-4.5E-09	-4.2E-09	-5.6E-09	-6.7E-09
Std Deviation	3.0E-09	2.0E-09	2.9E-09	2.2E-09	1.4E-09	2.4E-09	2.3E-09	2.6E-09

Measurements

Iih<BANK[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-5.9E-09	-9.0E-09	-2.9E-09	-2.9E-09	-6.7E-09	-10.5E-09	-6.7E-09
67_OUT_REF	-6.7E-09	-5.2E-09	-2.1E-09	-2.1E-09	-2.1E-09	-2.1E-09	-7.5E-09	-5.9E-09
OFF samples								
61	-5.2E-09	-6.7E-09	-10.5E-09	-5.2E-09	-2.9E-09	-8.2E-09	-6.7E-09	-589.6E-12
62	-2.9E-09	-9.0E-09	-3.6E-09	-5.9E-09	-7.5E-09	-2.1E-09	-5.9E-09	-5.2E-09
63	-3.6E-09	-5.9E-09	-7.5E-09	-5.2E-09	-2.9E-09	-1.4E-09	-5.2E-09	-3.6E-09
64	-1.4E-09	-5.9E-09	-7.5E-09	-7.5E-09	-6.7E-09	-2.9E-09	-4.4E-09	173.3E-12
65	-5.2E-09	-5.9E-09	-1.4E-09	-6.7E-09	-8.2E-09	-1.4E-09	-11.3E-09	-7.5E-09
Statistics								
Min	-5.2E-09	-9.0E-09	-10.5E-09	-7.5E-09	-8.2E-09	-8.2E-09	-11.3E-09	-7.5E-09
Max	-1.4E-09	-5.9E-09	-1.4E-09	-5.2E-09	-2.9E-09	-1.4E-09	-4.4E-09	173.3E-12
Average	-3.6E-09	-6.7E-09	-6.1E-09	-6.1E-09	-5.6E-09	-3.2E-09	-6.7E-09	-3.3E-09
Std Deviation	1.6E-09	1.3E-09	3.6E-09	994.8E-12	2.6E-09	2.9E-09	2.7E-09	3.2E-09

Parameter : Input High Leakage Current : Iih<BANK[1]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

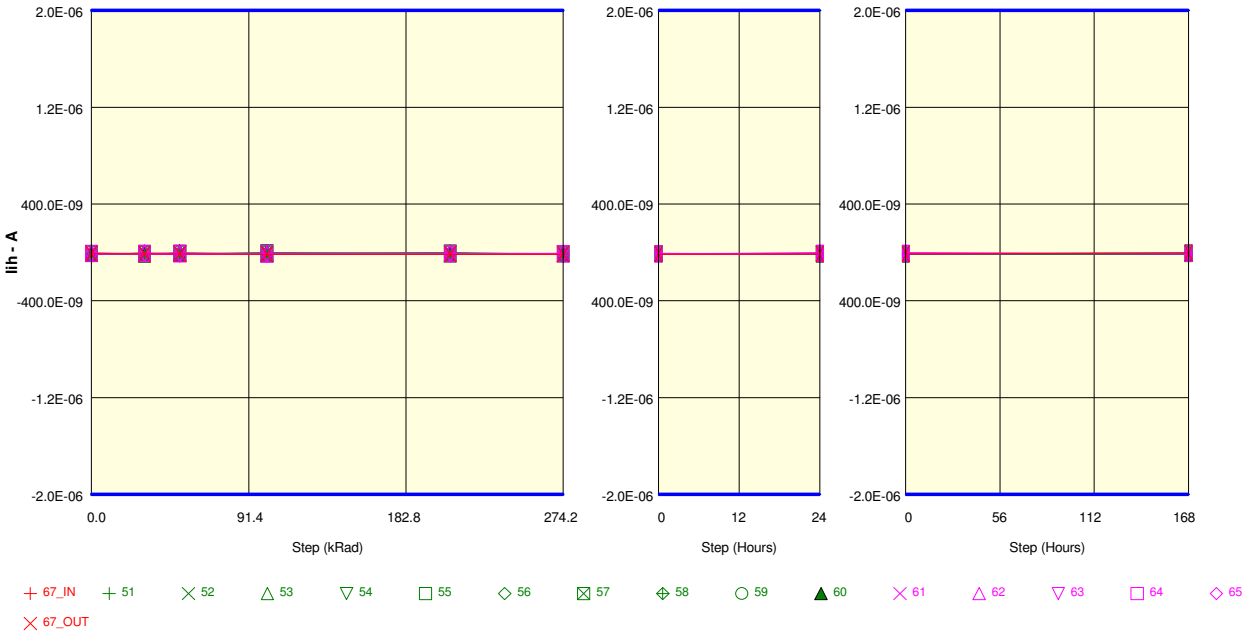
Measurements

Iih<BANK[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-12.0E-09	-12.0E-09	-7.5E-09	-9.7E-09	-9.7E-09	-5.9E-09	-10.5E-09
67_OUT_REF	-12.0E-09	-8.2E-09	-9.0E-09	-9.0E-09	-12.0E-09	-7.5E-09	-9.7E-09	-9.0E-09
ON samples								
51	-12.8E-09	-9.0E-09	-7.5E-09	-12.8E-09	-12.0E-09	-12.0E-09	-9.0E-09	-12.8E-09
52	-9.0E-09	-13.6E-09	-5.9E-09	-8.2E-09	-10.5E-09	-5.9E-09	-9.7E-09	-7.5E-09
53	-11.3E-09	-13.6E-09	-2.1E-09	-9.0E-09	-8.2E-09	-12.0E-09	-9.7E-09	-12.0E-09
54	-5.2E-09	-12.8E-09	-13.6E-09	-10.5E-09	-10.5E-09	-9.0E-09	-11.3E-09	-9.0E-09
55	-8.2E-09	-11.3E-09	-9.7E-09	-9.7E-09	-13.6E-09	-9.0E-09	-7.5E-09	-10.5E-09
56	-10.5E-09	-12.0E-09	-7.5E-09	-12.0E-09	-12.0E-09	-10.5E-09	-8.2E-09	-7.5E-09
57	-6.7E-09	-10.5E-09	-11.3E-09	-6.7E-09	-12.8E-09	-10.5E-09	-6.7E-09	-6.7E-09
58	-15.1E-09	-12.0E-09	-5.9E-09	-11.3E-09	-12.0E-09	-10.5E-09	-9.7E-09	-15.1E-09
59	-10.5E-09	-11.3E-09	-12.0E-09	-6.7E-09	-9.7E-09	-9.7E-09	-12.8E-09	-9.0E-09
60	-10.5E-09	-12.8E-09	-10.5E-09	-9.7E-09	-11.3E-09	-8.2E-09	-11.3E-09	-12.0E-09
Statistics								
Min	-15.1E-09	-13.6E-09	-13.6E-09	-12.8E-09	-13.6E-09	-12.0E-09	-12.8E-09	-15.1E-09
Max	-5.2E-09	-9.0E-09	-2.1E-09	-6.7E-09	-8.2E-09	-5.9E-09	-6.7E-09	-6.7E-09
Average	-10.0E-09	-11.9E-09	-8.6E-09	-9.7E-09	-11.3E-09	-9.7E-09	-9.6E-09	-10.2E-09
Std Deviation	2.9E-09	1.4E-09	3.5E-09	2.1E-09	1.6E-09	1.8E-09	1.9E-09	2.7E-09

Measurements

Iih<BANK[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-10.5E-09	-12.0E-09	-12.0E-09	-7.5E-09	-9.7E-09	-9.7E-09	-5.9E-09	-10.5E-09
67_OUT_REF	-12.0E-09	-8.2E-09	-9.0E-09	-9.0E-09	-12.0E-09	-7.5E-09	-9.7E-09	-9.0E-09
OFF samples								
61	-14.3E-09	-9.7E-09	-9.0E-09	-9.0E-09	-9.7E-09	-11.3E-09	-10.5E-09	-6.7E-09
62	-12.0E-09	-13.6E-09	-11.3E-09	-7.5E-09	-10.5E-09	-12.0E-09	-8.2E-09	-7.5E-09
63	-9.0E-09	-9.0E-09	-9.7E-09	-4.4E-09	-15.8E-09	-12.8E-09	-3.6E-09	-11.3E-09
64	-9.7E-09	-11.3E-09	-6.7E-09	-11.3E-09	-9.7E-09	-11.3E-09	-14.3E-09	-9.0E-09
65	-10.5E-09	-12.0E-09	-9.7E-09	-10.5E-09	-15.8E-09	-12.8E-09	-9.7E-09	-5.9E-09
Statistics								
Min	-14.3E-09	-13.6E-09	-11.3E-09	-11.3E-09	-15.8E-09	-12.8E-09	-14.3E-09	-11.3E-09
Max	-9.0E-09	-9.0E-09	-6.7E-09	-4.4E-09	-9.7E-09	-11.3E-09	-3.6E-09	-5.9E-09
Average	-11.1E-09	-11.1E-09	-9.3E-09	-8.5E-09	-12.3E-09	-12.0E-09	-9.3E-09	-8.1E-09
Std Deviation	2.1E-09	1.8E-09	1.7E-09	2.7E-09	3.2E-09	763.0E-12	3.9E-09	2.1E-09

Parameter : Input High Leakage Current : Iih<BANK[2]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<BANK[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.3E-09	-7.5E-09	-11.3E-09	-11.3E-09	-9.0E-09	-7.5E-09	-10.5E-09	-10.5E-09
67_OUT_REF	-9.7E-09	-11.3E-09	-11.3E-09	-13.6E-09	-15.1E-09	-14.3E-09	-12.8E-09	-4.4E-09
ON samples								
51	-8.2E-09	-6.7E-09	-14.3E-09	-9.7E-09	-7.5E-09	-15.8E-09	-7.5E-09	-13.6E-09
52	-9.0E-09	-9.0E-09	-12.0E-09	-12.0E-09	-6.7E-09	-9.0E-09	-7.5E-09	-12.0E-09
53	-9.0E-09	-8.2E-09	-7.5E-09	-9.0E-09	-8.2E-09	-8.2E-09	-10.5E-09	-11.3E-09
54	-12.0E-09	-6.7E-09	-10.5E-09	-2.1E-09	-6.7E-09	-12.0E-09	-8.2E-09	-9.0E-09
55	-9.7E-09	-13.6E-09	-7.5E-09	-12.0E-09	-3.6E-09	-12.0E-09	-9.7E-09	-4.4E-09
56	-11.3E-09	-7.5E-09	-9.0E-09	-9.7E-09	-3.6E-09	-9.7E-09	-12.0E-09	-10.5E-09
57	-7.5E-09	-9.0E-09	-8.2E-09	-3.6E-09	-5.9E-09	-12.0E-09	-12.0E-09	-4.4E-09
58	-10.5E-09	-8.2E-09	-9.0E-09	-10.5E-09	-11.3E-09	-11.3E-09	-9.7E-09	-10.5E-09
59	-8.2E-09	-7.5E-09	-7.5E-09	-9.7E-09	-7.5E-09	-14.3E-09	-14.3E-09	-10.5E-09
60	-9.7E-09	-15.1E-09	-5.2E-09	-10.5E-09	-15.1E-09	-12.0E-09	-12.8E-09	-9.7E-09
Statistics								
Min	-12.0E-09	-15.1E-09	-14.3E-09	-12.0E-09	-15.1E-09	-15.8E-09	-14.3E-09	-13.6E-09
Max	-7.5E-09	-6.7E-09	-5.2E-09	-2.1E-09	-3.6E-09	-8.2E-09	-7.5E-09	-4.4E-09
Average	-9.5E-09	-9.1E-09	-9.1E-09	-8.9E-09	-7.6E-09	-11.7E-09	-10.4E-09	-9.6E-09
Std Deviation	1.4E-09	2.9E-09	2.6E-09	3.3E-09	3.4E-09	2.3E-09	2.3E-09	3.0E-09

Measurements

Iih<BANK[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-11.3E-09	-7.5E-09	-11.3E-09	-11.3E-09	-9.0E-09	-7.5E-09	-10.5E-09	-10.5E-09
67_OUT_REF	-9.7E-09	-11.3E-09	-11.3E-09	-13.6E-09	-15.1E-09	-14.3E-09	-12.8E-09	-4.4E-09
OFF samples								
61	-3.6E-09	-15.1E-09	-12.8E-09	-11.3E-09	-5.9E-09	-14.3E-09	-10.5E-09	-8.2E-09
62	-5.2E-09	-9.7E-09	-13.6E-09	-15.8E-09	-9.7E-09	-13.6E-09	-5.2E-09	-9.7E-09
63	-11.3E-09	-12.0E-09	-11.3E-09	-7.5E-09	-9.7E-09	-15.1E-09	-7.5E-09	-6.7E-09
64	-12.0E-09	-7.5E-09	-4.4E-09	-11.3E-09	-11.3E-09	-8.2E-09	-7.5E-09	-9.7E-09
65	-10.5E-09	-7.5E-09	-12.0E-09	-16.6E-09	-12.8E-09	-9.0E-09	-5.2E-09	-11.3E-09
Statistics								
Min	-12.0E-09	-15.1E-09	-13.6E-09	-16.6E-09	-12.8E-09	-15.1E-09	-10.5E-09	-11.3E-09
Max	-3.6E-09	-7.5E-09	-4.4E-09	-7.5E-09	-5.9E-09	-8.2E-09	-5.2E-09	-6.7E-09
Average	-8.5E-09	-10.4E-09	-10.8E-09	-12.5E-09	-9.9E-09	-12.0E-09	-7.2E-09	-9.1E-09
Std Deviation	3.8E-09	3.3E-09	3.7E-09	3.8E-09	2.6E-09	3.2E-09	2.2E-09	1.7E-09

Parameter : Input High Leakage Current : Iih<CK/>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<CK/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-33.0E-09	-33.0E-09	-30.5E-09	-28.1E-09	-36.6E-09	-34.2E-09	-37.8E-09	-34.2E-09
67_OUT_REF	-31.7E-09	-28.1E-09	-25.6E-09	-34.2E-09	-35.4E-09	-26.9E-09	-28.1E-09	-28.1E-09
ON samples								
51	-26.9E-09	-26.9E-09	-22.0E-09	-26.9E-09	-35.4E-09	-30.5E-09	-24.4E-09	-30.5E-09
52	-26.9E-09	-35.4E-09	-37.8E-09	-24.4E-09	-35.4E-09	-35.4E-09	-26.9E-09	-30.5E-09
53	-37.8E-09	-31.7E-09	-28.1E-09	-24.4E-09	-25.6E-09	-25.6E-09	-31.7E-09	-33.0E-09
54	-31.7E-09	-36.6E-09	-30.5E-09	-33.0E-09	-33.0E-09	-40.3E-09	-29.3E-09	-31.7E-09
55	-28.1E-09	-25.6E-09	-33.0E-09	-23.2E-09	-39.1E-09	-29.3E-09	-33.0E-09	-25.6E-09
56	-31.7E-09	-26.9E-09	-28.1E-09	-25.6E-09	-29.3E-09	-33.0E-09	-23.2E-09	-33.0E-09
57	-37.8E-09	-34.2E-09	-29.3E-09	-28.1E-09	-26.9E-09	-23.2E-09	-34.2E-09	-20.8E-09
58	-28.1E-09	-35.4E-09	-30.5E-09	-28.1E-09	-30.5E-09	-34.2E-09	-35.4E-09	-24.4E-09
59	-24.4E-09	-23.2E-09	-31.7E-09	-28.1E-09	-22.0E-09	-36.6E-09	-30.5E-09	-28.1E-09
60	-33.0E-09	-26.9E-09	-35.4E-09	-31.7E-09	-33.0E-09	-30.5E-09	-31.7E-09	-31.7E-09
Statistics								
Min	-37.8E-09	-36.6E-09	-37.8E-09	-33.0E-09	-39.1E-09	-40.3E-09	-35.4E-09	-33.0E-09
Max	-24.4E-09	-23.2E-09	-22.0E-09	-23.2E-09	-22.0E-09	-23.2E-09	-23.2E-09	-20.8E-09
Average	-30.6E-09	-30.3E-09	-30.6E-09	-27.3E-09	-31.0E-09	-31.9E-09	-30.0E-09	-28.9E-09
Std Deviation	4.6E-09	4.9E-09	4.4E-09	3.2E-09	5.2E-09	5.1E-09	4.1E-09	4.1E-09

Measurements

Iih<CK/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-33.0E-09	-33.0E-09	-30.5E-09	-28.1E-09	-36.6E-09	-34.2E-09	-37.8E-09	-34.2E-09
67_OUT_REF	-31.7E-09	-28.1E-09	-25.6E-09	-34.2E-09	-35.4E-09	-26.9E-09	-28.1E-09	-28.1E-09
OFF samples								
61	-35.4E-09	-31.7E-09	-20.8E-09	-34.2E-09	-29.3E-09	-26.9E-09	-22.0E-09	-33.0E-09
62	-29.3E-09	-31.7E-09	-25.6E-09	-34.2E-09	-35.4E-09	-35.4E-09	-31.7E-09	-25.6E-09
63	-26.9E-09	-30.5E-09	-30.5E-09	-28.1E-09	-36.6E-09	-30.5E-09	-37.8E-09	-29.3E-09
64	-31.7E-09	-30.5E-09	-31.7E-09	-34.2E-09	-25.6E-09	-33.0E-09	-22.0E-09	-29.3E-09
65	-23.2E-09	-33.0E-09	-34.2E-09	-35.4E-09	-37.8E-09	-31.7E-09	-33.0E-09	-34.2E-09
Statistics								
Min	-35.4E-09	-33.0E-09	-34.2E-09	-35.4E-09	-37.8E-09	-35.4E-09	-37.8E-09	-34.2E-09
Max	-23.2E-09	-30.5E-09	-20.8E-09	-28.1E-09	-25.6E-09	-26.9E-09	-22.0E-09	-25.6E-09
Average	-29.3E-09	-31.5E-09	-28.6E-09	-33.2E-09	-33.0E-09	-31.5E-09	-29.3E-09	-30.3E-09
Std Deviation	4.6E-09	1.0E-09	5.4E-09	2.9E-09	5.3E-09	3.2E-09	7.1E-09	3.4E-09

Parameter : Input High Leakage Current : Iih<CK>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<CK>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-33.0E-09	-30.5E-09	-37.8E-09	-34.2E-09	-33.0E-09	-26.9E-09	-30.5E-09	-31.7E-09
67_OUT_REF	-37.8E-09	-29.3E-09	-40.3E-09	-34.2E-09	-34.2E-09	-28.1E-09	-29.3E-09	-35.4E-09
ON samples								
51	-33.0E-09	-30.5E-09	-35.4E-09	-28.1E-09	-41.5E-09	-33.0E-09	-29.3E-09	-26.9E-09
52	-29.3E-09	-26.9E-09	-35.4E-09	-34.2E-09	-31.7E-09	-37.8E-09	-26.9E-09	-31.7E-09
53	-34.2E-09	-31.7E-09	-26.9E-09	-30.5E-09	-28.1E-09	-36.6E-09	-28.1E-09	-29.3E-09
54	-33.0E-09	-24.4E-09	-37.8E-09	-30.5E-09	-31.7E-09	-36.6E-09	-30.5E-09	-30.5E-09
55	-34.2E-09	-28.1E-09	-24.4E-09	-30.5E-09	-39.1E-09	-36.6E-09	-40.3E-09	-30.5E-09
56	-35.4E-09	-40.3E-09	-37.8E-09	-40.3E-09	-39.1E-09	-34.2E-09	-35.4E-09	-33.0E-09
57	-37.8E-09	-25.6E-09	-33.0E-09	-29.3E-09	-37.8E-09	-31.7E-09	-29.3E-09	-39.1E-09
58	-31.7E-09	-35.4E-09	-29.3E-09	-26.9E-09	-35.4E-09	-34.2E-09	-24.4E-09	-33.0E-09
59	-36.6E-09	-34.2E-09	-40.3E-09	-29.3E-09	-36.6E-09	-34.2E-09	-33.0E-09	-36.6E-09
60	-25.6E-09	-37.8E-09	-36.6E-09	-29.3E-09	-28.1E-09	-31.7E-09	-34.2E-09	-30.5E-09
Statistics								
Min	-37.8E-09	-40.3E-09	-40.3E-09	-40.3E-09	-41.5E-09	-37.8E-09	-40.3E-09	-39.1E-09
Max	-25.6E-09	-24.4E-09	-24.4E-09	-26.9E-09	-28.1E-09	-31.7E-09	-24.4E-09	-26.9E-09
Average	-33.1E-09	-31.5E-09	-33.7E-09	-30.9E-09	-34.9E-09	-34.7E-09	-31.1E-09	-32.1E-09
Std Deviation	3.6E-09	5.4E-09	5.2E-09	3.8E-09	4.8E-09	2.2E-09	4.6E-09	3.5E-09

Measurements

Iih<CK>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-33.0E-09	-30.5E-09	-37.8E-09	-34.2E-09	-33.0E-09	-26.9E-09	-30.5E-09	-31.7E-09
67_OUT_REF	-37.8E-09	-29.3E-09	-40.3E-09	-34.2E-09	-34.2E-09	-28.1E-09	-29.3E-09	-35.4E-09
OFF samples								
61	-26.9E-09	-34.2E-09	-31.7E-09	-33.0E-09	-34.2E-09	-33.0E-09	-30.5E-09	-37.8E-09
62	-31.7E-09	-23.2E-09	-41.5E-09	-40.3E-09	-31.7E-09	-30.5E-09	-28.1E-09	-31.7E-09
63	-37.8E-09	-33.0E-09	-31.7E-09	-37.8E-09	-31.7E-09	-30.5E-09	-25.6E-09	-35.4E-09
64	-26.9E-09	-29.3E-09	-34.2E-09	-33.0E-09	-35.4E-09	-31.7E-09	-26.9E-09	-30.5E-09
65	-25.6E-09	-30.5E-09	-41.5E-09	-33.0E-09	-39.1E-09	-36.6E-09	-30.5E-09	-29.3E-09
Statistics								
Min	-37.8E-09	-34.2E-09	-41.5E-09	-40.3E-09	-39.1E-09	-36.6E-09	-30.5E-09	-37.8E-09
Max	-25.6E-09	-23.2E-09	-31.7E-09	-33.0E-09	-31.7E-09	-30.5E-09	-25.6E-09	-29.3E-09
Average	-29.8E-09	-30.0E-09	-36.1E-09	-35.4E-09	-34.4E-09	-32.5E-09	-28.3E-09	-33.0E-09
Std Deviation	5.1E-09	4.3E-09	5.0E-09	3.5E-09	3.0E-09	2.5E-09	2.2E-09	3.6E-09

Parameter : Input High Leakage Current : Iih<CKE>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<CKE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-11.0E-09	-6.1E-09	-23.2E-09	-19.5E-09	-18.3E-09	-12.2E-09	-14.6E-09
67_OUT_REF	-18.3E-09	-13.4E-09	-18.3E-09	-17.1E-09	-19.5E-09	-13.4E-09	-22.0E-09	-19.5E-09
ON samples								
51	-8.5E-09	-20.8E-09	-6.1E-09	-9.8E-09	-8.5E-09	-8.5E-09	-24.4E-09	-12.2E-09
52	-17.1E-09	-15.9E-09	-8.5E-09	-8.5E-09	-12.2E-09	-6.1E-09	-17.1E-09	-7.3E-09
53	-17.1E-09	-14.6E-09	-9.8E-09	-7.3E-09	-14.6E-09	-20.8E-09	-8.5E-09	-13.4E-09
54	-11.0E-09	-11.0E-09	-19.5E-09	-14.6E-09	-13.4E-09	-11.0E-09	-24.4E-09	-12.2E-09
55	-14.6E-09	-18.3E-09	-19.5E-09	-9.8E-09	-9.8E-09	-13.4E-09	-13.4E-09	-13.4E-09
56	-11.0E-09	-3.7E-09	-11.0E-09	-15.9E-09	-13.4E-09	-9.8E-09	-6.1E-09	-14.6E-09
57	-15.9E-09	-6.1E-09	-7.3E-09	-14.6E-09	-8.5E-09	-8.5E-09	-7.3E-09	-23.2E-09
58	-12.2E-09	-14.6E-09	-14.6E-09	-15.9E-09	-8.5E-09	-14.6E-09	-17.1E-09	-12.2E-09
59	-11.0E-09	-20.8E-09	-14.6E-09	-15.9E-09	-6.1E-09	-4.9E-09	-14.6E-09	-9.8E-09
60	-13.4E-09	-15.9E-09	-12.2E-09	-9.8E-09	-8.5E-09	-13.4E-09	-9.8E-09	-15.9E-09
Statistics								
Min	-17.1E-09	-20.8E-09	-19.5E-09	-15.9E-09	-14.6E-09	-20.8E-09	-24.4E-09	-23.2E-09
Max	-8.5E-09	-3.7E-09	-6.1E-09	-7.3E-09	-6.1E-09	-4.9E-09	-6.1E-09	-7.3E-09
Average	-13.2E-09	-14.2E-09	-12.3E-09	-12.2E-09	-10.4E-09	-11.1E-09	-14.3E-09	-13.4E-09
Std Deviation	2.9E-09	5.7E-09	4.7E-09	3.5E-09	2.8E-09	4.7E-09	6.6E-09	4.2E-09

Measurements

Iih<CKE>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-11.0E-09	-6.1E-09	-23.2E-09	-19.5E-09	-18.3E-09	-12.2E-09	-14.6E-09
67_OUT_REF	-18.3E-09	-13.4E-09	-18.3E-09	-17.1E-09	-19.5E-09	-13.4E-09	-22.0E-09	-19.5E-09
OFF samples								
61	-8.5E-09	-7.3E-09	-12.2E-09	-12.2E-09	-12.2E-09	-9.8E-09	-22.0E-09	-19.5E-09
62	-13.4E-09	-18.3E-09	-12.2E-09	-11.0E-09	-8.5E-09	-13.4E-09	-18.3E-09	-17.1E-09
63	-18.3E-09	-18.3E-09	-13.4E-09	-12.2E-09	-8.5E-09	-7.3E-09	-4.9E-09	-12.2E-09
64	-7.3E-09	-12.2E-09	-8.5E-09	-6.1E-09	-7.3E-09	-2.4E-09	-7.3E-09	-18.3E-09
65	-7.3E-09	-11.0E-09	-15.9E-09	-11.0E-09	-9.8E-09	-4.9E-09	-17.1E-09	-15.9E-09
Statistics								
Min	-18.3E-09	-18.3E-09	-15.9E-09	-12.2E-09	-12.2E-09	-13.4E-09	-22.0E-09	-19.5E-09
Max	-7.3E-09	-7.3E-09	-8.5E-09	-6.1E-09	-7.3E-09	-2.4E-09	-4.9E-09	-12.2E-09
Average	-11.0E-09	-13.4E-09	-12.5E-09	-10.5E-09	-9.3E-09	-7.6E-09	-13.9E-09	-16.6E-09
Std Deviation	4.8E-09	4.8E-09	2.6E-09	2.5E-09	1.9E-09	4.3E-09	7.4E-09	2.8E-09

Parameter : Input High Leakage Current : Iih<DM>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DM>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-15.9E-09	-14.6E-09	-14.6E-09	-17.1E-09	-20.8E-09	-22.0E-09	-28.1E-09	-26.9E-09
67_OUT_REF	-18.3E-09	-24.4E-09	-20.8E-09	-15.9E-09	-15.9E-09	-18.3E-09	-19.5E-09	-22.0E-09
ON samples								
51	-11.0E-09	-14.6E-09	-17.1E-09	-13.4E-09	-20.8E-09	-18.3E-09	-20.8E-09	-19.5E-09
52	-17.1E-09	-24.4E-09	-26.9E-09	-18.3E-09	-15.9E-09	-15.9E-09	-19.5E-09	-22.0E-09
53	-15.9E-09	-12.2E-09	-17.1E-09	-14.6E-09	-13.4E-09	-18.3E-09	-19.5E-09	-22.0E-09
54	-19.5E-09	-20.8E-09	-18.3E-09	-14.6E-09	-15.9E-09	-15.9E-09	-9.8E-09	-22.0E-09
55	-18.3E-09	-19.5E-09	-24.4E-09	-14.6E-09	-19.5E-09	-15.9E-09	-15.9E-09	-11.0E-09
56	-13.4E-09	-14.6E-09	-20.8E-09	-23.2E-09	-22.0E-09	-23.2E-09	-26.9E-09	-17.1E-09
57	-15.9E-09	-15.9E-09	-9.8E-09	-18.3E-09	-11.0E-09	-8.5E-09	-7.3E-09	-19.5E-09
58	-17.1E-09	-17.1E-09	-18.3E-09	-18.3E-09	-20.8E-09	-13.4E-09	-17.1E-09	-13.4E-09
59	-15.9E-09	-15.9E-09	-20.8E-09	-22.0E-09	-17.1E-09	-18.3E-09	-17.1E-09	-28.1E-09
60	-17.1E-09	-15.9E-09	-11.0E-09	-12.2E-09	-20.8E-09	-9.8E-09	-19.5E-09	-17.1E-09
Statistics								
Min	-19.5E-09	-24.4E-09	-26.9E-09	-23.2E-09	-22.0E-09	-23.2E-09	-26.9E-09	-28.1E-09
Max	-11.0E-09	-12.2E-09	-9.8E-09	-12.2E-09	-11.0E-09	-8.5E-09	-7.3E-09	-11.0E-09
Average	-16.1E-09	-17.1E-09	-18.4E-09	-17.0E-09	-17.7E-09	-15.7E-09	-17.3E-09	-19.2E-09
Std Deviation	2.4E-09	3.5E-09	5.3E-09	3.7E-09	3.7E-09	4.3E-09	5.5E-09	4.9E-09

Measurements

Iih<DM>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-15.9E-09	-14.6E-09	-14.6E-09	-17.1E-09	-20.8E-09	-22.0E-09	-28.1E-09	-26.9E-09
67_OUT_REF	-18.3E-09	-24.4E-09	-20.8E-09	-15.9E-09	-15.9E-09	-18.3E-09	-19.5E-09	-22.0E-09
OFF samples								
61	-11.0E-09	-20.8E-09	-20.8E-09	-20.8E-09	-17.1E-09	-13.4E-09	-26.9E-09	-23.2E-09
62	-25.6E-09	-22.0E-09	-17.1E-09	-20.8E-09	-29.3E-09	-22.0E-09	-15.9E-09	-17.1E-09
63	-13.4E-09	-9.8E-09	-20.8E-09	-24.4E-09	-23.2E-09	-18.3E-09	-19.5E-09	-12.2E-09
64	-12.2E-09	-11.0E-09	-19.5E-09	-15.9E-09	-18.3E-09	-12.2E-09	-13.4E-09	-18.3E-09
65	-19.5E-09	-14.6E-09	-19.5E-09	-18.3E-09	-22.0E-09	-18.3E-09	-12.2E-09	-17.1E-09
Statistics								
Min	-25.6E-09	-22.0E-09	-20.8E-09	-24.4E-09	-29.3E-09	-22.0E-09	-26.9E-09	-23.2E-09
Max	-11.0E-09	-9.8E-09	-17.1E-09	-15.9E-09	-17.1E-09	-12.2E-09	-12.2E-09	-12.2E-09
Average	-16.4E-09	-15.6E-09	-19.5E-09	-20.0E-09	-22.0E-09	-16.8E-09	-17.6E-09	-17.6E-09
Std Deviation	6.1E-09	5.6E-09	1.5E-09	3.2E-09	4.8E-09	4.0E-09	5.9E-09	3.9E-09

Parameter : Input High Leakage Current : Iih<DQ[0]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-23.2E-09	-24.4E-09	-17.1E-09	-20.8E-09	-19.5E-09	-25.6E-09	-23.2E-09
67_OUT_REF	-24.4E-09	-24.4E-09	-17.1E-09	-18.3E-09	-17.1E-09	-25.6E-09	-19.5E-09	-24.4E-09
ON samples								
51	-20.8E-09	-20.8E-09	-23.2E-09	-18.3E-09	-12.2E-09	-17.1E-09	-17.1E-09	-19.5E-09
52	-22.0E-09	-19.5E-09	-20.8E-09	-17.1E-09	-19.5E-09	-17.1E-09	-20.8E-09	-24.4E-09
53	-22.0E-09	-12.2E-09	-14.6E-09	-18.3E-09	-12.2E-09	-17.1E-09	-15.9E-09	-22.0E-09
54	-22.0E-09	-19.5E-09	-14.6E-09	-24.4E-09	-17.1E-09	-17.1E-09	-17.1E-09	-17.1E-09
55	-20.8E-09	-17.1E-09	-20.8E-09	-17.1E-09	-11.0E-09	-15.9E-09	-20.8E-09	-23.2E-09
56	-19.5E-09	-18.3E-09	-22.0E-09	-18.3E-09	-11.0E-09	-17.1E-09	-20.8E-09	-15.9E-09
57	-22.0E-09	-15.9E-09	-14.6E-09	-17.1E-09	-15.9E-09	-7.3E-09	-11.0E-09	-19.5E-09
58	-20.8E-09	-19.5E-09	-14.6E-09	-20.8E-09	-8.5E-09	-11.0E-09	-13.4E-09	-14.6E-09
59	-23.2E-09	-19.5E-09	-15.9E-09	-20.8E-09	-15.9E-09	-22.0E-09	-18.3E-09	-23.2E-09
60	-14.6E-09	-18.3E-09	-13.4E-09	-14.6E-09	-8.5E-09	-22.0E-09	-18.3E-09	-19.5E-09
Statistics								
Min	-23.2E-09	-20.8E-09	-23.2E-09	-24.4E-09	-19.5E-09	-22.0E-09	-20.8E-09	-24.4E-09
Max	-14.6E-09	-12.2E-09	-13.4E-09	-14.6E-09	-8.5E-09	-7.3E-09	-11.0E-09	-14.6E-09
Average	-20.8E-09	-18.1E-09	-17.5E-09	-18.7E-09	-13.2E-09	-16.4E-09	-17.3E-09	-19.9E-09
Std Deviation	2.4E-09	2.5E-09	3.7E-09	2.7E-09	3.7E-09	4.4E-09	3.2E-09	3.3E-09

Measurements

Iih<DQ[0]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-23.2E-09	-24.4E-09	-17.1E-09	-20.8E-09	-19.5E-09	-25.6E-09	-23.2E-09
67_OUT_REF	-24.4E-09	-24.4E-09	-17.1E-09	-18.3E-09	-17.1E-09	-25.6E-09	-19.5E-09	-24.4E-09
OFF samples								
61	-19.5E-09	-22.0E-09	-19.5E-09	-19.5E-09	-17.1E-09	-15.9E-09	-14.6E-09	-17.1E-09
62	-25.6E-09	-20.8E-09	-17.1E-09	-20.8E-09	-18.3E-09	-18.3E-09	-22.0E-09	-25.6E-09
63	-19.5E-09	-20.8E-09	-14.6E-09	-23.2E-09	-18.3E-09	-17.1E-09	-17.1E-09	-15.9E-09
64	-25.6E-09	-23.2E-09	-17.1E-09	-23.2E-09	-15.9E-09	-17.1E-09	-20.8E-09	-15.9E-09
65	-20.8E-09	-23.2E-09	-20.8E-09	-20.8E-09	-19.5E-09	-17.1E-09	-19.5E-09	-19.5E-09
Statistics								
Min	-25.6E-09	-23.2E-09	-20.8E-09	-23.2E-09	-19.5E-09	-18.3E-09	-22.0E-09	-25.6E-09
Max	-19.5E-09	-20.8E-09	-14.6E-09	-19.5E-09	-15.9E-09	-15.9E-09	-14.6E-09	-15.9E-09
Average	-22.2E-09	-22.0E-09	-17.8E-09	-21.5E-09	-17.8E-09	-17.1E-09	-18.8E-09	-18.8E-09
Std Deviation	3.2E-09	1.2E-09	2.4E-09	1.6E-09	1.4E-09	863.4E-12	2.9E-09	4.1E-09

Parameter : Input High Leakage Current : Iih<DQ[1]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-2.4E-09	0.0E+00	2.4E-09	-2.4E-09	-2.4E-09	-6.1E-09	-2.4E-09
67_OUT_REF	-4.9E-09	0.0E+00	0.0E+00	2.4E-09	0.0E+00	0.0E+00	3.7E-09	-6.1E-09
ON samples								
51	0.0E+00	-6.1E-09	3.7E-09	4.9E-09	0.0E+00	8.5E-09	-4.9E-09	-3.7E-09
52	-4.9E-09	-7.3E-09	2.4E-09	4.9E-09	-3.7E-09	1.2E-09	-6.1E-09	-4.9E-09
53	-2.4E-09	0.0E+00	-1.2E-09	1.2E-09	0.0E+00	4.9E-09	1.2E-09	4.9E-09
54	-4.9E-09	2.4E-09	3.7E-09	-1.2E-09	3.7E-09	1.2E-09	-2.4E-09	4.9E-09
55	0.0E+00	4.9E-09	0.0E+00	-1.2E-09	2.4E-09	6.1E-09	-6.1E-09	-1.2E-09
56	0.0E+00	-3.7E-09	0.0E+00	-2.4E-09	2.4E-09	1.2E-09	3.7E-09	-1.2E-09
57	0.0E+00	3.7E-09	6.1E-09	4.9E-09	7.3E-09	4.9E-09	6.1E-09	-1.2E-09
58	2.4E-09	4.9E-09	6.1E-09	0.0E+00	9.8E-09	3.7E-09	3.7E-09	3.7E-09
59	-1.2E-09	-1.2E-09	4.9E-09	-2.4E-09	2.4E-09	-1.2E-09	-4.9E-09	2.4E-09
60	1.2E-09	1.2E-09	7.3E-09	-2.4E-09	1.2E-09	7.3E-09	0.0E+00	-1.2E-09
Statistics								
Min	-4.9E-09	-7.3E-09	-1.2E-09	-2.4E-09	-3.7E-09	-1.2E-09	-6.1E-09	-4.9E-09
Max	2.4E-09	4.9E-09	7.3E-09	4.9E-09	9.8E-09	8.5E-09	6.1E-09	4.9E-09
Average	-976.6E-12	-122.1E-12	3.3E-09	610.4E-12	2.6E-09	3.8E-09	-976.6E-12	244.1E-12
Std Deviation	2.4E-09	4.4E-09	2.9E-09	3.2E-09	3.8E-09	3.1E-09	4.5E-09	3.5E-09

Measurements

Iih<DQ[1]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-4.9E-09	-2.4E-09	0.0E+00	2.4E-09	-2.4E-09	-2.4E-09	-6.1E-09	-2.4E-09
67_OUT_REF	-4.9E-09	0.0E+00	0.0E+00	2.4E-09	0.0E+00	0.0E+00	3.7E-09	-6.1E-09
OFF samples								
61	2.4E-09	-7.3E-09	-4.9E-09	-2.4E-09	4.9E-09	0.0E+00	-2.4E-09	3.7E-09
62	-1.2E-09	3.7E-09	-9.8E-09	2.4E-09	2.4E-09	3.7E-09	1.2E-09	-7.3E-09
63	2.4E-09	-4.9E-09	3.7E-09	-4.9E-09	0.0E+00	-1.2E-09	-2.4E-09	3.7E-09
64	0.0E+00	-3.7E-09	4.9E-09	-4.9E-09	0.0E+00	6.1E-09	2.4E-09	-1.2E-09
65	0.0E+00	-2.4E-09	-3.7E-09	-2.4E-09	2.4E-09	7.3E-09	1.2E-09	-4.9E-09
Statistics								
Min	-1.2E-09	-7.3E-09	-9.8E-09	-4.9E-09	0.0E+00	-1.2E-09	-2.4E-09	-7.3E-09
Max	2.4E-09	3.7E-09	4.9E-09	2.4E-09	4.9E-09	7.3E-09	2.4E-09	3.7E-09
Average	732.4E-12	-2.9E-09	-2.0E-09	-2.4E-09	2.0E-09	3.2E-09	41.4E-27	-1.2E-09
Std Deviation	1.6E-09	4.1E-09	6.1E-09	3.0E-09	2.0E-09	3.7E-09	2.3E-09	5.0E-09

Parameter : Input High Leakage Current : Iih<DQ[2]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-12.2E-09	-9.8E-09	-9.8E-09	-9.8E-09	-8.5E-09	-15.9E-09	-12.2E-09
67_OUT_REF	-8.5E-09	-8.5E-09	-13.4E-09	-17.1E-09	-7.3E-09	-11.0E-09	-12.2E-09	-8.5E-09
ON samples								
51	-11.0E-09	-8.5E-09	-7.3E-09	-12.2E-09	-6.1E-09	-4.9E-09	-12.2E-09	-11.0E-09
52	-17.1E-09	-13.4E-09	-14.6E-09	-9.8E-09	-7.3E-09	-6.1E-09	-9.8E-09	-14.6E-09
53	-13.4E-09	-11.0E-09	-12.2E-09	-12.2E-09	-2.4E-09	-1.2E-09	-12.2E-09	-9.8E-09
54	-12.2E-09	-11.0E-09	-13.4E-09	-6.1E-09	-7.3E-09	-8.5E-09	-8.5E-09	-7.3E-09
55	-8.5E-09	-11.0E-09	-4.9E-09	-9.8E-09	-1.2E-09	-3.7E-09	-7.3E-09	-14.6E-09
56	-11.0E-09	-12.2E-09	-6.1E-09	-8.5E-09	-3.7E-09	-6.1E-09	-13.4E-09	-14.6E-09
57	-7.3E-09	-12.2E-09	-3.7E-09	-8.5E-09	-3.7E-09	-7.3E-09	-7.3E-09	-7.3E-09
58	-8.5E-09	-13.4E-09	-1.2E-09	-3.7E-09	-4.9E-09	-6.1E-09	-6.1E-09	-8.5E-09
59	-7.3E-09	-8.5E-09	-8.5E-09	-8.5E-09	-3.7E-09	-7.3E-09	-13.4E-09	-13.4E-09
60	-7.3E-09	-8.5E-09	-7.3E-09	-3.7E-09	-2.4E-09	-1.2E-09	-9.8E-09	-11.0E-09
Statistics								
Min	-17.1E-09	-13.4E-09	-14.6E-09	-12.2E-09	-7.3E-09	-8.5E-09	-13.4E-09	-14.6E-09
Max	-7.3E-09	-8.5E-09	-1.2E-09	-3.7E-09	-1.2E-09	-1.2E-09	-6.1E-09	-7.3E-09
Average	-10.4E-09	-11.0E-09	-7.9E-09	-8.3E-09	-4.3E-09	-5.2E-09	-10.0E-09	-11.2E-09
Std Deviation	3.2E-09	1.9E-09	4.4E-09	3.0E-09	2.1E-09	2.5E-09	2.7E-09	3.0E-09

Measurements

Iih<DQ[2]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-14.6E-09	-12.2E-09	-9.8E-09	-9.8E-09	-9.8E-09	-8.5E-09	-15.9E-09	-12.2E-09
67_OUT_REF	-8.5E-09	-8.5E-09	-13.4E-09	-17.1E-09	-7.3E-09	-11.0E-09	-12.2E-09	-8.5E-09
OFF samples								
61	-7.3E-09	-12.2E-09	-11.0E-09	-9.8E-09	-1.2E-09	-2.4E-09	-11.0E-09	-14.6E-09
62	-11.0E-09	-12.2E-09	-7.3E-09	-11.0E-09	-7.3E-09	-6.1E-09	-11.0E-09	-13.4E-09
63	-9.8E-09	-4.9E-09	-6.1E-09	-8.5E-09	-11.0E-09	-6.1E-09	-12.2E-09	-12.2E-09
64	-11.0E-09	-9.8E-09	-8.5E-09	-7.3E-09	-7.3E-09	-4.9E-09	-8.5E-09	-12.2E-09
65	-12.2E-09	-12.2E-09	-8.5E-09	-7.3E-09	-6.1E-09	-4.9E-09	-8.5E-09	-11.0E-09
Statistics								
Min	-12.2E-09	-12.2E-09	-11.0E-09	-11.0E-09	-11.0E-09	-6.1E-09	-12.2E-09	-14.6E-09
Max	-7.3E-09	-4.9E-09	-6.1E-09	-7.3E-09	-1.2E-09	-2.4E-09	-8.5E-09	-11.0E-09
Average	-10.3E-09	-10.3E-09	-8.3E-09	-8.8E-09	-6.6E-09	-4.9E-09	-10.3E-09	-12.7E-09
Std Deviation	1.9E-09	3.2E-09	1.8E-09	1.6E-09	3.5E-09	1.5E-09	1.6E-09	1.4E-09

Parameter : Input High Leakage Current : Iih<DQ[3]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

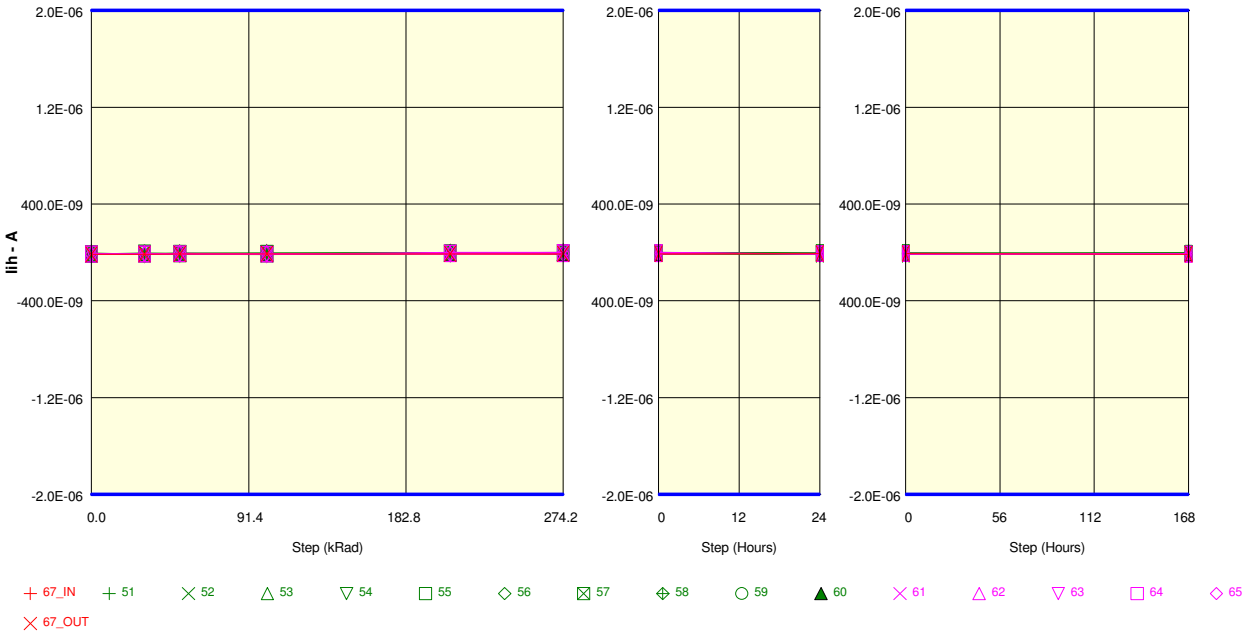
Measurements

Iih<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-20.8E-09	-13.4E-09	-14.6E-09	-17.1E-09	-18.3E-09	-17.1E-09	-17.1E-09	-17.1E-09
67_OUT_REF	-17.1E-09	-15.9E-09	-15.9E-09	-18.3E-09	-11.0E-09	-17.1E-09	-12.2E-09	-20.8E-09
ON samples								
51	-13.4E-09	-14.6E-09	-14.6E-09	-18.3E-09	-13.4E-09	-15.9E-09	-8.5E-09	-11.0E-09
52	-13.4E-09	-13.4E-09	-19.5E-09	-14.6E-09	-17.1E-09	-15.9E-09	-11.0E-09	-11.0E-09
53	-20.8E-09	-15.9E-09	-17.1E-09	-12.2E-09	-11.0E-09	-11.0E-09	-11.0E-09	-11.0E-09
54	-15.9E-09	-14.6E-09	-13.4E-09	-14.6E-09	-11.0E-09	-12.2E-09	-17.1E-09	-13.4E-09
55	-17.1E-09	-15.9E-09	-15.9E-09	-14.6E-09	-14.6E-09	-11.0E-09	-9.8E-09	-13.4E-09
56	-9.8E-09	-9.8E-09	-19.5E-09	-17.1E-09	-12.2E-09	-12.2E-09	-11.0E-09	-8.5E-09
57	-7.3E-09	-12.2E-09	-6.1E-09	-14.6E-09	-6.1E-09	-4.9E-09	-4.9E-09	-6.1E-09
58	-15.9E-09	-14.6E-09	-12.2E-09	-12.2E-09	-11.0E-09	-14.6E-09	-15.9E-09	-18.3E-09
59	-13.4E-09	-15.9E-09	-11.0E-09	-15.9E-09	-13.4E-09	-15.9E-09	-14.6E-09	-7.3E-09
60	-11.0E-09	-8.5E-09	-8.5E-09	-9.8E-09	-11.0E-09	-11.0E-09	-11.0E-09	-9.8E-09
Statistics								
Min	-20.8E-09	-15.9E-09	-19.5E-09	-18.3E-09	-17.1E-09	-15.9E-09	-17.1E-09	-18.3E-09
Max	-7.3E-09	-8.5E-09	-6.1E-09	-9.8E-09	-6.1E-09	-4.9E-09	-4.9E-09	-6.1E-09
Average	-13.8E-09	-13.5E-09	-13.8E-09	-14.4E-09	-12.1E-09	-12.5E-09	-11.5E-09	-11.0E-09
Std Deviation	3.9E-09	2.6E-09	4.5E-09	2.5E-09	2.9E-09	3.4E-09	3.6E-09	3.5E-09

Measurements

Iih<DQ[3]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-20.8E-09	-13.4E-09	-14.6E-09	-17.1E-09	-18.3E-09	-17.1E-09	-17.1E-09	-17.1E-09
67_OUT_REF	-17.1E-09	-15.9E-09	-15.9E-09	-18.3E-09	-11.0E-09	-17.1E-09	-12.2E-09	-20.8E-09
OFF samples								
61	-18.3E-09	-14.6E-09	-17.1E-09	-17.1E-09	-19.5E-09	-12.2E-09	-15.9E-09	-17.1E-09
62	-15.9E-09	-14.6E-09	-18.3E-09	-13.4E-09	-9.8E-09	-17.1E-09	-11.0E-09	-15.9E-09
63	-8.5E-09	-20.8E-09	-11.0E-09	-15.9E-09	-17.1E-09	-11.0E-09	-14.6E-09	-17.1E-09
64	-17.1E-09	-14.6E-09	-22.0E-09	-17.1E-09	-13.4E-09	-12.2E-09	-14.6E-09	-15.9E-09
65	-13.4E-09	-13.4E-09	-18.3E-09	-8.5E-09	-12.2E-09	-13.4E-09	-12.2E-09	-18.3E-09
Statistics								
Min	-18.3E-09	-20.8E-09	-22.0E-09	-17.1E-09	-19.5E-09	-17.1E-09	-15.9E-09	-18.3E-09
Max	-8.5E-09	-13.4E-09	-11.0E-09	-8.5E-09	-9.8E-09	-11.0E-09	-11.0E-09	-15.9E-09
Average	-14.6E-09	-15.6E-09	-17.3E-09	-14.4E-09	-14.4E-09	-13.2E-09	-13.7E-09	-16.8E-09
Std Deviation	3.9E-09	2.9E-09	4.0E-09	3.6E-09	3.9E-09	2.3E-09	2.0E-09	1.0E-09

Parameter : Input High Leakage Current : Iih<DQ[4]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.8E-09	-12.2E-09	-13.4E-09	-17.1E-09	-11.0E-09	-13.4E-09	-12.2E-09	-11.0E-09
67_OUT_REF	-17.1E-09	-13.4E-09	-12.2E-09	-12.2E-09	-12.2E-09	-11.0E-09	-8.5E-09	-13.4E-09
ON samples								
51	-15.9E-09	-9.8E-09	-17.1E-09	-12.2E-09	-8.5E-09	-1.2E-09	-13.4E-09	-12.2E-09
52	-12.2E-09	-15.9E-09	-14.6E-09	-19.5E-09	-6.1E-09	-7.3E-09	-15.9E-09	-11.0E-09
53	-13.4E-09	-12.2E-09	-11.0E-09	-13.4E-09	-3.7E-09	-1.2E-09	-8.5E-09	-7.3E-09
54	-9.8E-09	-9.8E-09	-8.5E-09	-12.2E-09	-6.1E-09	-4.9E-09	-9.8E-09	-14.6E-09
55	-13.4E-09	-14.6E-09	-11.0E-09	-9.8E-09	-4.9E-09	-9.8E-09	-8.5E-09	-7.3E-09
56	-9.8E-09	-18.3E-09	-9.8E-09	-11.0E-09	-2.4E-09	-1.2E-09	-9.8E-09	-13.4E-09
57	-11.0E-09	-4.9E-09	-7.3E-09	-6.1E-09	-3.7E-09	-1.2E-09	-2.4E-09	-9.8E-09
58	-4.9E-09	-14.6E-09	-4.9E-09	-6.1E-09	-2.4E-09	-8.5E-09	-8.5E-09	-4.9E-09
59	-15.9E-09	-7.3E-09	-13.4E-09	-13.4E-09	-7.3E-09	-9.8E-09	-12.2E-09	-11.0E-09
60	-11.0E-09	-9.8E-09	-8.5E-09	-4.9E-09	-4.9E-09	1.2E-09	-7.3E-09	-2.4E-09
Statistics								
Min	-15.9E-09	-18.3E-09	-17.1E-09	-19.5E-09	-8.5E-09	-9.8E-09	-15.9E-09	-14.6E-09
Max	-4.9E-09	-4.9E-09	-4.9E-09	-4.9E-09	-2.4E-09	1.2E-09	-2.4E-09	-2.4E-09
Average	-11.7E-09	-11.7E-09	-10.6E-09	-10.9E-09	-5.0E-09	-4.4E-09	-9.6E-09	-9.4E-09
Std Deviation	3.3E-09	4.2E-09	3.6E-09	4.4E-09	2.0E-09	4.2E-09	3.7E-09	3.9E-09

Measurements

Iih<DQ[4]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-9.8E-09	-12.2E-09	-13.4E-09	-17.1E-09	-11.0E-09	-13.4E-09	-12.2E-09	-11.0E-09
67_OUT_REF	-17.1E-09	-13.4E-09	-12.2E-09	-12.2E-09	-12.2E-09	-11.0E-09	-8.5E-09	-13.4E-09
OFF samples								
61	-8.5E-09	-15.9E-09	-6.1E-09	-17.1E-09	0.0E+00	0.0E+00	-11.0E-09	-17.1E-09
62	-13.4E-09	-11.0E-09	-9.8E-09	-9.8E-09	-12.2E-09	-11.0E-09	-7.3E-09	-12.2E-09
63	-12.2E-09	-11.0E-09	-14.6E-09	-17.1E-09	-7.3E-09	-2.4E-09	-15.9E-09	-12.2E-09
64	-14.6E-09	-14.6E-09	-11.0E-09	-14.6E-09	-7.3E-09	-7.3E-09	-9.8E-09	-15.9E-09
65	-13.4E-09	-12.2E-09	-7.3E-09	-9.8E-09	-12.2E-09	-7.3E-09	-9.8E-09	-8.5E-09
Statistics								
Min	-14.6E-09	-15.9E-09	-14.6E-09	-17.1E-09	-12.2E-09	-11.0E-09	-15.9E-09	-17.1E-09
Max	-8.5E-09	-11.0E-09	-6.1E-09	-9.8E-09	0.0E+00	0.0E+00	-7.3E-09	-8.5E-09
Average	-12.5E-09	-12.9E-09	-9.8E-09	-13.7E-09	-7.8E-09	-5.6E-09	-10.7E-09	-13.2E-09
Std Deviation	2.3E-09	2.2E-09	3.3E-09	3.7E-09	5.0E-09	4.4E-09	3.2E-09	3.4E-09

Parameter : Input High Leakage Current : Iih<DQ[5]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

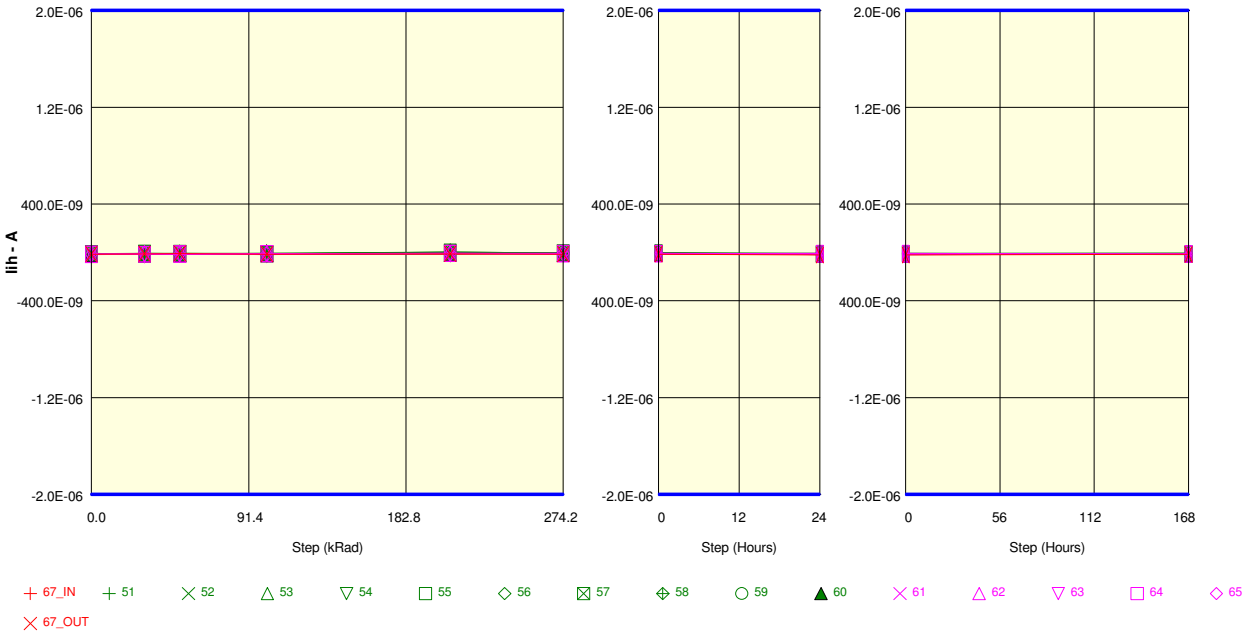
Measurements

Iih<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-2.4E-09	-12.2E-09	-8.5E-09	-11.0E-09	-8.5E-09	-8.5E-09	-12.2E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-7.3E-09	-8.5E-09	-2.4E-09	-7.3E-09	-11.0E-09	-3.7E-09
ON samples								
51	-2.4E-09	-1.2E-09	-8.5E-09	-7.3E-09	-2.4E-09	3.7E-09	-7.3E-09	-11.0E-09
52	-2.4E-09	-2.4E-09	-3.7E-09	-3.7E-09	-4.9E-09	-3.7E-09	-3.7E-09	-9.8E-09
53	-2.4E-09	-2.4E-09	-3.7E-09	-3.7E-09	-4.9E-09	-2.4E-09	-7.3E-09	-6.1E-09
54	-6.1E-09	-8.5E-09	-4.9E-09	-4.9E-09	-6.1E-09	-4.9E-09	0.0E+00	-1.2E-09
55	-2.4E-09	-8.5E-09	-2.4E-09	-1.2E-09	0.0E+00	-2.4E-09	-12.2E-09	-4.9E-09
56	-4.9E-09	-9.8E-09	-9.8E-09	-3.7E-09	-1.2E-09	4.9E-09	-8.5E-09	-4.9E-09
57	2.4E-09	-2.4E-09	4.9E-09	-1.2E-09	4.9E-09	3.7E-09	0.0E+00	-6.1E-09
58	-9.8E-09	-1.2E-09	-7.3E-09	-1.2E-09	2.4E-09	-1.2E-09	-1.2E-09	-8.5E-09
59	-11.0E-09	-11.0E-09	-2.4E-09	-3.7E-09	-3.7E-09	-1.2E-09	-12.2E-09	-6.1E-09
60	-7.3E-09	-7.3E-09	0.0E+00	-8.5E-09	2.4E-09	1.2E-09	-11.0E-09	-3.7E-09
Statistics								
Min	-11.0E-09	-11.0E-09	-9.8E-09	-8.5E-09	-6.1E-09	-4.9E-09	-12.2E-09	-11.0E-09
Max	2.4E-09	-1.2E-09	4.9E-09	-1.2E-09	4.9E-09	4.9E-09	0.0E+00	-1.2E-09
Average	-4.6E-09	-5.5E-09	-3.8E-09	-3.9E-09	-1.3E-09	-244.1E-12	-6.3E-09	-6.2E-09
Std Deviation	4.0E-09	3.9E-09	4.3E-09	2.5E-09	3.7E-09	3.4E-09	4.8E-09	2.9E-09

Measurements

Iih<DQ[5]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-2.4E-09	-12.2E-09	-8.5E-09	-11.0E-09	-8.5E-09	-8.5E-09	-12.2E-09
67_OUT_REF	-6.1E-09	-8.5E-09	-7.3E-09	-8.5E-09	-2.4E-09	-7.3E-09	-11.0E-09	-3.7E-09
OFF samples								
61	-8.5E-09	-4.9E-09	-8.5E-09	-4.9E-09	-3.7E-09	-7.3E-09	-9.8E-09	-6.1E-09
62	-7.3E-09	-12.2E-09	-9.8E-09	-6.1E-09	-3.7E-09	-2.4E-09	-2.4E-09	-13.4E-09
63	0.0E+00	-7.3E-09	-6.1E-09	-2.4E-09	1.2E-09	0.0E+00	-12.2E-09	-6.1E-09
64	-7.3E-09	-12.2E-09	-9.8E-09	-2.4E-09	1.2E-09	-6.1E-09	-6.1E-09	-12.2E-09
65	-2.4E-09	-2.4E-09	0.0E+00	-6.1E-09	-2.4E-09	2.4E-09	-3.7E-09	-6.1E-09
Statistics								
Min	-8.5E-09	-12.2E-09	-9.8E-09	-6.1E-09	-3.7E-09	-7.3E-09	-12.2E-09	-13.4E-09
Max	0.0E+00	-2.4E-09	0.0E+00	-2.4E-09	1.2E-09	2.4E-09	-2.4E-09	-6.1E-09
Average	-5.1E-09	-7.8E-09	-6.8E-09	-4.4E-09	-1.5E-09	-2.7E-09	-6.8E-09	-8.8E-09
Std Deviation	3.7E-09	4.4E-09	4.1E-09	1.9E-09	2.5E-09	4.1E-09	4.1E-09	3.7E-09

Parameter : Input High Leakage Current : Iih<DQ[6]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



Measurements

Iih<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-9.8E-09	-12.2E-09	-14.6E-09	-13.4E-09	-6.1E-09	-15.9E-09	-15.9E-09
67_OUT_REF	-14.6E-09	-12.2E-09	-9.8E-09	-13.4E-09	-12.2E-09	-14.6E-09	-20.8E-09	-15.9E-09
ON samples								
51	-7.3E-09	-15.9E-09	-11.0E-09	-18.3E-09	-7.3E-09	-7.3E-09	-15.9E-09	-9.8E-09
52	-12.2E-09	-12.2E-09	-15.9E-09	-15.9E-09	-9.8E-09	-8.5E-09	-19.5E-09	-14.6E-09
53	-11.0E-09	-14.6E-09	-11.0E-09	-9.8E-09	-4.9E-09	-6.1E-09	-6.1E-09	-4.9E-09
54	-8.5E-09	-13.4E-09	-11.0E-09	-14.6E-09	-3.7E-09	-4.9E-09	-17.1E-09	-9.8E-09
55	-9.8E-09	-6.1E-09	-8.5E-09	-13.4E-09	-6.1E-09	-9.8E-09	-15.9E-09	-14.6E-09
56	-8.5E-09	-14.6E-09	-12.2E-09	-8.5E-09	-1.2E-09	-4.9E-09	-7.3E-09	-13.4E-09
57	-13.4E-09	-7.3E-09	-7.3E-09	-12.2E-09	3.7E-09	-3.7E-09	-8.5E-09	-14.6E-09
58	-12.2E-09	-12.2E-09	-6.1E-09	-6.1E-09	2.4E-09	-3.7E-09	-11.0E-09	-12.2E-09
59	-13.4E-09	-12.2E-09	-9.8E-09	-13.4E-09	-4.9E-09	-9.8E-09	-12.2E-09	-19.5E-09
60	-12.2E-09	-13.4E-09	-11.0E-09	-6.1E-09	-3.7E-09	-6.1E-09	-14.6E-09	-12.2E-09
Statistics								
Min	-13.4E-09	-15.9E-09	-15.9E-09	-18.3E-09	-9.8E-09	-9.8E-09	-19.5E-09	-19.5E-09
Max	-7.3E-09	-6.1E-09	-6.1E-09	-6.1E-09	3.7E-09	-3.7E-09	-6.1E-09	-4.9E-09
Average	-10.9E-09	-12.2E-09	-10.4E-09	-11.8E-09	-3.5E-09	-6.5E-09	-12.8E-09	-12.6E-09
Std Deviation	2.2E-09	3.2E-09	2.7E-09	4.1E-09	4.2E-09	2.3E-09	4.5E-09	3.9E-09

Measurements

Iih<DQ[6]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-17.1E-09	-9.8E-09	-12.2E-09	-14.6E-09	-13.4E-09	-6.1E-09	-15.9E-09	-15.9E-09
67_OUT_REF	-14.6E-09	-12.2E-09	-9.8E-09	-13.4E-09	-12.2E-09	-14.6E-09	-20.8E-09	-15.9E-09
OFF samples								
61	-15.9E-09	-12.2E-09	-14.6E-09	-13.4E-09	-7.3E-09	-12.2E-09	-19.5E-09	-13.4E-09
62	-18.3E-09	-14.6E-09	-17.1E-09	-14.6E-09	-8.5E-09	-13.4E-09	-15.9E-09	-17.1E-09
63	-12.2E-09	-15.9E-09	-9.8E-09	-9.8E-09	-6.1E-09	-7.3E-09	-18.3E-09	-8.5E-09
64	-17.1E-09	-13.4E-09	-13.4E-09	-8.5E-09	-6.1E-09	-8.5E-09	-7.3E-09	-14.6E-09
65	-13.4E-09	-9.8E-09	-12.2E-09	-12.2E-09	-9.8E-09	-7.3E-09	-8.5E-09	-15.9E-09
Statistics								
Min	-18.3E-09	-15.9E-09	-17.1E-09	-14.6E-09	-9.8E-09	-13.4E-09	-19.5E-09	-17.1E-09
Max	-12.2E-09	-9.8E-09	-9.8E-09	-8.5E-09	-6.1E-09	-7.3E-09	-7.3E-09	-8.5E-09
Average	-15.4E-09	-13.2E-09	-13.4E-09	-11.7E-09	-7.6E-09	-9.8E-09	-13.9E-09	-13.9E-09
Std Deviation	2.5E-09	2.3E-09	2.7E-09	2.5E-09	1.6E-09	2.9E-09	5.6E-09	3.3E-09

Parameter : Input High Leakage Current : Iih<DQ[7]>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-4.9E-09	-9.8E-09	-9.8E-09	-8.5E-09	-4.9E-09	-9.8E-09	-6.1E-09
67_OUT_REF	-4.9E-09	-11.0E-09	-8.5E-09	-4.9E-09	-6.1E-09	-8.5E-09	-7.3E-09	-11.0E-09
ON samples								
51	-4.9E-09	-7.3E-09	-7.3E-09	-1.2E-09	-6.1E-09	-4.9E-09	-6.1E-09	-4.9E-09
52	-7.3E-09	-7.3E-09	-6.1E-09	-8.5E-09	-9.8E-09	-1.2E-09	-3.7E-09	-7.3E-09
53	-4.9E-09	-8.5E-09	0.0E+00	1.2E-09	0.0E+00	-2.4E-09	-6.1E-09	-6.1E-09
54	-9.8E-09	-6.1E-09	-6.1E-09	-3.7E-09	-4.9E-09	-6.1E-09	0.0E+00	-7.3E-09
55	-7.3E-09	-3.7E-09	0.0E+00	-1.2E-09	2.4E-09	0.0E+00	-3.7E-09	-7.3E-09
56	-1.2E-09	-1.2E-09	-1.2E-09	-7.3E-09	-2.4E-09	3.7E-09	1.2E-09	-2.4E-09
57	-1.2E-09	-6.1E-09	-1.2E-09	0.0E+00	2.4E-09	1.2E-09	3.7E-09	-1.2E-09
58	-1.2E-09	-8.5E-09	1.2E-09	-4.9E-09	0.0E+00	3.7E-09	-7.3E-09	-3.7E-09
59	-3.7E-09	-4.9E-09	-3.7E-09	-2.4E-09	-1.2E-09	-3.7E-09	-2.4E-09	-6.1E-09
60	-4.9E-09	-3.7E-09	-4.9E-09	-4.9E-09	-1.2E-09	1.2E-09	-7.3E-09	-8.5E-09
Statistics								
Min	-9.8E-09	-8.5E-09	-7.3E-09	-8.5E-09	-9.8E-09	-6.1E-09	-7.3E-09	-8.5E-09
Max	-1.2E-09	-1.2E-09	1.2E-09	1.2E-09	2.4E-09	3.7E-09	3.7E-09	-1.2E-09
Average	-4.6E-09	-5.7E-09	-2.9E-09	-3.3E-09	-2.1E-09	-854.5E-12	-3.2E-09	-5.5E-09
Std Deviation	2.9E-09	2.4E-09	3.1E-09	3.2E-09	3.9E-09	3.4E-09	3.8E-09	2.4E-09

Measurements

Iih<DQ[7]>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-8.5E-09	-4.9E-09	-9.8E-09	-9.8E-09	-8.5E-09	-4.9E-09	-9.8E-09	-6.1E-09
67_OUT_REF	-4.9E-09	-11.0E-09	-8.5E-09	-4.9E-09	-6.1E-09	-8.5E-09	-7.3E-09	-11.0E-09
OFF samples								
61	0.0E+00	-6.1E-09	-6.1E-09	-9.8E-09	-3.7E-09	-1.2E-09	-8.5E-09	-4.9E-09
62	-8.5E-09	-12.2E-09	-7.3E-09	-7.3E-09	-7.3E-09	-6.1E-09	-3.7E-09	-6.1E-09
63	-8.5E-09	-7.3E-09	-8.5E-09	-9.8E-09	-2.4E-09	-3.7E-09	-2.4E-09	-8.5E-09
64	-8.5E-09	-3.7E-09	-6.1E-09	-3.7E-09	1.2E-09	-7.3E-09	-8.5E-09	-7.3E-09
65	-11.0E-09	-4.9E-09	-2.4E-09	-1.2E-09	1.2E-09	-3.7E-09	1.2E-09	-7.3E-09
Statistics								
Min	-11.0E-09	-12.2E-09	-8.5E-09	-9.8E-09	-7.3E-09	-7.3E-09	-8.5E-09	-8.5E-09
Max	0.0E+00	-3.7E-09	-2.4E-09	-1.2E-09	1.2E-09	-1.2E-09	1.2E-09	-4.9E-09
Average	-7.3E-09	-6.8E-09	-6.1E-09	-6.3E-09	-2.2E-09	-4.4E-09	-4.4E-09	-6.8E-09
Std Deviation	4.2E-09	3.3E-09	2.3E-09	3.8E-09	3.6E-09	2.4E-09	4.2E-09	1.4E-09

Parameter : Input High Leakage Current : Iih<DQS/>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

Measurements

Iih<DQS/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-12.2E-09	-7.3E-09	-12.2E-09	-8.5E-09	-7.3E-09	-9.8E-09	-8.5E-09	-8.5E-09
67_OUT_REF	-8.5E-09	-12.2E-09	-8.5E-09	-12.2E-09	-11.0E-09	-6.1E-09	-7.3E-09	-7.3E-09
ON samples								
51	-2.4E-09	-7.3E-09	-2.4E-09	-8.5E-09	-2.4E-09	-8.5E-09	-3.7E-09	-4.9E-09
52	-9.8E-09	-12.2E-09	-9.8E-09	-8.5E-09	-11.0E-09	-1.2E-09	-11.0E-09	-14.6E-09
53	-1.2E-09	-7.3E-09	-1.2E-09	-3.7E-09	-9.8E-09	0.0E+00	-6.1E-09	0.0E+00
54	-7.3E-09	-8.5E-09	-11.0E-09	-2.4E-09	-3.7E-09	-6.1E-09	-1.2E-09	-4.9E-09
55	-7.3E-09	-4.9E-09	-11.0E-09	-6.1E-09	-2.4E-09	1.2E-09	-4.9E-09	-8.5E-09
56	-3.7E-09	-8.5E-09	-8.5E-09	-11.0E-09	-3.7E-09	-2.4E-09	-7.3E-09	-2.4E-09
57	-8.5E-09	-6.1E-09	-6.1E-09	-3.7E-09	-2.4E-09	-2.4E-09	1.2E-09	-8.5E-09
58	-9.8E-09	-4.9E-09	-3.7E-09	-4.9E-09	-4.9E-09	0.0E+00	-1.2E-09	-9.8E-09
59	-4.9E-09	-8.5E-09	-6.1E-09	-6.1E-09	-2.4E-09	-6.1E-09	-2.4E-09	-7.3E-09
60	0.0E+00	-11.0E-09	-6.1E-09	0.0E+00	-2.4E-09	2.4E-09	-8.5E-09	-8.5E-09
Statistics								
Min	-9.8E-09	-12.2E-09	-11.0E-09	-11.0E-09	-11.0E-09	-8.5E-09	-11.0E-09	-14.6E-09
Max	0.0E+00	-4.9E-09	-1.2E-09	0.0E+00	-2.4E-09	2.4E-09	1.2E-09	0.0E+00
Average	-5.5E-09	-7.9E-09	-6.6E-09	-5.5E-09	-4.5E-09	-2.3E-09	-4.5E-09	-7.0E-09
Std Deviation	3.6E-09	2.4E-09	3.5E-09	3.3E-09	3.2E-09	3.6E-09	3.8E-09	4.1E-09

Measurements

Iih<DQS/>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-12.2E-09	-7.3E-09	-12.2E-09	-8.5E-09	-7.3E-09	-9.8E-09	-8.5E-09	-8.5E-09
67_OUT_REF	-8.5E-09	-12.2E-09	-8.5E-09	-12.2E-09	-11.0E-09	-6.1E-09	-7.3E-09	-7.3E-09
OFF samples								
61	-8.5E-09	-11.0E-09	-4.9E-09	-11.0E-09	-3.7E-09	-2.4E-09	-9.8E-09	-12.2E-09
62	-9.8E-09	-7.3E-09	-7.3E-09	-12.2E-09	-9.8E-09	-7.3E-09	-3.7E-09	-12.2E-09
63	-7.3E-09	0.0E+00	-7.3E-09	-8.5E-09	-8.5E-09	-7.3E-09	-7.3E-09	-7.3E-09
64	-9.8E-09	-13.4E-09	-6.1E-09	-12.2E-09	-6.1E-09	-2.4E-09	-1.2E-09	-3.7E-09
65	-4.9E-09	-7.3E-09	-6.1E-09	-7.3E-09	-1.2E-09	0.0E+00	-6.1E-09	-6.1E-09
Statistics								
Min	-9.8E-09	-13.4E-09	-7.3E-09	-12.2E-09	-9.8E-09	-7.3E-09	-9.8E-09	-12.2E-09
Max	-4.9E-09	0.0E+00	-4.9E-09	-7.3E-09	-1.2E-09	0.0E+00	-1.2E-09	-3.7E-09
Average	-8.1E-09	-7.8E-09	-6.3E-09	-10.3E-09	-5.9E-09	-3.9E-09	-5.6E-09	-8.3E-09
Std Deviation	2.0E-09	5.1E-09	1.0E-09	2.2E-09	3.5E-09	3.3E-09	3.3E-09	3.8E-09

Parameter : Input High Leakage Current : Iih<DQS>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.

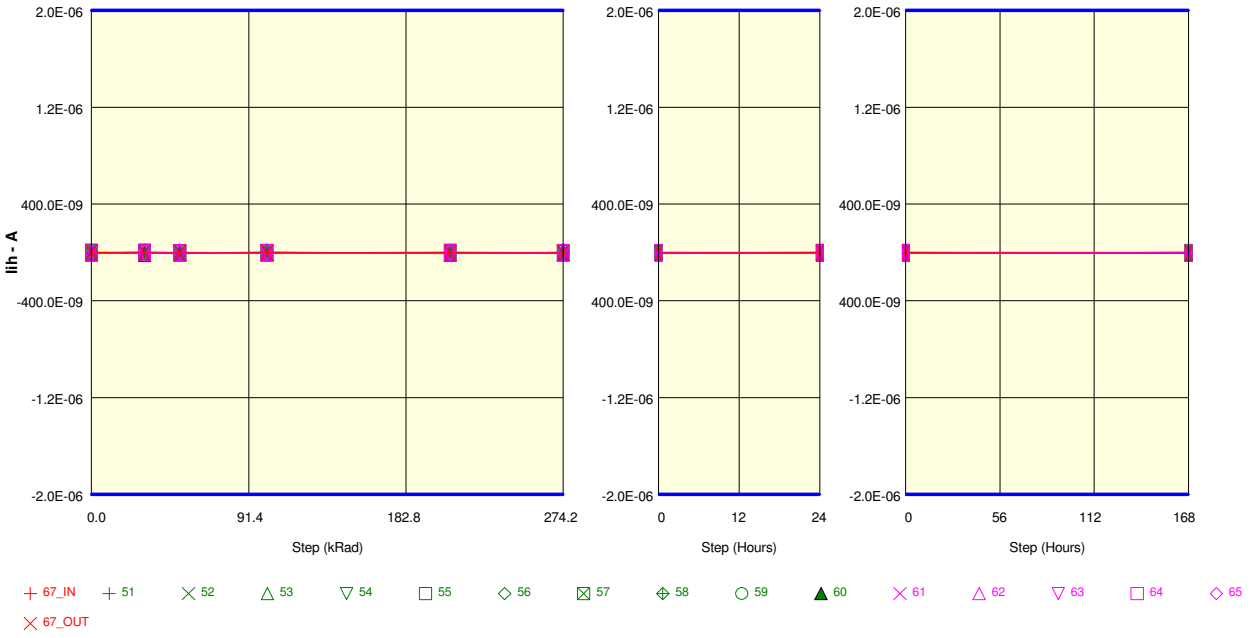
Measurements

Iih<DQS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.3E-09	-11.0E-09	-12.2E-09	-15.9E-09	-11.0E-09	-12.2E-09	-8.5E-09	-13.4E-09
67_OUT_REF	-7.3E-09	-11.0E-09	-9.8E-09	-9.8E-09	-7.3E-09	-9.8E-09	-7.3E-09	-9.8E-09
ON samples								
51	-13.4E-09	-8.5E-09	-11.0E-09	-8.5E-09	-7.3E-09	-8.5E-09	-4.9E-09	-2.4E-09
52	-7.3E-09	-9.8E-09	-11.0E-09	-7.3E-09	-7.3E-09	-11.0E-09	-2.4E-09	-12.2E-09
53	-13.4E-09	-8.5E-09	-7.3E-09	-4.9E-09	-4.9E-09	-6.1E-09	-3.7E-09	-2.4E-09
54	-6.1E-09	-7.3E-09	-6.1E-09	-8.5E-09	-8.5E-09	-8.5E-09	-6.1E-09	-6.1E-09
55	-7.3E-09	-9.8E-09	-8.5E-09	-2.4E-09	-4.9E-09	-6.1E-09	-7.3E-09	-6.1E-09
56	-9.8E-09	-9.8E-09	-6.1E-09	-4.9E-09	-7.3E-09	-8.5E-09	-1.2E-09	-8.5E-09
57	-3.7E-09	-1.2E-09	-8.5E-09	-6.1E-09	0.0E+00	2.4E-09	-4.9E-09	-4.9E-09
58	-7.3E-09	-6.1E-09	-12.2E-09	-6.1E-09	-8.5E-09	-2.4E-09	-4.9E-09	-3.7E-09
59	-3.7E-09	-9.8E-09	-6.1E-09	-3.7E-09	-6.1E-09	-11.0E-09	-11.0E-09	-6.1E-09
60	-12.2E-09	-7.3E-09	-6.1E-09	-3.7E-09	-6.1E-09	-7.3E-09	-6.1E-09	-2.4E-09
Statistics								
Min	-13.4E-09	-9.8E-09	-12.2E-09	-8.5E-09	-8.5E-09	-11.0E-09	-11.0E-09	-12.2E-09
Max	-3.7E-09	-1.2E-09	-6.1E-09	-2.4E-09	0.0E+00	2.4E-09	-1.2E-09	-2.4E-09
Average	-8.4E-09	-7.8E-09	-8.3E-09	-5.6E-09	-6.1E-09	-6.7E-09	-5.2E-09	-5.5E-09
Std Deviation	3.7E-09	2.6E-09	2.4E-09	2.1E-09	2.5E-09	4.1E-09	2.7E-09	3.1E-09

Measurements

Iih<DQS>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-7.3E-09	-11.0E-09	-12.2E-09	-15.9E-09	-11.0E-09	-12.2E-09	-8.5E-09	-13.4E-09
67_OUT_REF	-7.3E-09	-11.0E-09	-9.8E-09	-9.8E-09	-7.3E-09	-9.8E-09	-7.3E-09	-9.8E-09
OFF samples								
61	-9.8E-09	-6.1E-09	-4.9E-09	-8.5E-09	-13.4E-09	-4.9E-09	-13.4E-09	-8.5E-09
62	-7.3E-09	-12.2E-09	-7.3E-09	-3.7E-09	-6.1E-09	-9.8E-09	-4.9E-09	-6.1E-09
63	-9.8E-09	-9.8E-09	-12.2E-09	-9.8E-09	-9.8E-09	-9.8E-09	-6.1E-09	-2.4E-09
64	-4.9E-09	-11.0E-09	-13.4E-09	-8.5E-09	-11.0E-09	-7.3E-09	-6.1E-09	-6.1E-09
65	-11.0E-09	-11.0E-09	-7.3E-09	-4.9E-09	-7.3E-09	-2.4E-09	-1.2E-09	-7.3E-09
Statistics								
Min	-11.0E-09	-12.2E-09	-13.4E-09	-9.8E-09	-13.4E-09	-9.8E-09	-13.4E-09	-8.5E-09
Max	-4.9E-09	-6.1E-09	-4.9E-09	-3.7E-09	-6.1E-09	-2.4E-09	-1.2E-09	-2.4E-09
Average	-8.5E-09	-10.0E-09	-9.0E-09	-7.1E-09	-9.5E-09	-6.8E-09	-6.3E-09	-6.1E-09
Std Deviation	2.4E-09	2.3E-09	3.6E-09	2.6E-09	2.9E-09	3.2E-09	4.4E-09	2.3E-09

Parameter : Input High Leakage Current : Iih<ODT>
Test conditions : Vin=1.35V
Unit : A
Spec Limit Min : -2.0E-06
Spec Limit Max : 2.0E-06
Spec limits are represented in bold lines on the graphic.



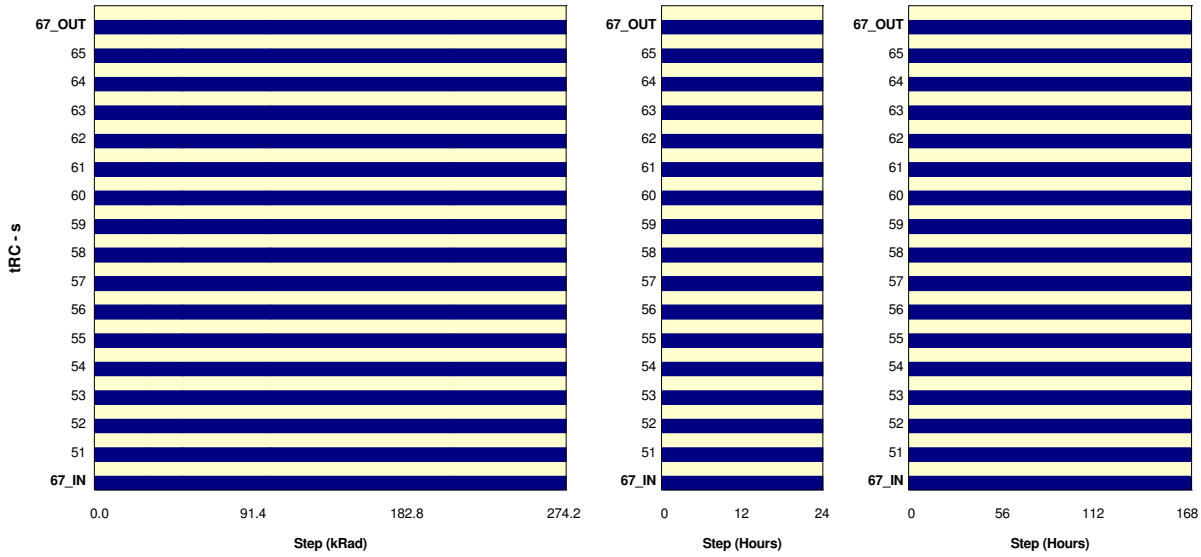
Measurements

Iih<ODT>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-589.6E-12	-2.1E-09	-1.4E-09	-5.2E-09	-4.4E-09	-3.6E-09	-6.7E-09
67_OUT_REF	-589.6E-12	-4.4E-09	-3.6E-09	-2.1E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.9E-09
ON samples								
51	-4.4E-09	-2.9E-09	-4.4E-09	-4.4E-09	-5.2E-09	-8.2E-09	-3.6E-09	-2.1E-09
52	-589.6E-12	-5.2E-09	-9.7E-09	-4.4E-09	-2.9E-09	-2.9E-09	-4.4E-09	936.3E-12
53	-4.4E-09	-589.6E-12	-589.6E-12	-4.4E-09	-2.1E-09	-2.9E-09	-3.6E-09	936.3E-12
54	-1.4E-09	-589.6E-12	-3.6E-09	-3.6E-09	-2.9E-09	-2.9E-09	-589.6E-12	-589.6E-12
55	-2.1E-09	-5.9E-09	-5.2E-09	-589.6E-12	-5.2E-09	-4.4E-09	-2.1E-09	-2.9E-09
56	-2.9E-09	-5.2E-09	-2.1E-09	-5.2E-09	-1.4E-09	-4.4E-09	-3.6E-09	-2.9E-09
57	-589.6E-12	3.2E-09	-2.9E-09	-2.9E-09	-8.2E-09	-2.9E-09	-589.6E-12	-6.7E-09
58	-5.2E-09	-3.6E-09	-5.2E-09	2.5E-09	-6.7E-09	173.3E-12	-589.6E-12	-2.9E-09
59	-5.9E-09	-2.1E-09	-3.6E-09	-5.9E-09	-6.7E-09	-2.1E-09	-5.9E-09	-589.6E-12
60	-2.1E-09	-7.5E-09	-2.1E-09	-2.9E-09	-1.4E-09	-589.6E-12	-4.4E-09	-7.5E-09
Statistics								
Min	-5.9E-09	-7.5E-09	-9.7E-09	-5.9E-09	-8.2E-09	-8.2E-09	-5.9E-09	-7.5E-09
Max	-589.6E-12	3.2E-09	-589.6E-12	2.5E-09	-1.4E-09	173.3E-12	-589.6E-12	936.3E-12
Average	-3.0E-09	-3.0E-09	-3.9E-09	-3.2E-09	-4.3E-09	-3.1E-09	-3.0E-09	-2.4E-09
Std Deviation	1.9E-09	3.2E-09	2.5E-09	2.5E-09	2.5E-09	2.3E-09	1.9E-09	2.9E-09

Measurements

Iih<ODT>	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-2.9E-09	-589.6E-12	-2.1E-09	-1.4E-09	-5.2E-09	-4.4E-09	-3.6E-09	-6.7E-09
67_OUT_REF	-589.6E-12	-4.4E-09	-3.6E-09	-2.1E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.9E-09
OFF samples								
61	-4.4E-09	-4.4E-09	-4.4E-09	-5.9E-09	-3.6E-09	-1.4E-09	-2.9E-09	-1.4E-09
62	-2.1E-09	-1.4E-09	-589.6E-12	-2.9E-09	-3.6E-09	-5.2E-09	-1.4E-09	-5.9E-09
63	1.7E-09	-3.6E-09	-2.9E-09	-2.9E-09	-2.1E-09	-589.6E-12	-1.4E-09	-5.2E-09
64	-8.2E-09	-2.9E-09	-7.5E-09	-5.2E-09	4.0E-09	-2.9E-09	-4.4E-09	-5.9E-09
65	-8.2E-09	-589.6E-12	-2.9E-09	-6.7E-09	-3.6E-09	-5.9E-09	-5.2E-09	-2.1E-09
Statistics								
Min	-8.2E-09	-4.4E-09	-7.5E-09	-6.7E-09	-3.6E-09	-5.9E-09	-5.2E-09	-5.9E-09
Max	1.7E-09	-589.6E-12	-589.6E-12	-2.9E-09	4.0E-09	-589.6E-12	-1.4E-09	-1.4E-09
Average	-4.3E-09	-2.6E-09	-3.6E-09	-4.7E-09	-1.8E-09	-3.2E-09	-3.0E-09	-4.1E-09
Std Deviation	4.2E-09	1.6E-09	2.5E-09	1.8E-09	3.3E-09	2.3E-09	1.7E-09	2.2E-09

Parameter : ACTIVATE to ACTIVATE or REFRESH command Period : tRC
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 48.8E-09
Spec limits are represented in bold lines on the graphic.



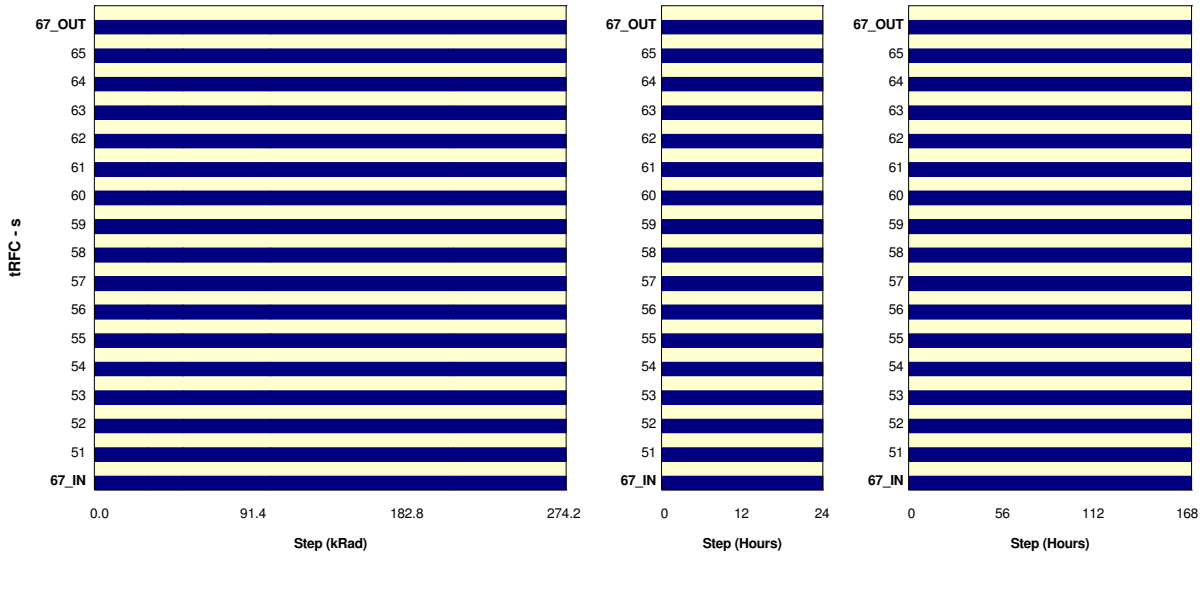
Measurements

tRC	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRC	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : REFRESH to ACTIVATE or REFRESH : tRFC
Test conditions : GoNOGO (4Gb memory)
Unit : s
Spec Limit Max : 260.0E-09
Spec limits are represented in bold lines on the graphic.



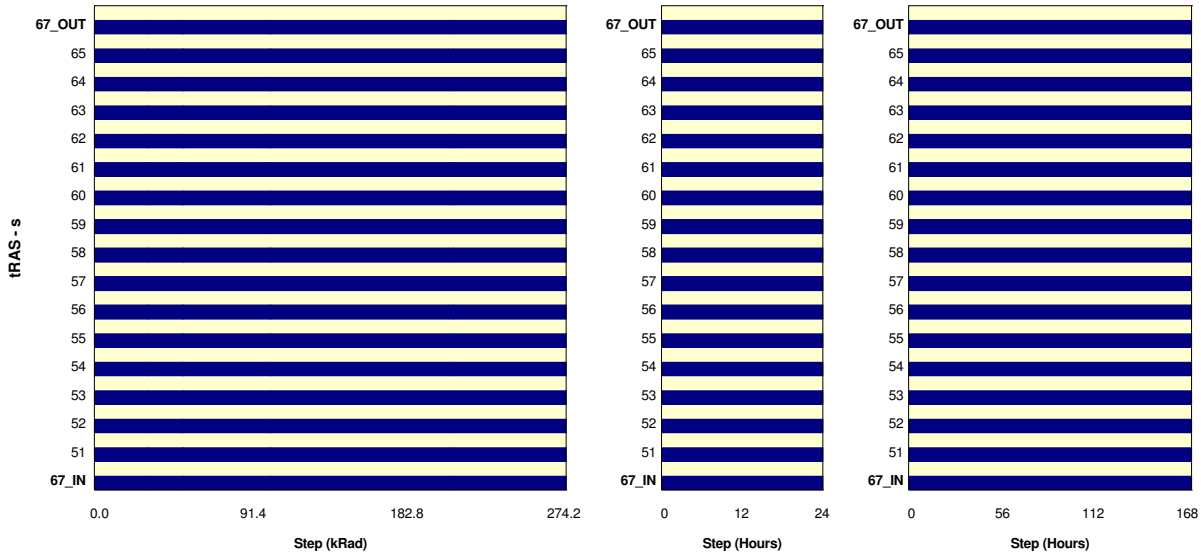
Measurements

tRFC	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRFC	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to PRECHARGE Command Period : tRAS
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 35.0E-09
Spec limits are represented in bold lines on the graphic.



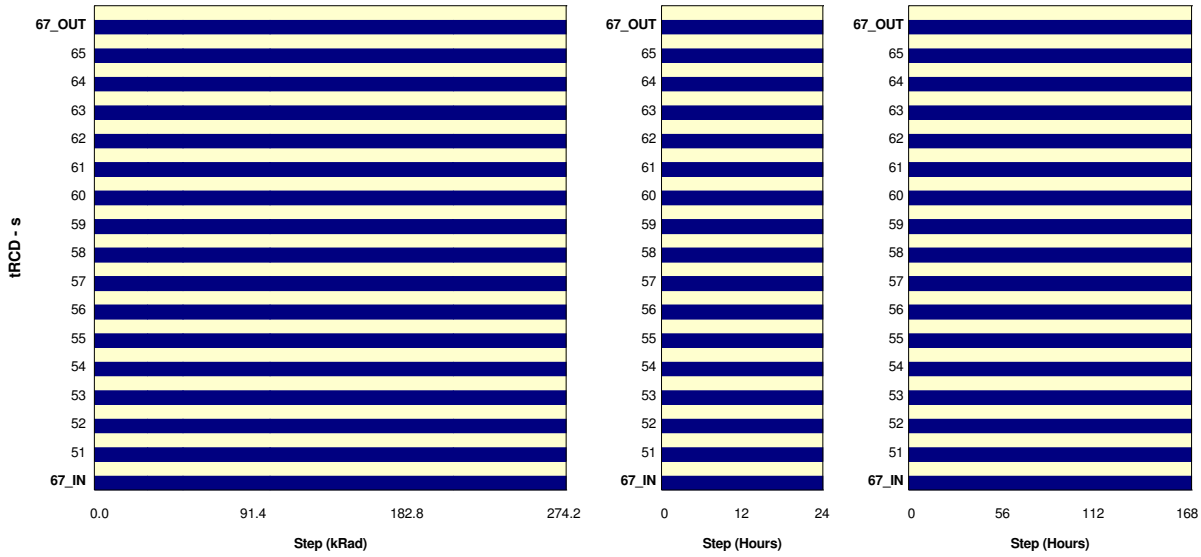
Measurements

tRAS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRAS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to internal Read or WRITE delay : tRCD
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 13.8E-09
Spec limits are represented in bold lines on the graphic.



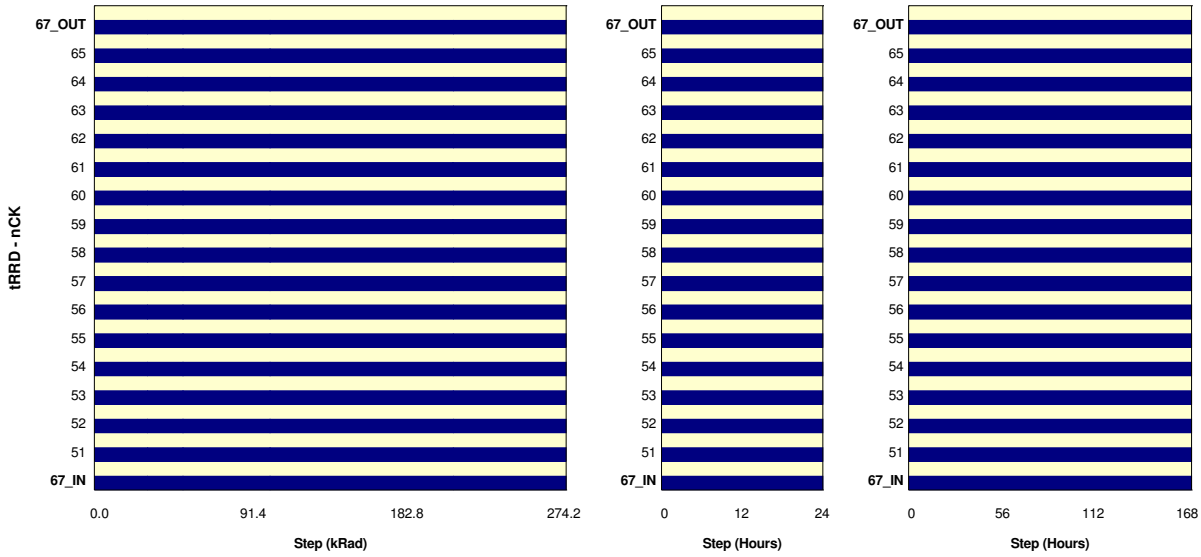
Measurements

tRCD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRCD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to ACTIVATE min command period : tRRD
Test conditions : GoNOGO
Unit : nCK
Spec Limit Max : 4.0E+00
Spec limits are represented in bold lines on the graphic.



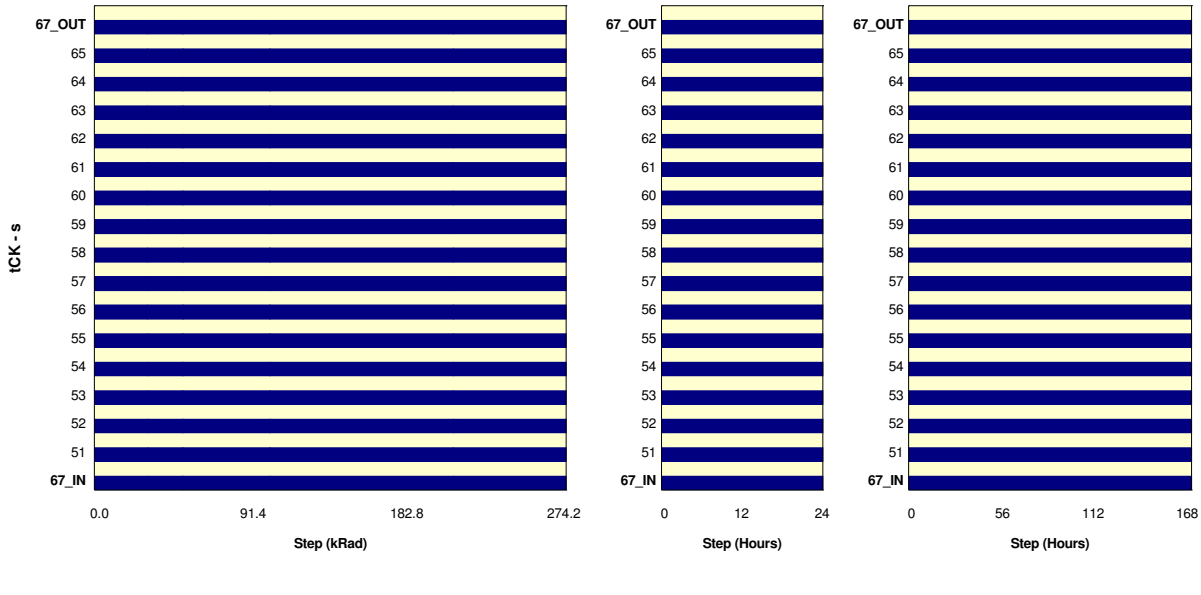
Measurements

tRRD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRRD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Clock Cycle time : tCK
Test conditions : GoNOGO
Unit : s
Spec Limit Min : 1.3E-09
Spec limits are represented in bold lines on the graphic.



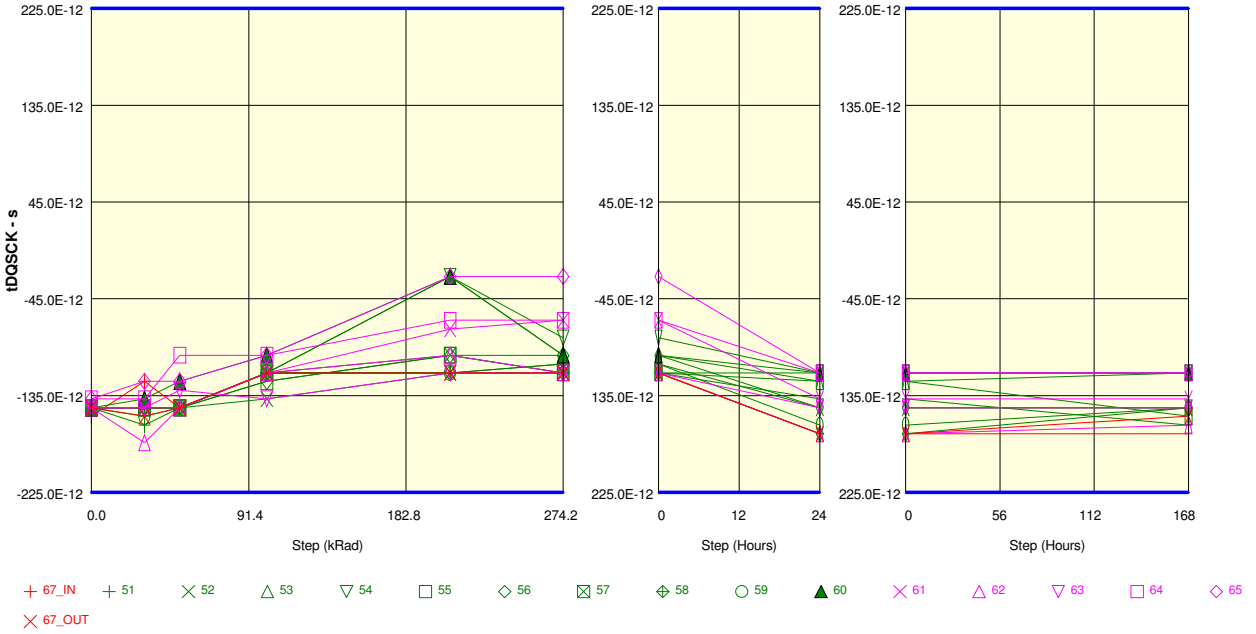
Measurements

tCK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tCK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQS. DQS# rising to/from rising CK. CK# Upper Bits : tDQSCK
Test conditions : search. ETA1632 may be applied after characterization
Unit : s
Spec Limit Min : -225.0E-12
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



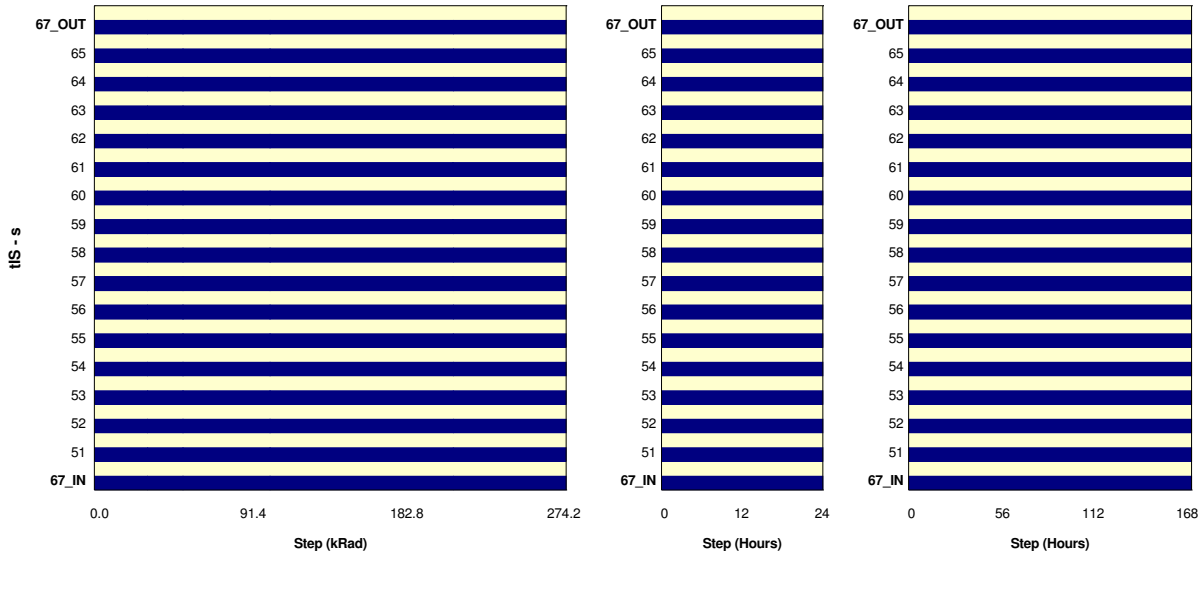
Measurements

tDQSCK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-154.4E-12	-121.9E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-170.6E-12	-170.6E-12
67_OUT_REF	-146.3E-12	-154.4E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-170.6E-12	-154.4E-12
ON samples								
51	-146.3E-12	-162.5E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-138.1E-12	-162.5E-12
52	-146.3E-12	-146.3E-12	-146.3E-12	-138.1E-12	-113.8E-12	-105.6E-12	-146.3E-12	-146.3E-12
53	-146.3E-12	-146.3E-12	-146.3E-12	-113.8E-12	-24.4E-12	-97.5E-12	-121.9E-12	-113.8E-12
54	-146.3E-12	-146.3E-12	-146.3E-12	-113.8E-12	-24.4E-12	-81.3E-12	-113.8E-12	-113.8E-12
55	-146.3E-12	-146.3E-12	-146.3E-12	-121.9E-12	-97.5E-12	-113.8E-12	-121.9E-12	-154.4E-12
56	-146.3E-12	-146.3E-12	-146.3E-12	-121.9E-12	-97.5E-12	-97.5E-12	-146.3E-12	-146.3E-12
57	-146.3E-12	-146.3E-12	-146.3E-12	-113.8E-12	-97.5E-12	-113.8E-12	-113.8E-12	-113.8E-12
58	-146.3E-12	-146.3E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-170.6E-12	-146.3E-12
59	-146.3E-12	-154.4E-12	-146.3E-12	-113.8E-12	-113.8E-12	-105.6E-12	-162.5E-12	-146.3E-12
60	-146.3E-12	-138.1E-12	-121.9E-12	-97.5E-12	-24.4E-12	-97.5E-12	-113.8E-12	-113.8E-12
Statistics								
Min	-146.3E-12	-162.5E-12	-146.3E-12	-138.1E-12	-113.8E-12	-113.8E-12	-170.6E-12	-162.5E-12
Max	-146.3E-12	-138.1E-12	-121.9E-12	-97.5E-12	-24.4E-12	-81.3E-12	-113.8E-12	-113.8E-12
Average	-146.3E-12	-147.9E-12	-143.8E-12	-116.2E-12	-82.1E-12	-104.0E-12	-134.9E-12	-135.7E-12
Std Deviation	817.8E-21	6.4E-12	7.7E-12	10.2E-12	40.4E-12	10.7E-12	21.0E-12	19.5E-12

Measurements

tDQSCK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-154.4E-12	-121.9E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-170.6E-12	-170.6E-12
67_OUT_REF	-146.3E-12	-154.4E-12	-146.3E-12	-113.8E-12	-113.8E-12	-113.8E-12	-170.6E-12	-154.4E-12
OFF samples								
61	-146.3E-12	-146.3E-12	-146.3E-12	-113.8E-12	-73.1E-12	-65.0E-12	-138.1E-12	-138.1E-12
62	-146.3E-12	-178.8E-12	-146.3E-12	-113.8E-12	-97.5E-12	-113.8E-12	-170.6E-12	-162.5E-12
63	-146.3E-12	-146.3E-12	-130.0E-12	-138.1E-12	-113.8E-12	-113.8E-12	-146.3E-12	-146.3E-12
64	-138.1E-12	-138.1E-12	-97.5E-12	-97.5E-12	-65.0E-12	-65.0E-12	-113.8E-12	-113.8E-12
65	-138.1E-12	-121.9E-12	-121.9E-12	-97.5E-12	-24.4E-12	-24.4E-12	-113.8E-12	-113.8E-12
Statistics								
Min	-146.3E-12	-178.8E-12	-146.3E-12	-138.1E-12	-113.8E-12	-113.8E-12	-170.6E-12	-162.5E-12
Max	-138.1E-12	-121.9E-12	-97.5E-12	-97.5E-12	-24.4E-12	-24.4E-12	-113.8E-12	-113.8E-12
Average	-143.0E-12	-146.3E-12	-128.4E-12	-112.1E-12	-74.8E-12	-76.4E-12	-136.5E-12	-134.9E-12
Std Deviation	4.4E-12	20.7E-12	20.2E-12	16.7E-12	34.2E-12	37.9E-12	24.0E-12	21.2E-12

Parameter : Input Setup Time (fast slew rate) : tIS
Test conditions : GoNOGO. CAS#. RAS#. CS#. WE#. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Max : 365.0E-12
Spec limits are represented in bold lines on the graphic.



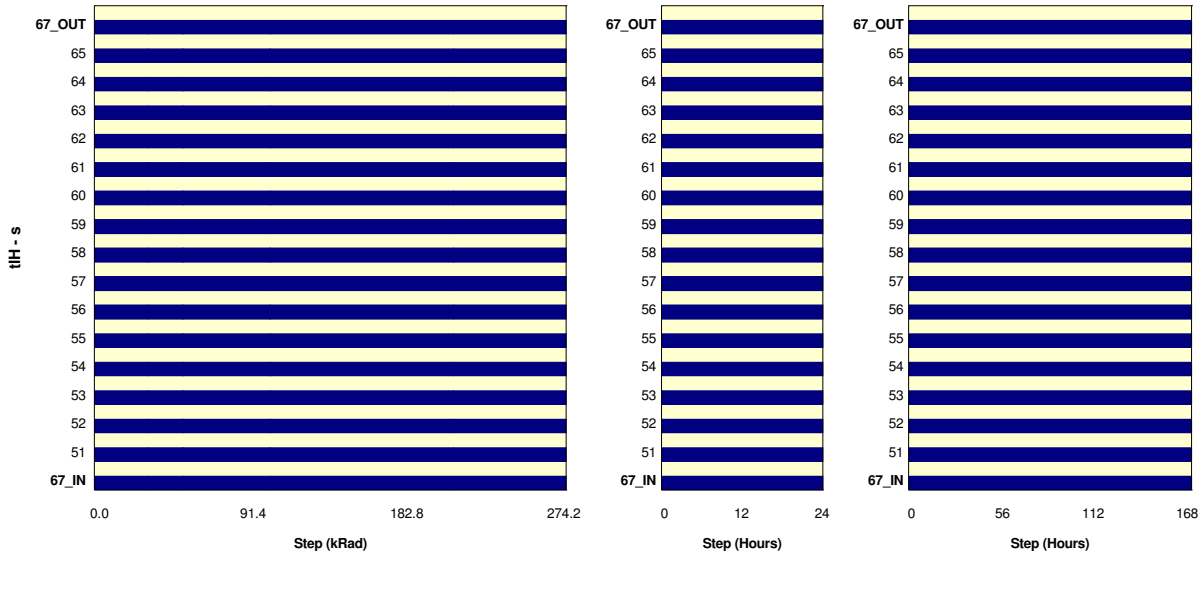
Measurements

tIS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tIS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Input Hold Time (fast slew rate) : tIH
Test conditions : GoNOGO. CAS#. RAS#. CS#. WE#. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Max : 400.0E-12
Spec limits are represented in bold lines on the graphic.



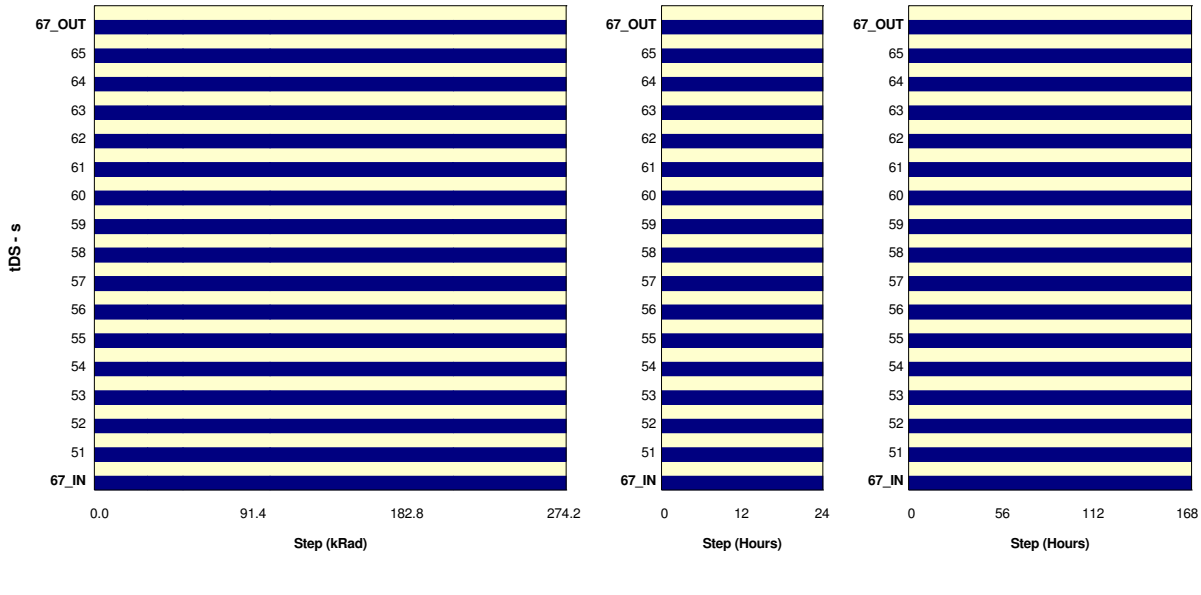
Measurements

tIH	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tIH	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data-In Setup Time to DQS-In (DQ. DM) : tDS
Test conditions : GoNOGO. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Max : 258.0E-12
Spec limits are represented in bold lines on the graphic.



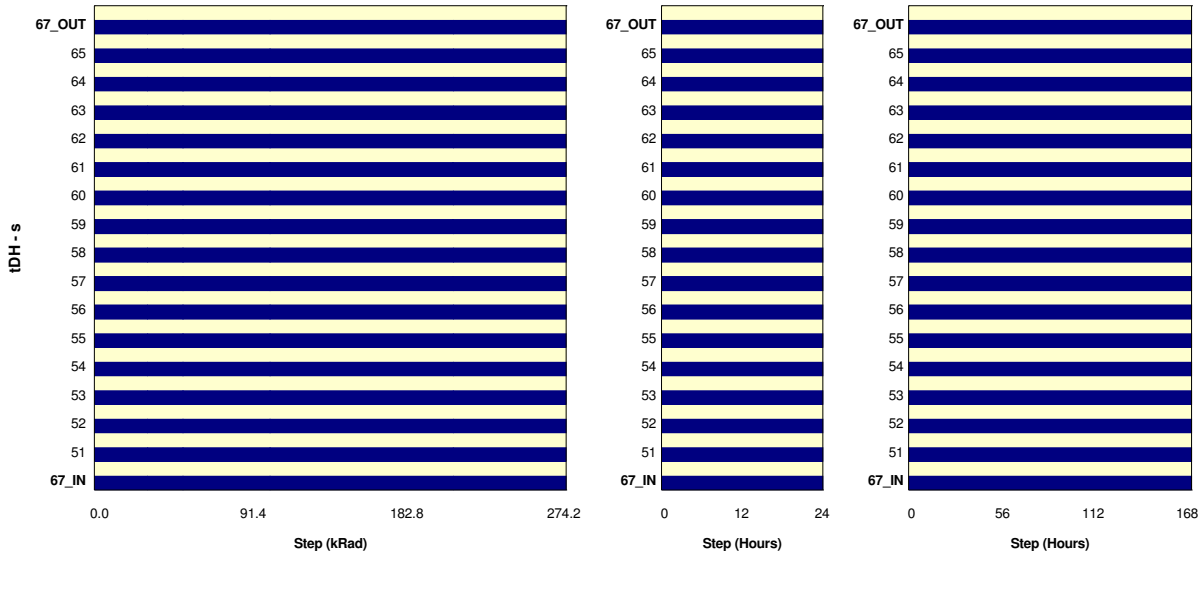
Measurements

tDS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data-In Hold Time to DQS-In (DQ. DM) : tDH
Test conditions : GoNOGO. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Max : 265.0E-12
Spec limits are represented in bold lines on the graphic.



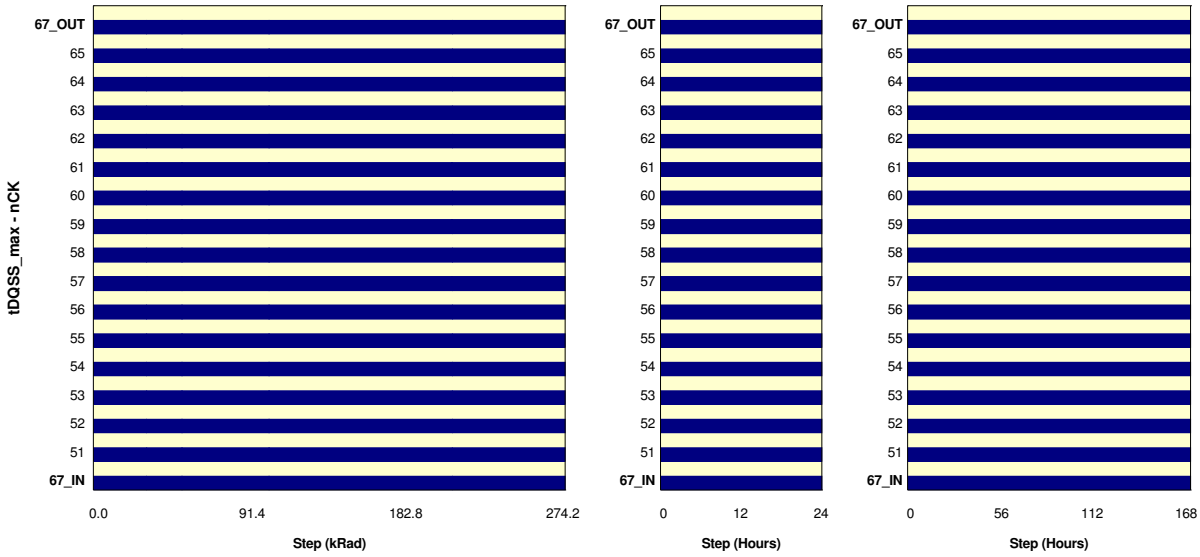
Measurements

tDH	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDH	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CLK to First Rising Edge of DQS-In : tDQSS_max
Test conditions : GoNOGO. Placement margin included
Unit : nCK
Spec Limit Max : 270.0E-03
Spec limits are represented in bold lines on the graphic.



Passed Failed No Data Passed -> Failed Or Failed -> Passed

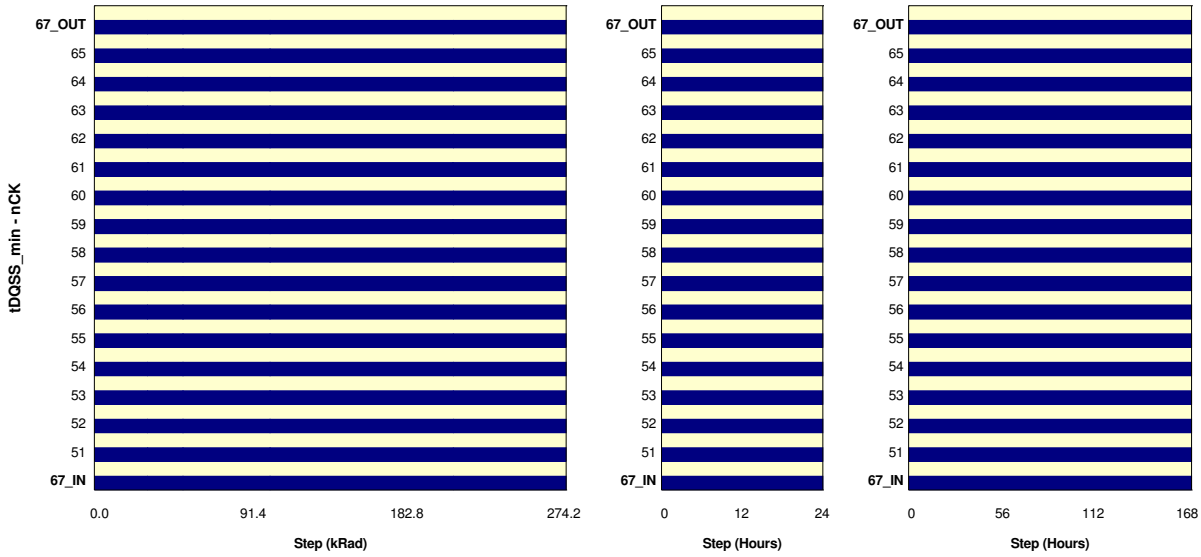
Measurements

tDQSS_max	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDQSS_max	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CLK to First Rising Edge of DQS-In : tDQSS_min
Test conditions : GoNOGO. Placement margin included
Unit : nCK
Spec Limit Min : -270.0E-03
Spec limits are represented in bold lines on the graphic.



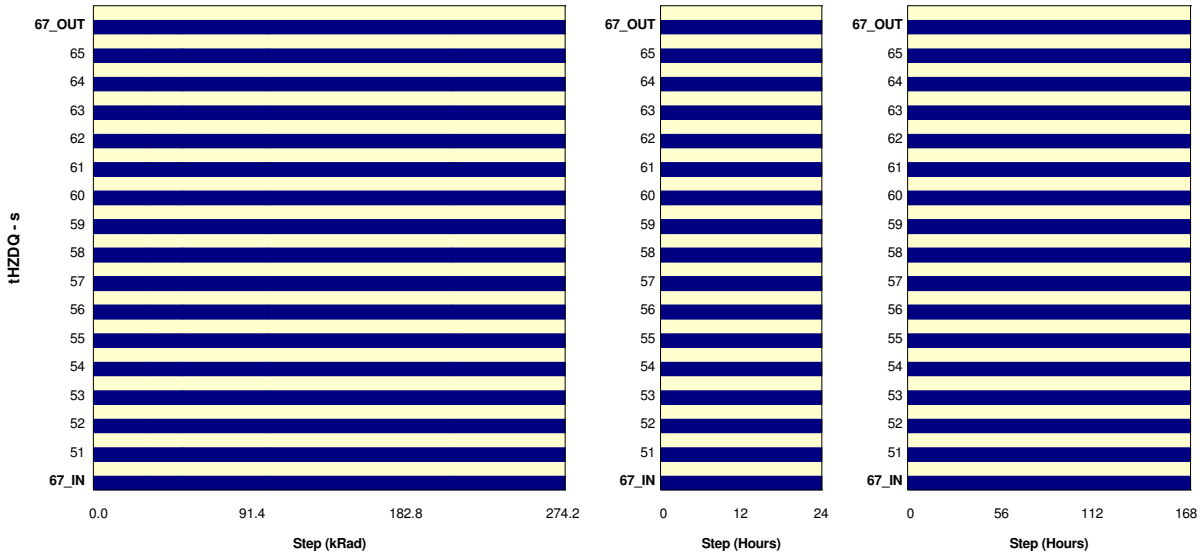
Measurements

tDQSS_min	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDQSS_min	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data-Out to High Impedance from CK/CK# : tHZDQ
Test conditions : GoNOGO. ETA1632 may be applied after characterization
Unit : s
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



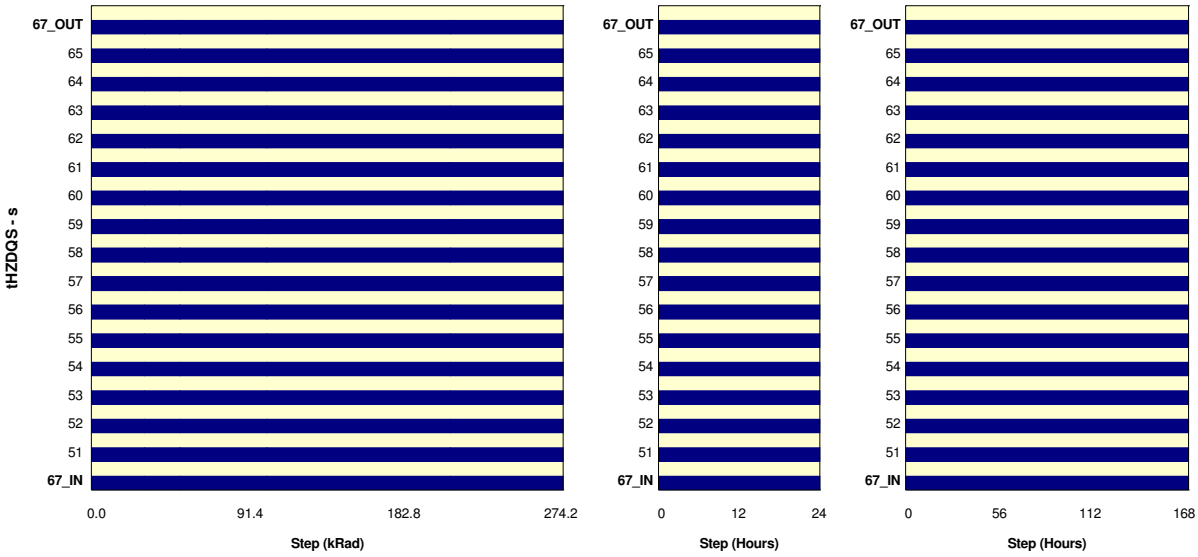
Measurements

tHZDQ	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tHZDQ	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQS to High Impedance from CK/CK# : tHZDQS
Test conditions : GoNOGO. ETA1632 may be applied after characterization
Unit : s
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



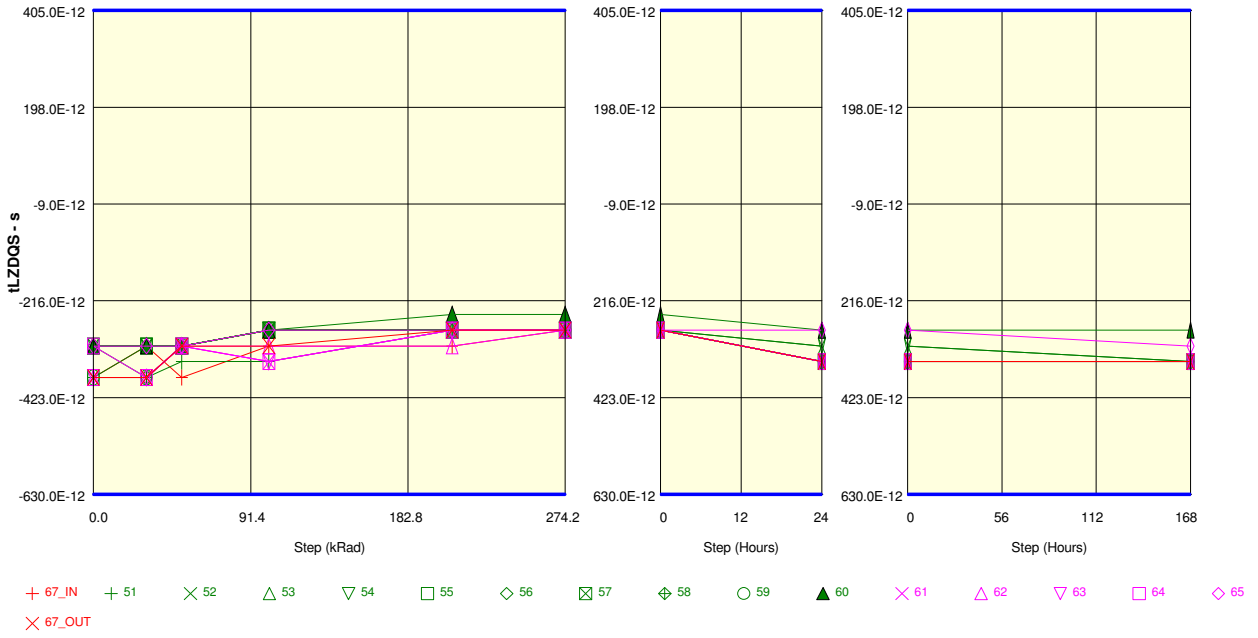
Measurements

tHZDQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tHZDQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQS/DQS# Low Impedance from CK/CK# : tLZDQS
Test conditions : GoNOGO. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Min : -630.0E-12
Spec Limit Max : 405.0E-12
Spec limits are represented in bold lines on the graphic.



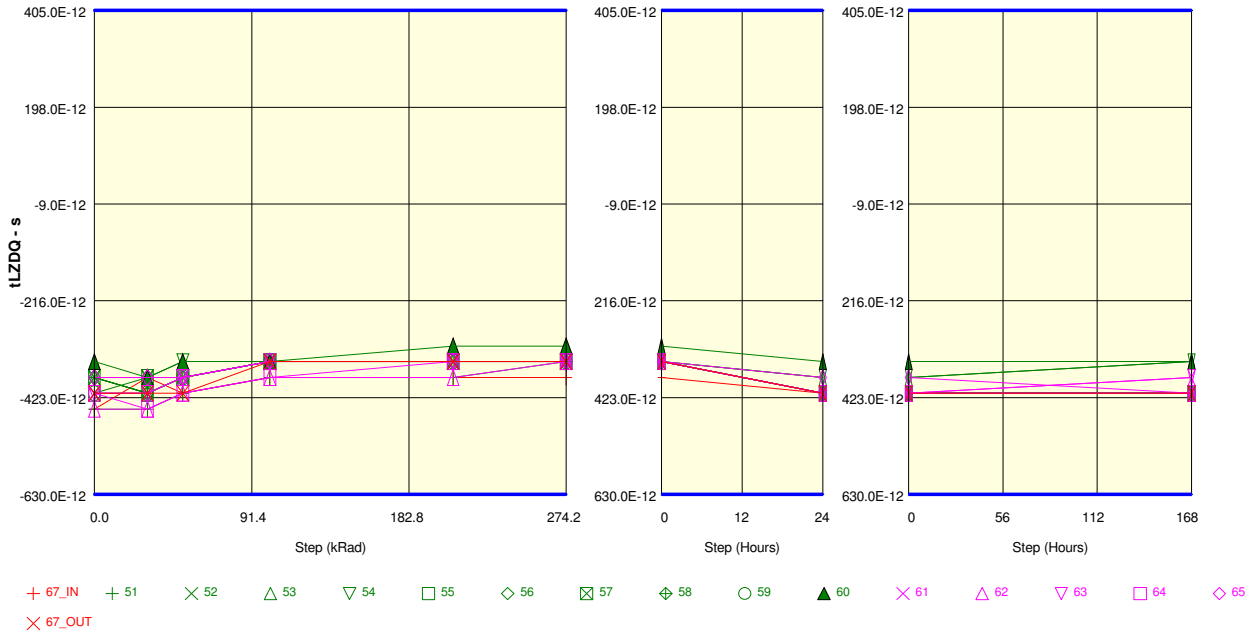
Measurements

tLZDQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-380.0E-12	-312.5E-12	-380.0E-12	-312.5E-12	-312.5E-12	-278.8E-12	-346.3E-12	-346.3E-12
67_OUT_REF	-380.0E-12	-380.0E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
ON samples								
51	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
52	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-312.5E-12	-346.3E-12
53	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
54	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-312.5E-12	-346.3E-12
55	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
56	-312.5E-12	-380.0E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
57	-380.0E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
58	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
59	-380.0E-12	-380.0E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
60	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-245.0E-12	-245.0E-12	-278.8E-12	-278.8E-12
Statistics								
Min	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
Max	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-245.0E-12	-245.0E-12	-278.8E-12	-278.8E-12
Average	-332.8E-12	-332.8E-12	-315.9E-12	-285.5E-12	-275.4E-12	-275.4E-12	-332.8E-12	-339.5E-12
Std Deviation	32.6E-12	32.6E-12	10.7E-12	21.3E-12	10.7E-12	10.7E-12	23.6E-12	21.3E-12

Measurements

tLZDQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-380.0E-12	-312.5E-12	-380.0E-12	-312.5E-12	-312.5E-12	-278.8E-12	-346.3E-12	-346.3E-12
67_OUT_REF	-380.0E-12	-380.0E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
OFF samples								
61	-380.0E-12	-380.0E-12	-312.5E-12	-346.3E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
62	-380.0E-12	-380.0E-12	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-346.3E-12	-346.3E-12
63	-380.0E-12	-380.0E-12	-312.5E-12	-346.3E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
64	-312.5E-12	-380.0E-12	-312.5E-12	-346.3E-12	-278.8E-12	-278.8E-12	-346.3E-12	-346.3E-12
65	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-278.8E-12	-312.5E-12
Statistics								
Min	-380.0E-12	-380.0E-12	-312.5E-12	-346.3E-12	-312.5E-12	-278.8E-12	-346.3E-12	-346.3E-12
Max	-312.5E-12	-312.5E-12	-312.5E-12	-278.8E-12	-278.8E-12	-278.8E-12	-278.8E-12	-312.5E-12
Average	-353.0E-12	-366.5E-12	-312.5E-12	-326.0E-12	-285.5E-12	-278.8E-12	-332.8E-12	-339.5E-12
Std Deviation	37.0E-12	30.2E-12	1.7E-18	30.2E-12	15.1E-12	1.7E-18	30.2E-12	15.1E-12

Parameter : DQ to Low Impedance from CK/CK# : tLZDQ
Test conditions : GoNOGO. Limit include ETA1632 + ETA1632 = 180ps
Unit : s
Spec Limit Min : -630.0E-12
Spec Limit Max : 405.0E-12
Spec limits are represented in bold lines on the graphic.



Measurements

tLZDQ	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-447.5E-12	-380.0E-12	-413.8E-12	-380.0E-12	-380.0E-12	-380.0E-12	-413.8E-12	-413.8E-12
67_OUT_REF	-413.8E-12	-413.8E-12	-413.8E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
ON samples								
51	-447.5E-12	-447.5E-12	-413.8E-12	-380.0E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12
52	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
53	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-380.0E-12	-346.3E-12
54	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-346.3E-12	-380.0E-12	-346.3E-12
55	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
56	-380.0E-12	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
57	-413.8E-12	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
58	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
59	-413.8E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
60	-346.3E-12	-380.0E-12	-346.3E-12	-346.3E-12	-312.5E-12	-312.5E-12	-346.3E-12	-346.3E-12
Statistics								
Min	-447.5E-12	-447.5E-12	-413.8E-12	-380.0E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12
Max	-346.3E-12	-380.0E-12	-346.3E-12	-346.3E-12	-312.5E-12	-312.5E-12	-346.3E-12	-346.3E-12
Average	-390.1E-12	-403.6E-12	-376.6E-12	-349.6E-12	-346.3E-12	-342.9E-12	-400.3E-12	-393.5E-12
Std Deviation	27.8E-12	22.8E-12	19.2E-12	10.7E-12	15.9E-12	10.7E-12	23.6E-12	32.6E-12

Measurements

tLZDQ	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	-447.5E-12	-380.0E-12	-413.8E-12	-380.0E-12	-380.0E-12	-380.0E-12	-413.8E-12	-413.8E-12
67_OUT_REF	-413.8E-12	-413.8E-12	-413.8E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
OFF samples								
61	-413.8E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-380.0E-12
62	-447.5E-12	-447.5E-12	-413.8E-12	-380.0E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12
63	-413.8E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-413.8E-12	-380.0E-12
64	-413.8E-12	-447.5E-12	-413.8E-12	-380.0E-12	-346.3E-12	-346.3E-12	-413.8E-12	-413.8E-12
65	-380.0E-12	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-380.0E-12	-413.8E-12
Statistics								
Min	-447.5E-12	-447.5E-12	-413.8E-12	-380.0E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12
Max	-380.0E-12	-380.0E-12	-380.0E-12	-346.3E-12	-346.3E-12	-346.3E-12	-380.0E-12	-380.0E-12
Average	-413.8E-12	-420.5E-12	-393.5E-12	-359.8E-12	-353.0E-12	-346.3E-12	-407.0E-12	-400.3E-12
Std Deviation	23.9E-12	28.2E-12	18.5E-12	18.5E-12	15.1E-12	2.5E-18	15.1E-12	18.5E-12

Parameter : Refresh Interval : Tref_Search
Test conditions : GoNOGO
Unit : s
Spec Limit Min : 64.0E-03
Spec limits are represented in bold lines on the graphic.

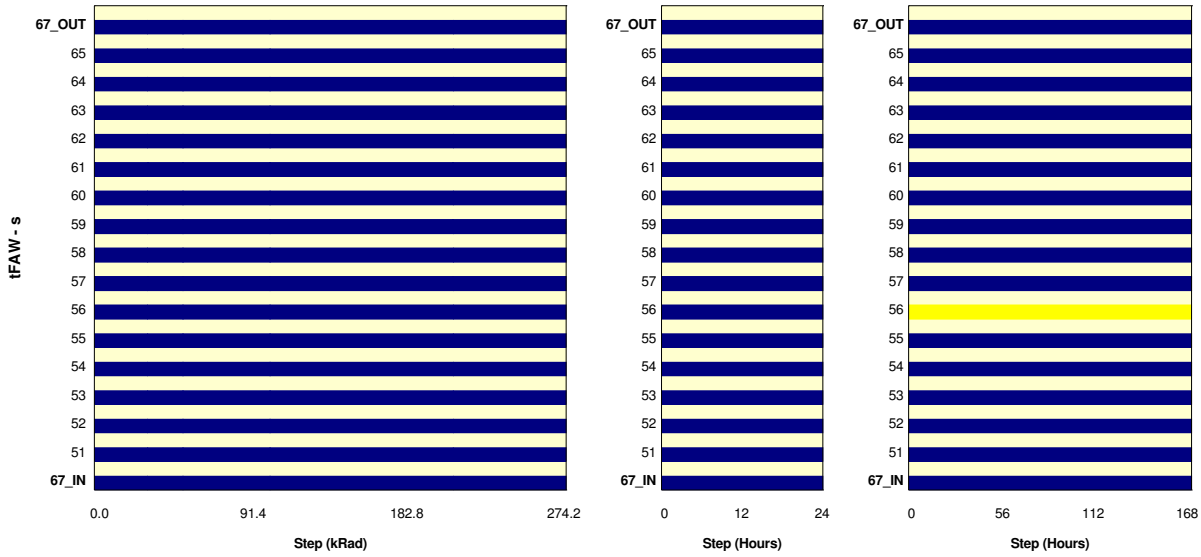
Measurements

Tref_Search	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
67_OUT_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
ON samples								
51	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
52	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
53	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
54	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
55	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
56	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
57	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
58	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
59	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
60	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Statistics								
Min	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Max	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Average	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Std Deviation	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Measurements

Tref_Search	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
67_OUT_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
OFF samples								
61	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
62	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
63	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
64	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
65	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Statistics								
Min	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Max	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Average	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
Std Deviation	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Parameter : Four Activate Window : tFAW
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 30.0E-09
Spec limits are represented in bold lines on the graphic.



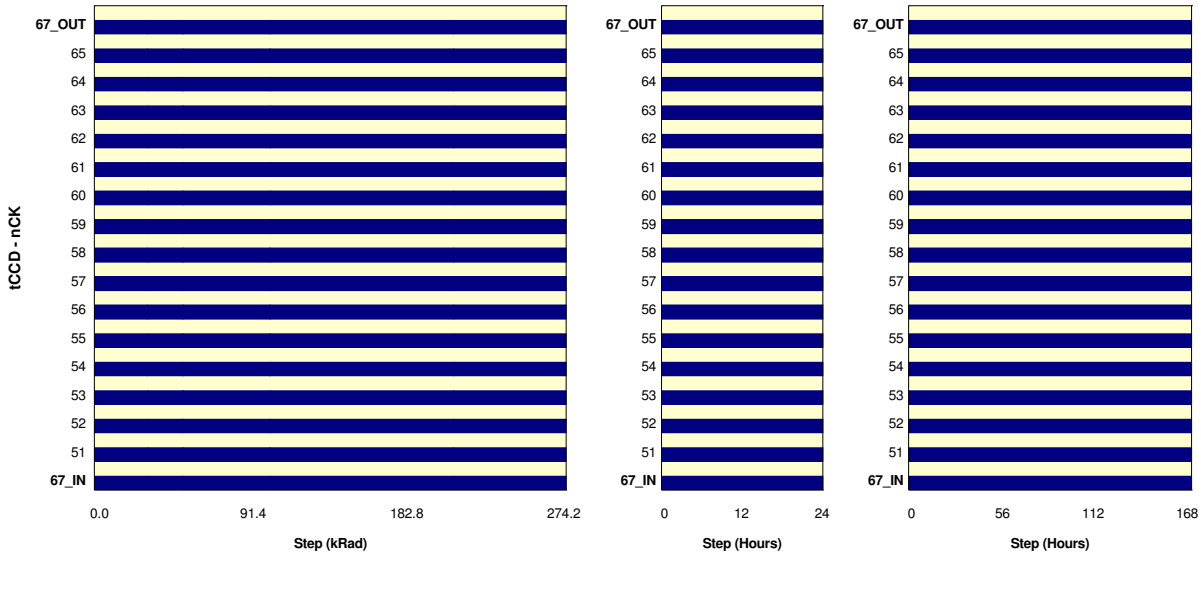
Measurements

tFAW	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tFAW	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CAS to CAS command delay : tCCD
Test conditions : GoNOGO
Unit : nCK
Spec Limit Max : 4.0E+00
Spec limits are represented in bold lines on the graphic.



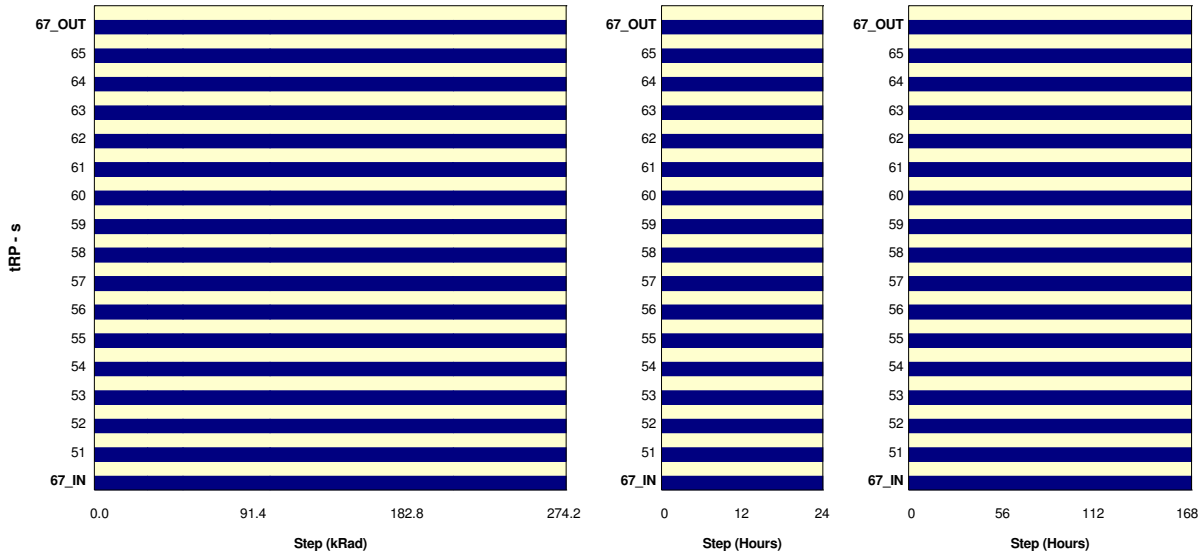
Measurements

tCCD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tCCD	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : PECHARGE Command period : tRP
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 13.8E-09
Spec limits are represented in bold lines on the graphic.



Passed Failed No Data Passed -> Failed Or Failed -> Passed

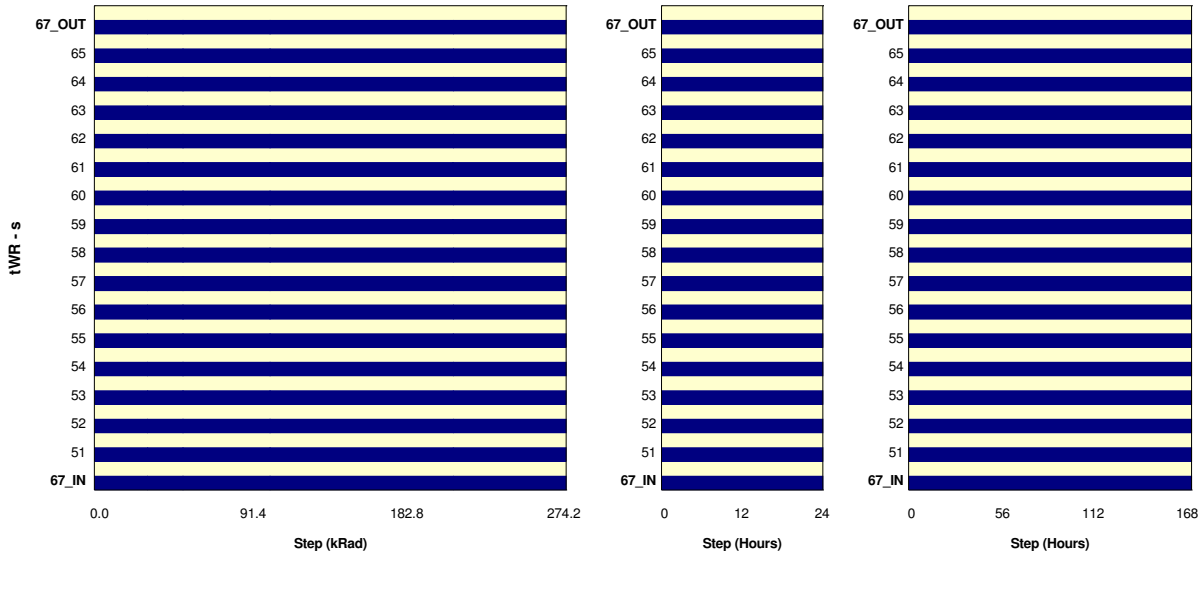
Measurements

tRP	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRP	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Write Recovery Time : tWR
Test conditions : GoNOGO
Unit : s
Spec Limit Max : 15.0E-09
Spec limits are represented in bold lines on the graphic.



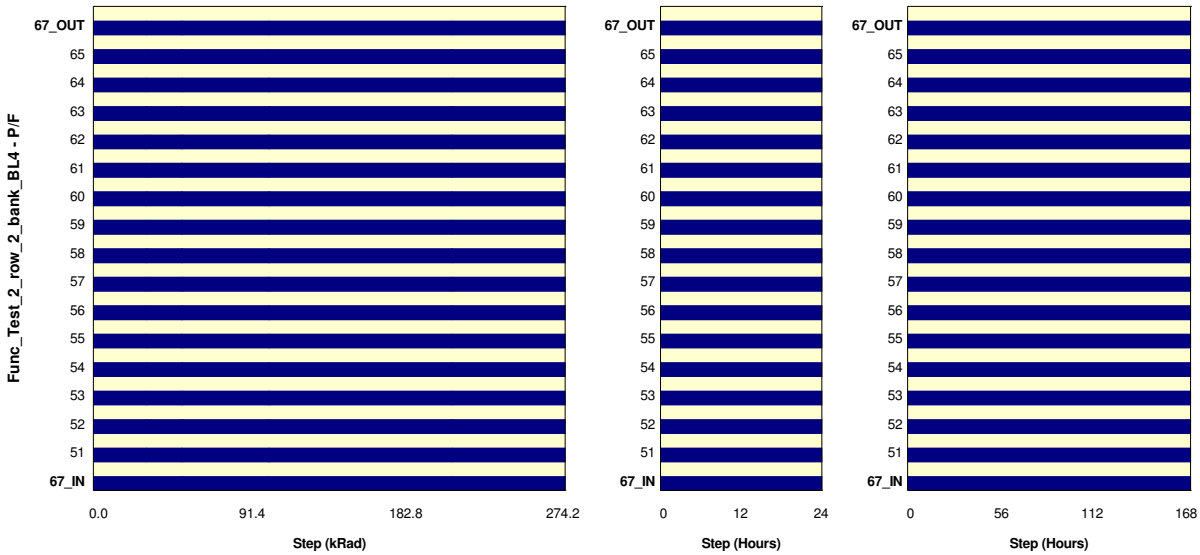
Measurements

tWR	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tWR	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Functional Checkerboard BL 4 : Func_Test_2_row_2_bank_BL4
Test conditions : go/no go. Vil=0V. Vih=1.35V. tREFI<7.8ms
Unit : P/F
No spec limit specified.



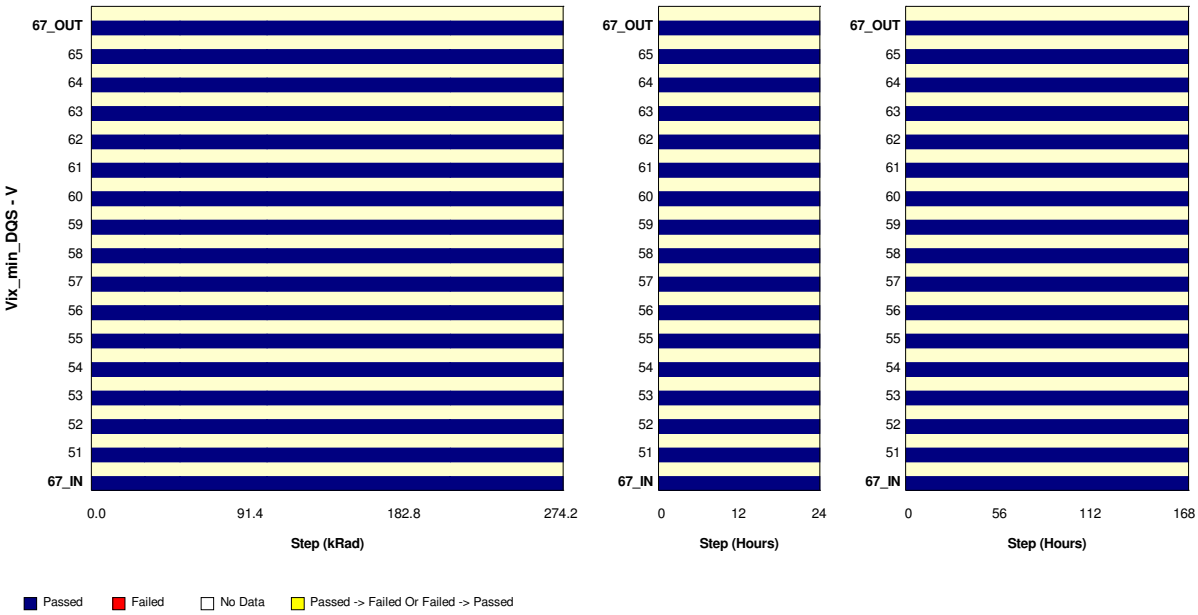
Measurements

Func_Test_2_row_2_bank_BL4	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_2_row_2_bank_BL4	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Differential cross_point voltage : Vix_min_DQS
Test conditions : GoNOGO
Unit : V
Spec Limit Min : 525.0E-03
Spec Limit Max : 825.0E-03
Spec limits are represented in bold lines on the graphic.



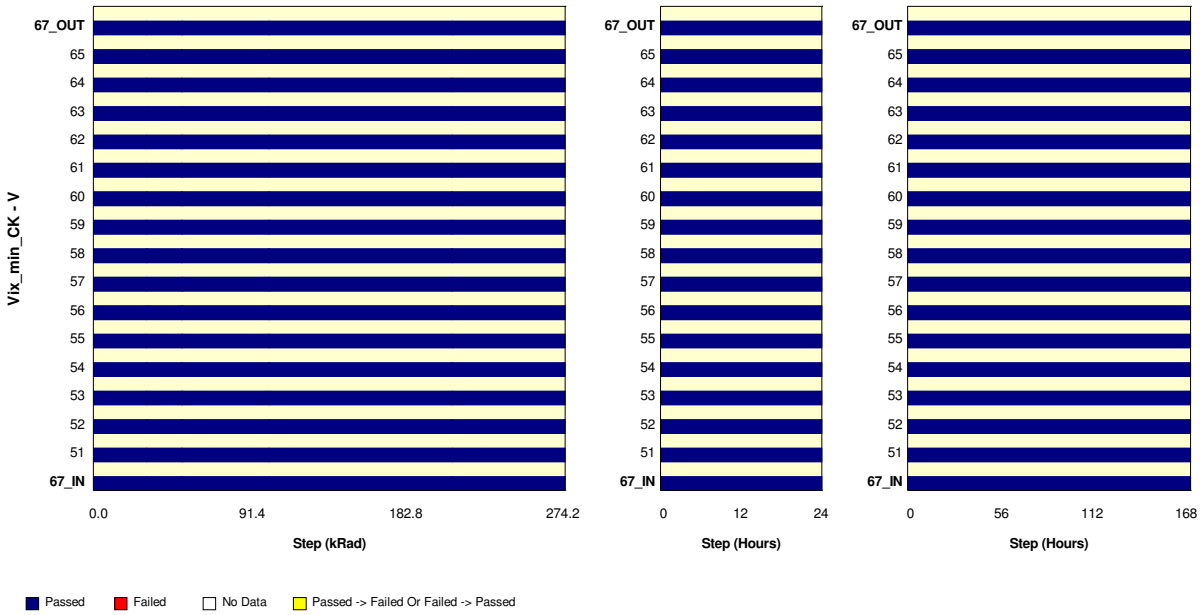
Measurements

Vix_min_DQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_min_DQS	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Differential cross_point voltage : Vix_min_CK
Test conditions : GoNOGO
Unit : V
Spec Limit Min : 525.0E-03
Spec Limit Max : 825.0E-03
Spec limits are represented in bold lines on the graphic.



Measurements

Vix_min_CK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples								
51	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
53	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
56	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_min_CK	0 kRad	30.79 kRad	51.31 kRad	101.97 kRad	208.42 kRad	274.17 kRad	24 Hours	168 Hours
67_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples								
61	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Appendix 3: Batch 2 - CO60 irradiation certificate

Co^{60} IRRADIATION CERTIFICATE

Customer: HIR
FAO: Frédéric TILHAC

Case followed up by: LP

Source: Coblat-60 (Co60)	
Certificate	N° 36708 of 08/10/2015
Activity	14.8 TBq of 04/09/2015

Reference : PV/ATR/GAMRAY-210/XX43/HIR/LP/1806
Device irradiated : NA
Irradiation certificate applied only to the device subjected to the irradiation
In agreement with the quality procedure according ESCC 22900 (Pro.026 Rev. 5)

Irradiation environment

	Units	Min	Max	Time-weighted average
Temperature	°C	19.0	20.9	20.0
Relative humidity	%	49.9	77.4	63.4

Dose rate measurement

The instruments used for dose rate measurement is a PTW ionization chamber(TM30013) and universal dosemeter UNIDOS E which is controlled annually.

UNIDOS E	Serial number: 82253	Certificate number: 17D243	Date: 02/11/2017
TM30013	Serial number: 9314	Certificate number: 17D243	Date: 02/11/2017

The measurement unit of the international system for the dose rate is Gy/s. We commonly use rad/h (1 Gy/h = 100 rad/h).
The dose rate is measured at the center of the device.

TRAD position	Date	Dose rate [rad/h] (Kerma in the air)
210-13	07/06/2018	221.22

Dosimetry

Each exit and input of Cobalt-60 source is logged in a digital file. We compute the dose at each step taking into account the source decay, the dose rate measured by the gamma probe and the downtime irradiation.

TRAD position	Date	Total ionizing dose [krad] (Kerma in the air)
210-13	08/06/2018	0
	14/06/2018	30.79
	18/06/2018	51.31
	28/06/2018	101.97
	19/07/2018	208.41
	01/08/2018	274.16

Measurement uncertainty : 1.6%

ESCC 22900: The dose at the device under test shall be measured to a resolution of better than 10%. The test devices shall be exposed to within 10% of the specified radiation dose level(s).
The gamma-ray dose rate of a Cobalt 60 source shall be calibrated in accordance with the requirements of ESCC Basic Specification No. 21500 to 5% or better. Dosimetry shall be traceable to national standards.

Appendix 4: Batch 1 - Dynamic bias mode Test report with in-situ measurements

TOTAL IONIZING DOSE TEST REPORT

Test type	In situ total ionizing dose
Part Reference	K4B4G0846Q
Tested function	DDR3L SDRAM
Chip manufacturer	Samsung
Test Facility	UCL-HIF, Louvain-La-Neuve, Belgium, Hirex Engineering Toulouse
Test Date	19/09/2018
Customer	ESA

Esa Estec Purchase Order N° 4000112477/14/NL/HB dated December 4th, 2014

BCE 5524

Hirex reference:	HRX/TID/01586	Issue: 01	Date:	15/11/2018
Written by:	F. Lochon / F.X Guerre			
Authorized by:	F.X. Guerre	Study Manager		

DOCUMENTATION CHANGE NOTICE

Issue	Date	Page	Change Item	
01	15/11/2018	All	Original issue	

Contributors to this work:

Frédéric Lochon Hirex Engineering

TOTAL IONIZING DOSE TEST REPORT
on K4B4G0846Q
Samsung

TABLE OF CONTENTS

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1 Introduction

This report presents the functional test results obtained on Samsung K4B4G0846Q DDR3 memory during beam exposure and annealing. A supervisor board (HIREX, reference: STB030A) connected to 2 DUT (Device Under Test) SODDIM boards, low speed and high speed, sends the test sequence commands to each DUT on the SODDIM boards and test data are transmitted via an Ethernet cable to the test monitoring laptop pc.

2 In-situ test system description

The following figure shows the test system overview for dynamic in-situ test.

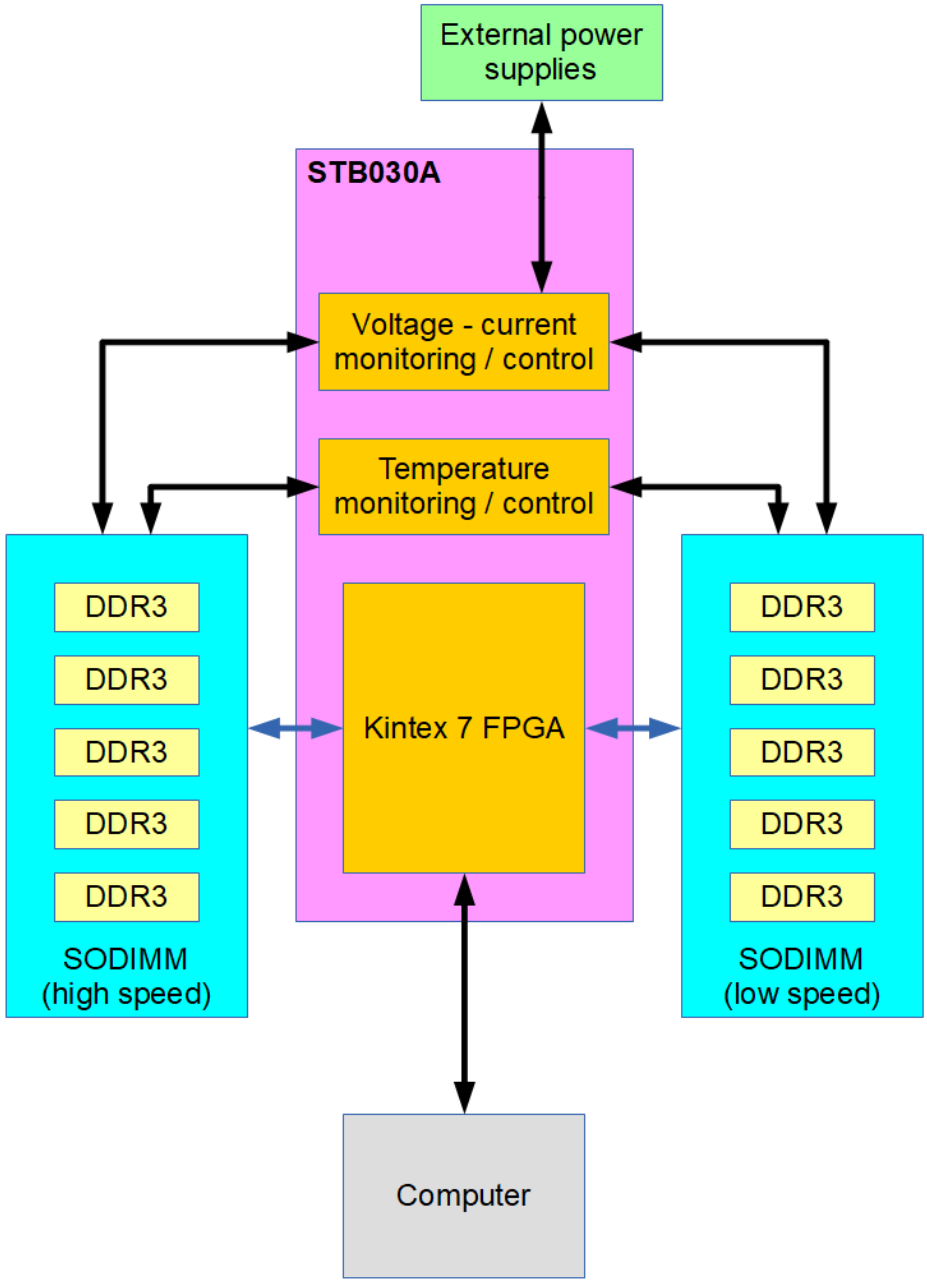


Figure 1 : In-situ test system overview

3 Test conditions

3.1 Test campaign

Read mode:
Campaign start date: 23/04/2018 14:55
Campaign end date: 10/07/2018 16:46

Steps	Dose (krad)	Time (hours)
Step1	290	1290
Annealing 25°C		24
Annealing 85°C		168

Write mode:
Campaign start date: 23/04/2018 15:03
Campaign end date: 19/09/2018 10:43

Steps	Dose (krad)	Time (hours)
Step1	723	3219
Annealing 25°C		24
Annealing 85°C		168

3.2 Test flow

During exposure and the 2 subsequent annealing steps, two test modes have been implemented to read and write the entire memory plane:

Read sequence:
- Write 0xAA/0x55 at initial on 10 samples
- Repeat cycles:
  - At low speed 325 MHz on 5 samples, wait 1 hour in Idle mode and Read 0xAA/0x55.
  - At high speed 700 MHz on 5 samples, wait 1 hour in Idle mode and Read 0xAA/0x55.

Write sequence:
- Write 0xAA/0x55 at initial on 10 samples
- Repeat cycles:
  - At low speed 325 MHz on 5 samples, wait 1 hour in Idle mode, read 0xAA/0x55, write 0x55/0xAA, wait 1 hour in idle mode, read 0x55/0xAA, write 0xAA/0x55.
  - At high speed 700 MHz on 5 samples, wait 1 hour in Idle mode, read 0xAA/0x55, write 0x55/0xAA, wait 1 hour in idle mode, read 0x55/0xAA, write 0xAA/0x55.

3.3 Test samples

Four SODIMM boards have been used for this test with 5 DUTs mounted on each board. The board repartition was as follows

		Low Speed	High Speed
Read mode	STB030A 1	SODIMM 1	SODIMM 2
Write mode	STB030A 2	SODIMM 3	SODIMM 4

4 Test results

Results are transmitted via an Ethernet cable from each STB030A board to the laptop pc located outside the exposure room.
Results consist in:
- Read errors (every hour)
- UI monitoring and eventually temperature monitoring (every 300ms)

4.1 DUT bias SODDIM supply current

4.1.1 Read mode

Figure 2 present the SODIMMs supply currents for both High Speed (HS) and Low Speed (LS) test modules for the read mode. During the annealing at 85°C, with the low speed mode, DUTs did not pass the calibration during the entire annealing period.

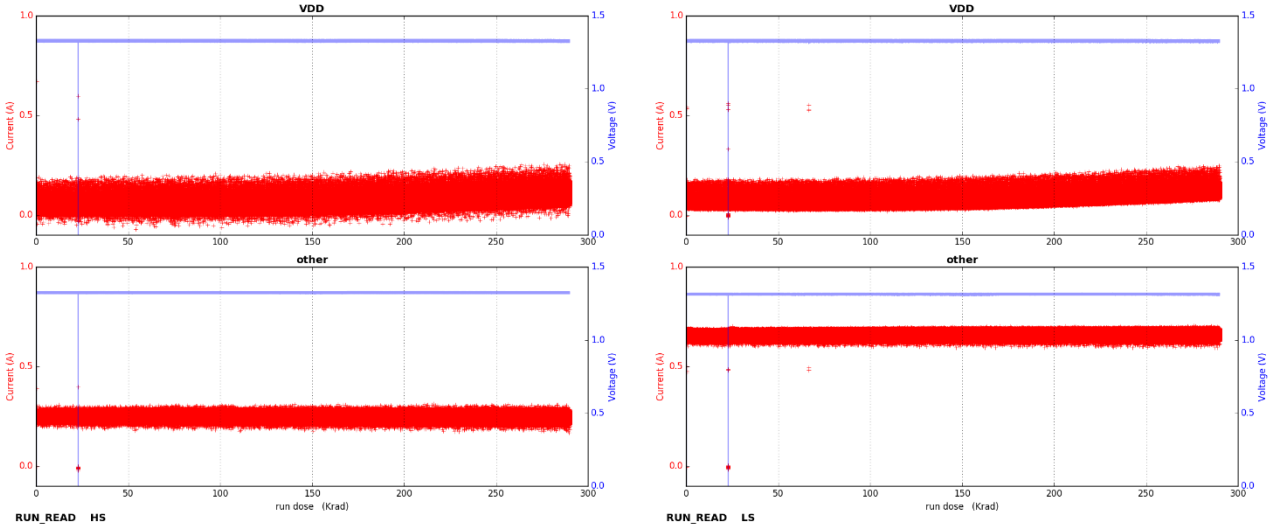
After annealing, for read modes samples at low and high speed, a test was performed 3,5 months after the end of the campaign, and all samples succeeded to calibrate and memory reading was performed.

4.1.2 Write mode

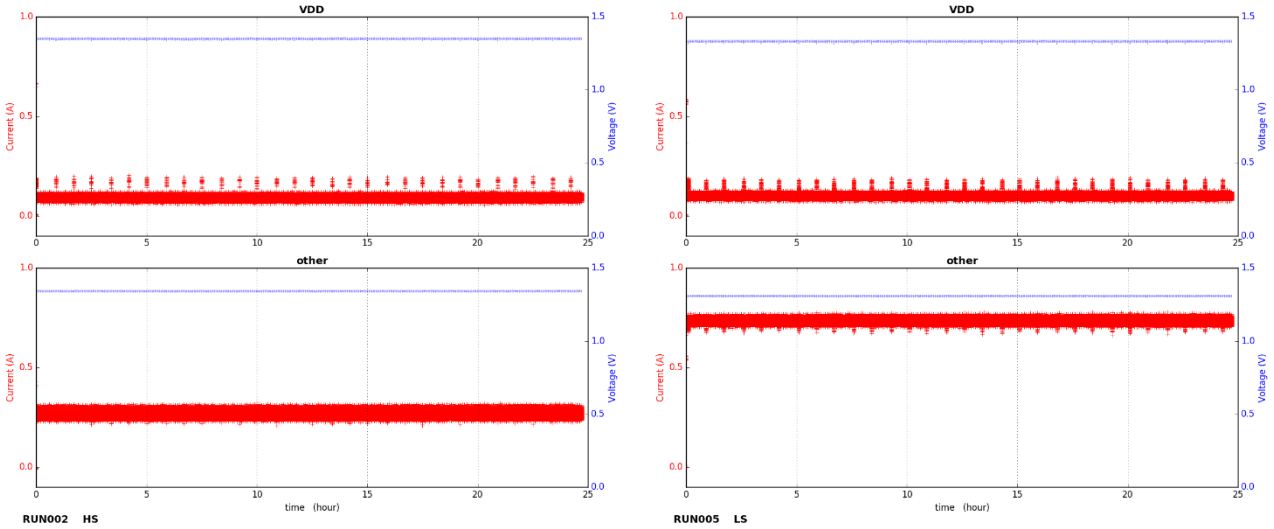
Figure 3 present the SODIMMs supply currents for both High Speed (HS) and Low Speed (LS) test modules for the write mode.
During the annealing at 25°C, DUTs did not pass the calibration during the entire annealing period.
During the annealing at 85°C, only the samples with the high-speed mode succeeded to calibrate toward the end of the annealing.

After annealing, for write modes samples at low and high speed, a test was performed 3,5 months after the end of the campaign, and all samples succeeded to calibrate and memory reading was performed.

Step1 : Exposure



Annealing 25°C 24 hours



Annealing 85°C 168h

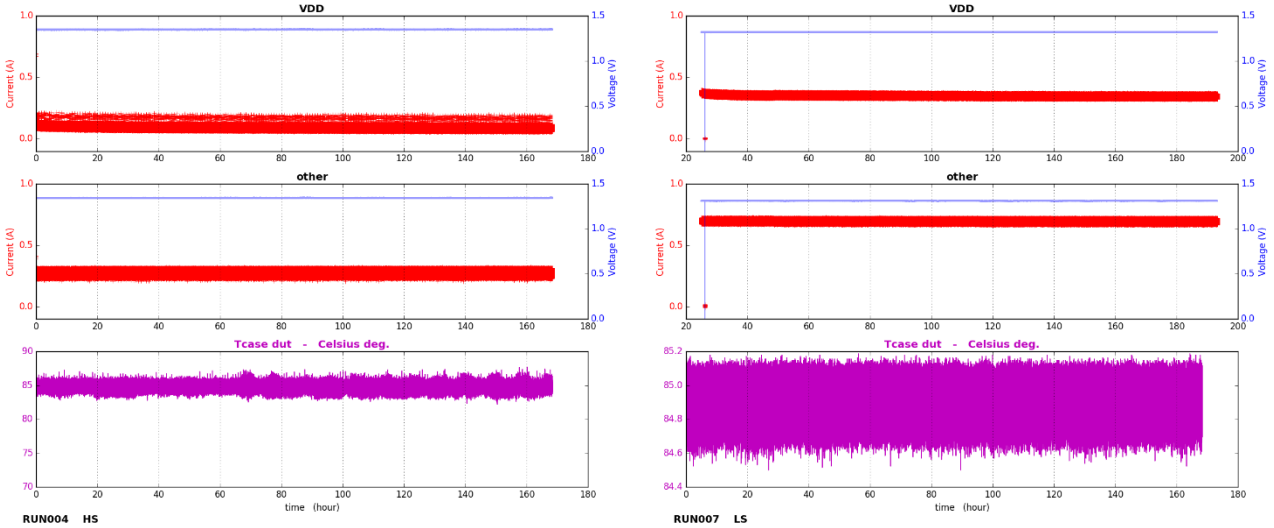
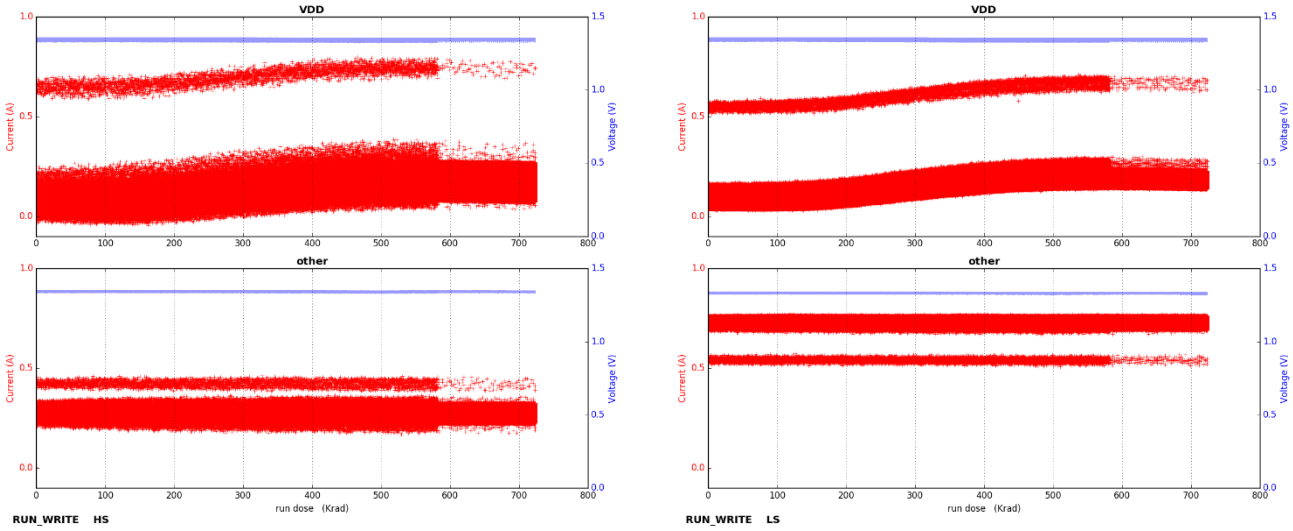


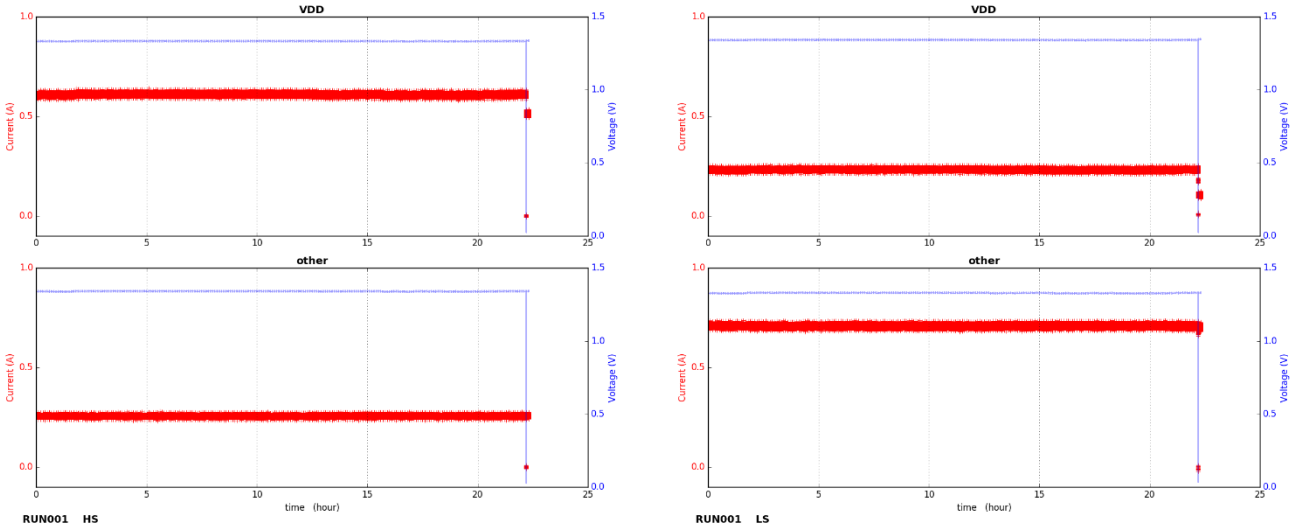
Figure 2 – Read mode, High Speed and Low Speed test modes, In situ monitoring

Step1 : Exposure

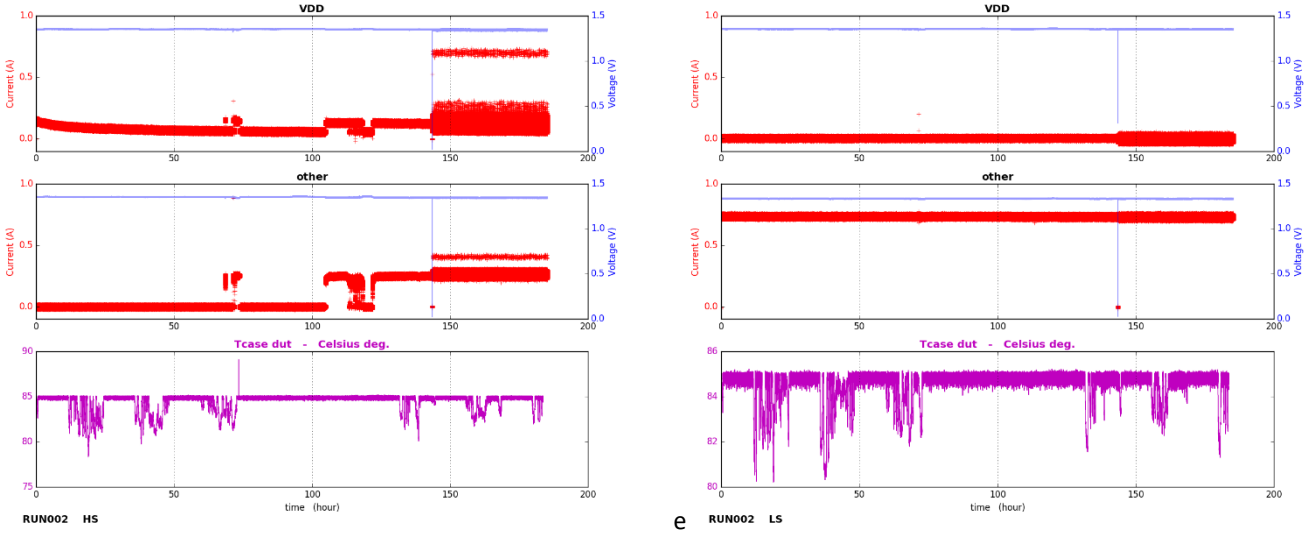


After 580 krad, read/write operation is performed every 10 hours instead of every hour

Annealing 25°C 24 hours



Annealing 85°C 168h



e

Figure 3 –Write mode, High Speed and Low Speed test modes, In situ monitoring

4.2 Exposure Test results

Each memory present 8 banks of 65536 columns by 1024 rows.
For both read and write mode, the 5 DUTs are read in parallel and each memory plane is traversed by bank, column, row which means that bank0, column0, row 0 to row 1023 is read, then bank0, column1, row 0 to row 1023, etc.
Read is done by burst which corresponds to 8 words times 5 DUTs. Each time at least 1 word is in error among the 8 words time 5 DUTs, the burst is recorded.

4.2.1 Read mode

No error has been recorded for both High Speed (HS) and Low Speed (LS) modes up to cumulated dose of 290 krad. A failure on the supervisor board has then forced to stop the exposure of the devices under read mode. Due to supervisor availability constraints, the annealing for low speed, both 25°c 24 hours and 85°c 168 h and the one for high speed have been performed on 2 different supervisor boards.

4.2.1 Write mode

Samples have been exposed up to a cumulated dose of 723 krad.
Figure 4 show the number of errors cumulated for all DUTs tested in parallel as a function of the dose received. When the number of word errors increase, rapidly only the errors detected in the first banks will be recorded. Figure 5 shows the number of word errors in bank 0 as a function of the dose received for each DUT at both high speed and low speed.
Figure 6 show the error mapping at high speed at a dose corresponding to the points A and B in Figure 5 while Figure 7 show the error mapping corresponding to the points C and D.

Lastly Figure 8 and Figure 9 show the word errors and the error mapping at high speed for DUT1 up to a dose of 530 krad while Figure 10 and Figure 11 show the word errors and the error mapping at low speed for DUT1 up to the same dose.
For both modes, the error mapping show a specific behavior with column errors for bank 7.

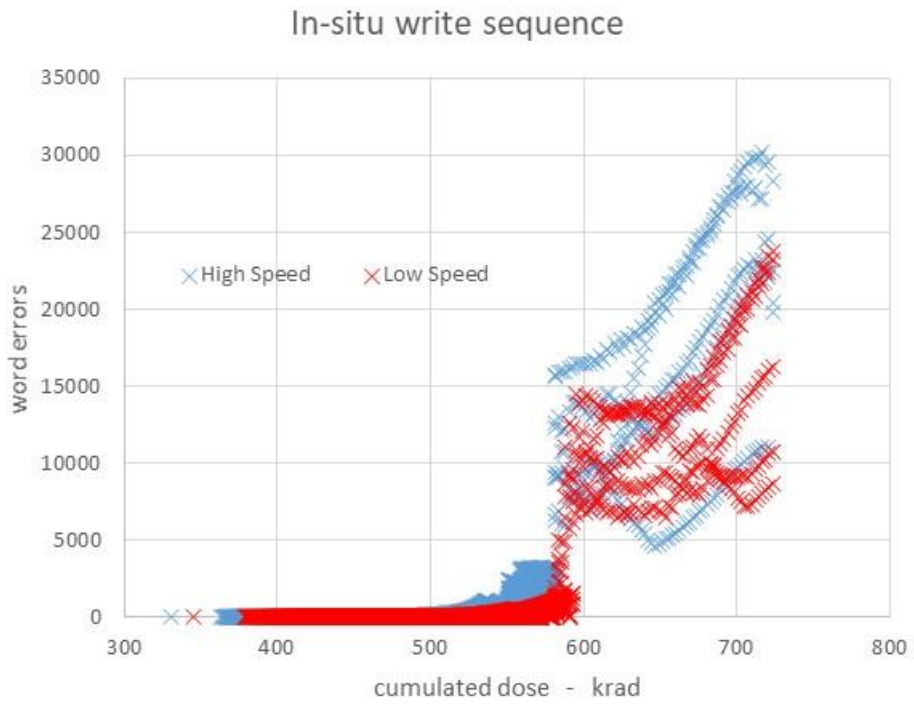


Figure 4 - Number of word errors (5 DUTs, all banks)

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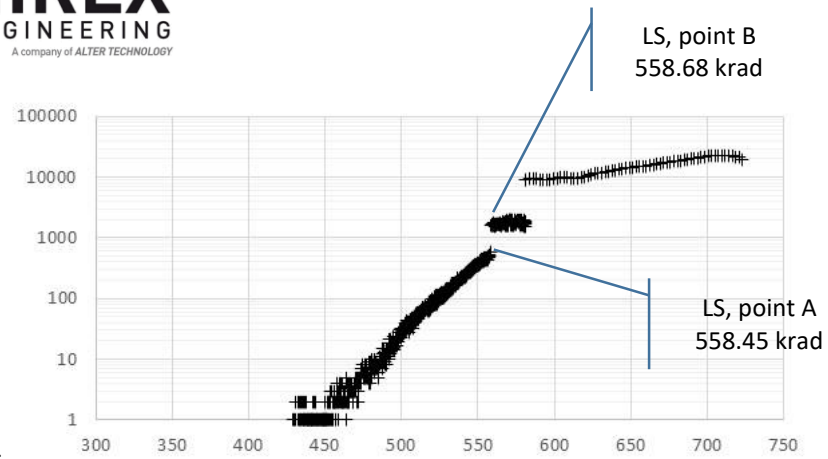
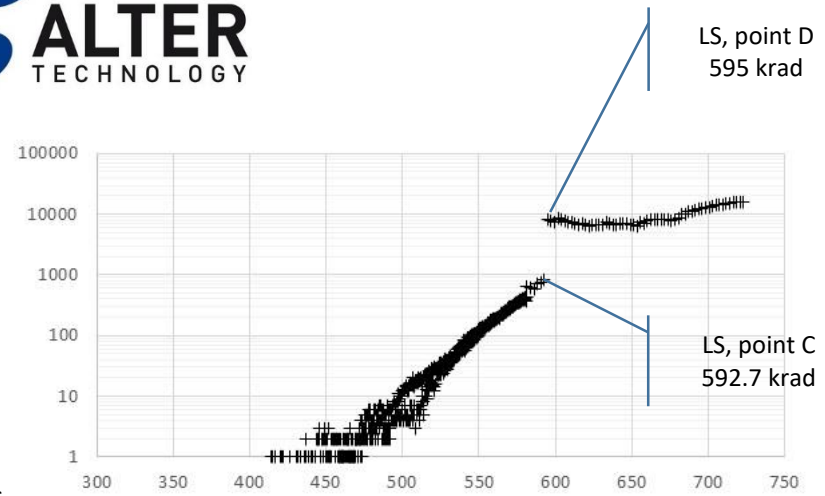
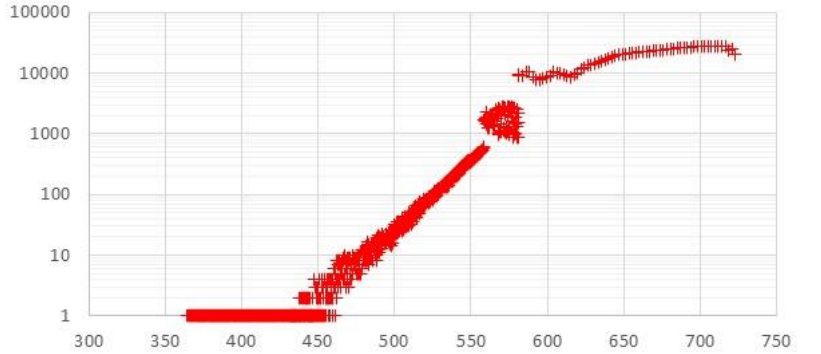
DUT1 HS



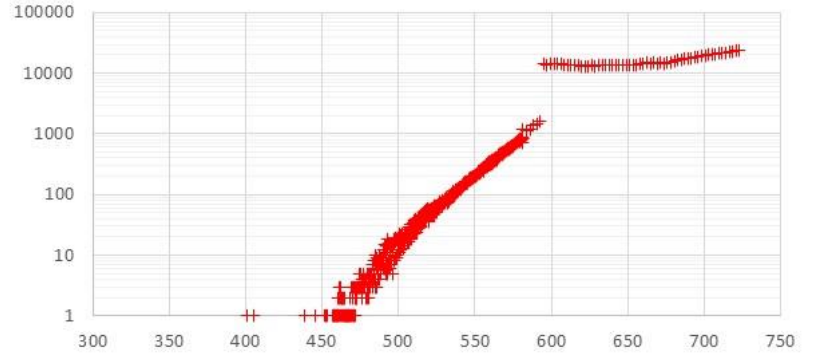
DUT1 LS



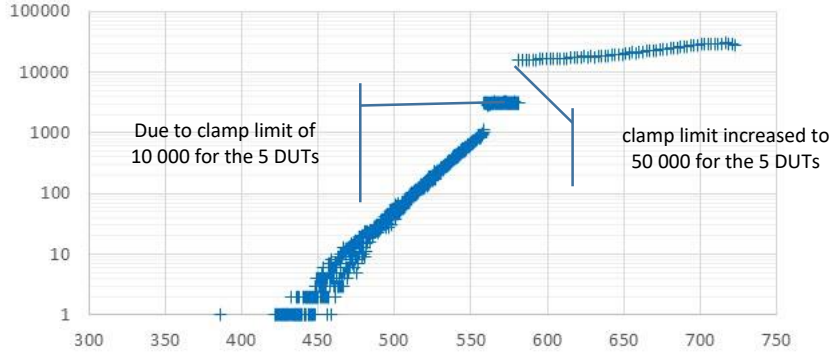
DUT2 HS



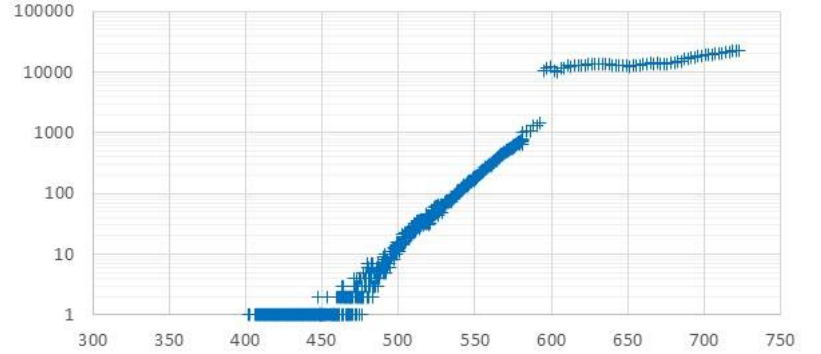
DUT2 LS



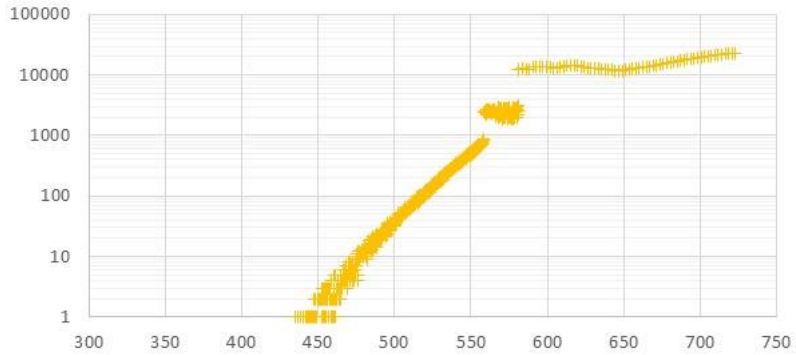
DUT3 HS



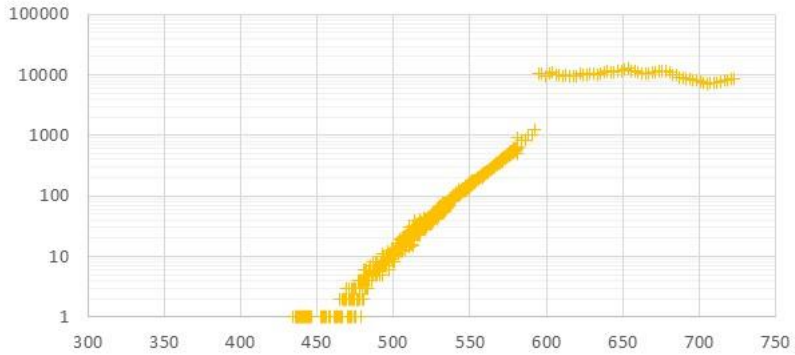
DUT3 LS



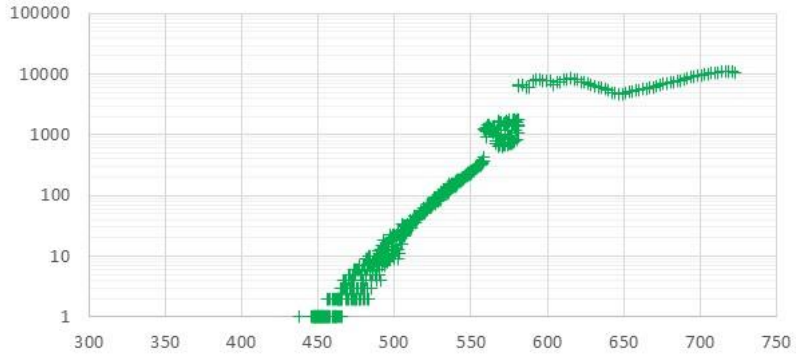
DUT4 HS



DUT4 LS



DUT5 HS



DUT5 LS

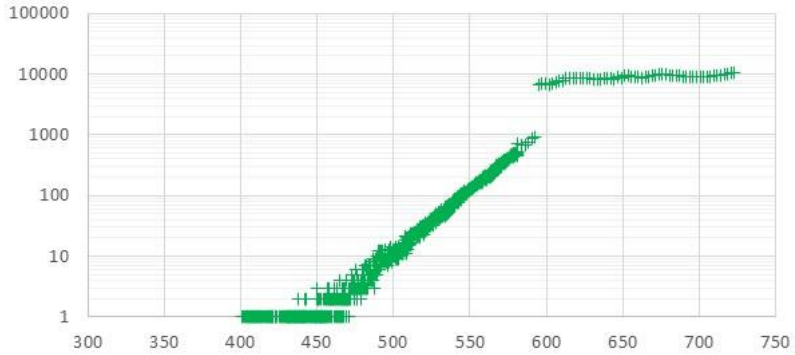
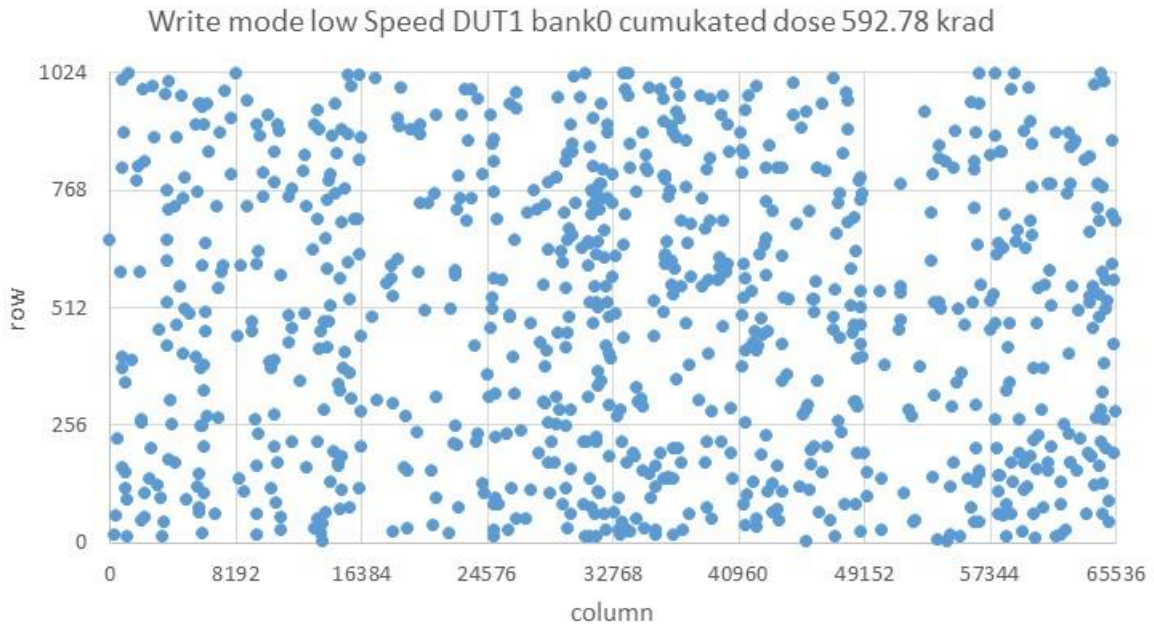


Figure 5 - Write mode, bank0, word errors as a function of cumulated dose in Krad

All word errors (848) are single bit word errors

Correspond to LS Point A of Figure 5



Limit (50000 words for the 5 DUTs) is reached. 8161 Single bit word errors (SEU) and 19 2-bits words errors (MBU2) are observed

Correspond to LS Point B of Figure 5

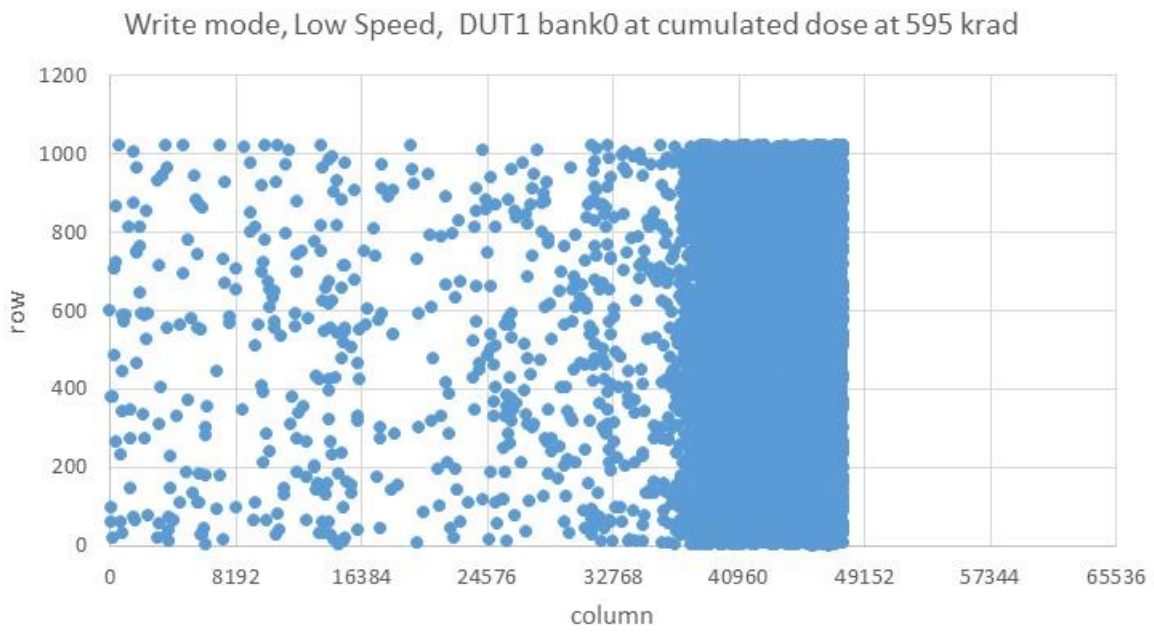
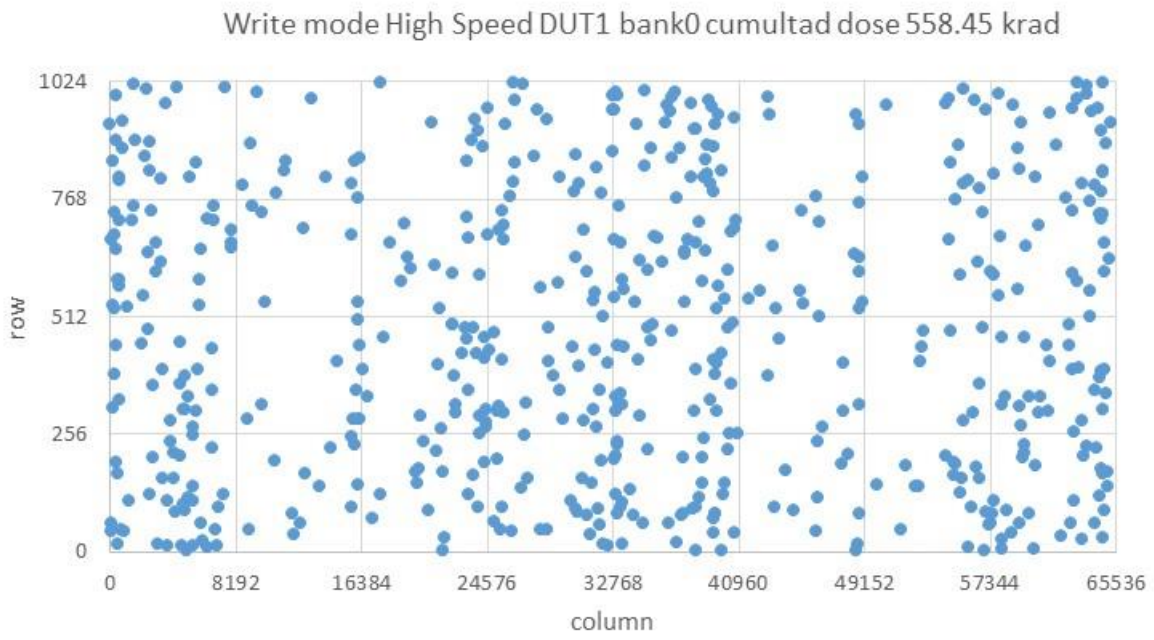


Figure 6 – DUT1, bank0, error mapping at 2 cumulated doses, pointA: 558.45 krad and point B: 558.68 krad

All word errors (572) are single bit word errors

Correspond to LS Point C of Figure 5



Limit (10000 words for the 5 DUTs) is reached Column errors with 1582 Single bit word errors (SEU) and 2 2-bits words errors (MBU2) are observed

Correspond to LS Point D of Figure 5.

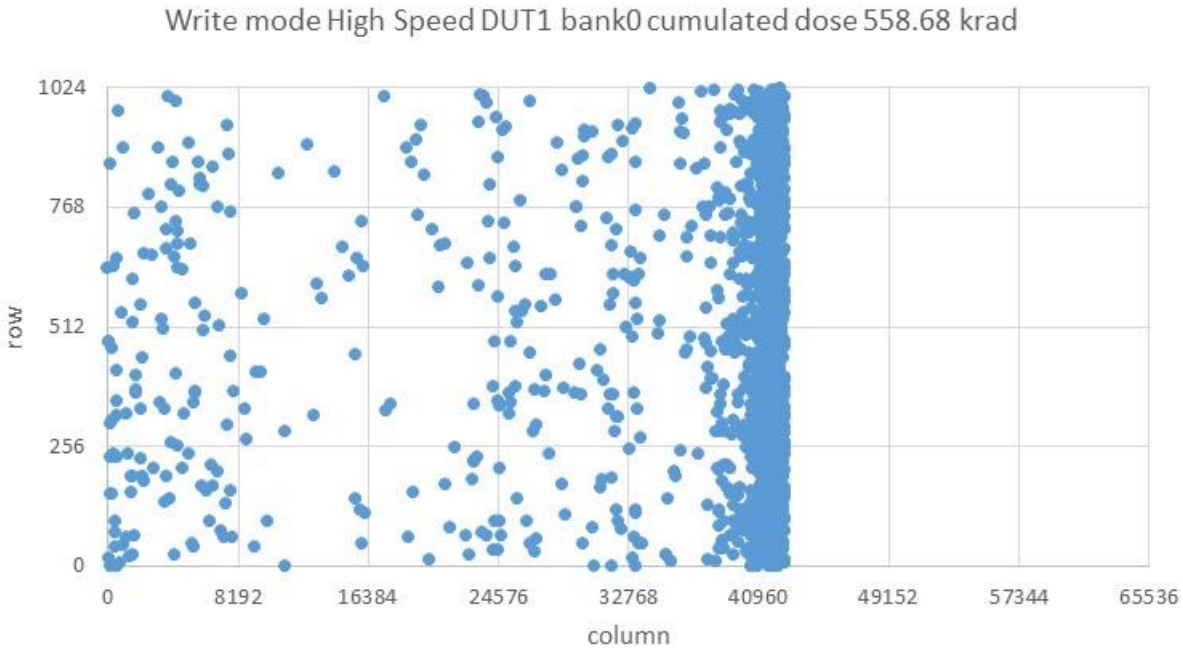
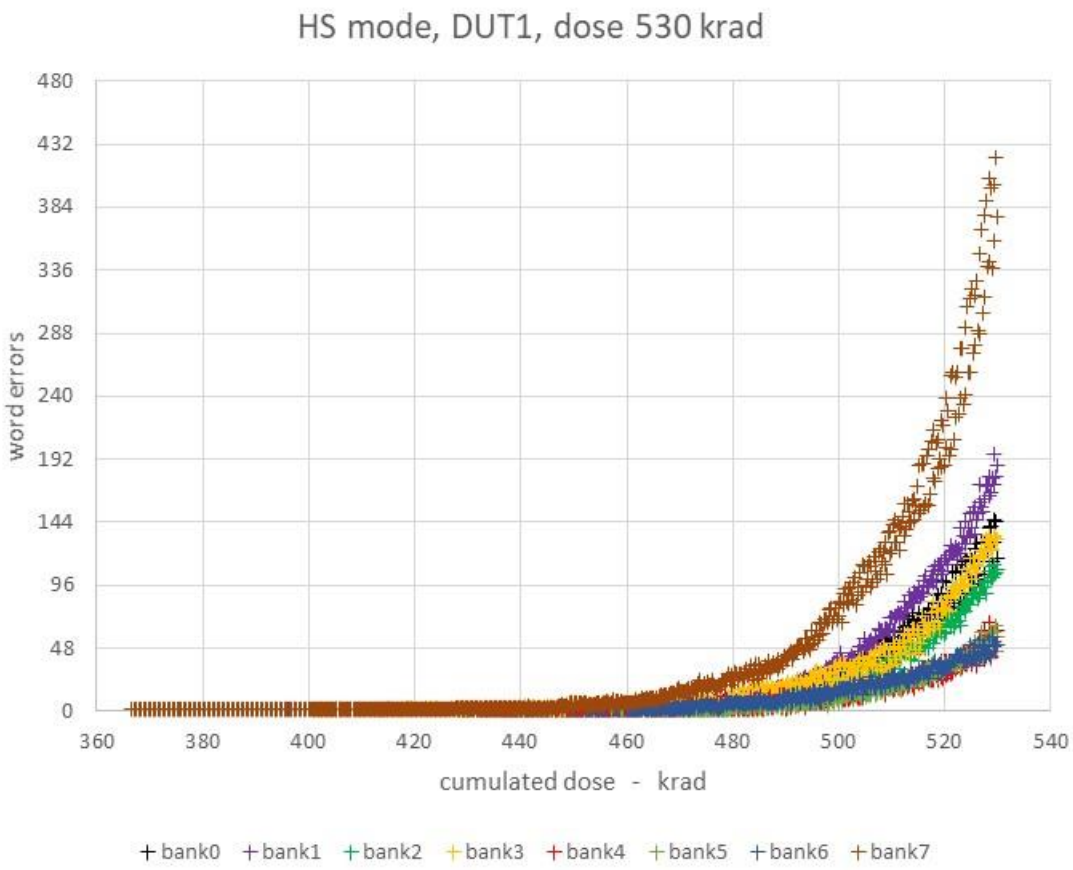


Figure 7 – DUT1, bank0, error mapping at 2 cumulated doses, pointA: 558.45 krad and point B: 558.68 krad



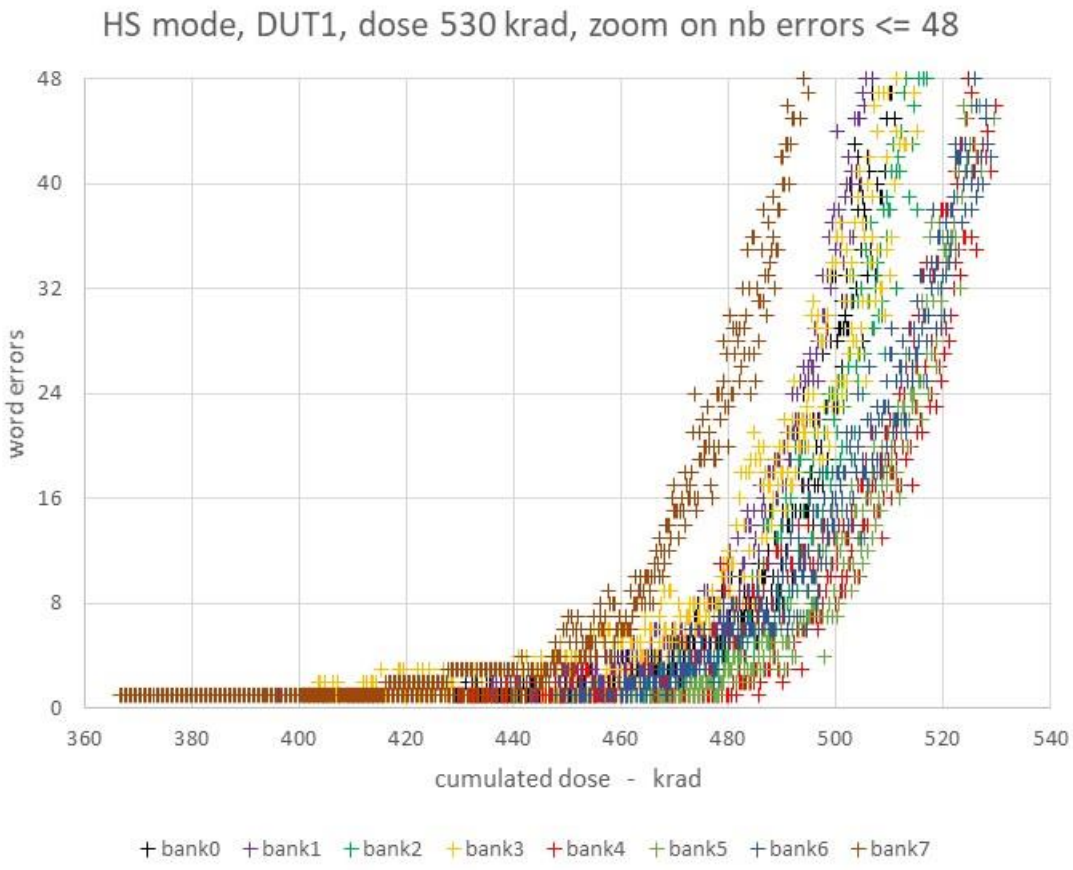


Figure 8 - High Speed DUT1, number of errors per bank with dose=530krads

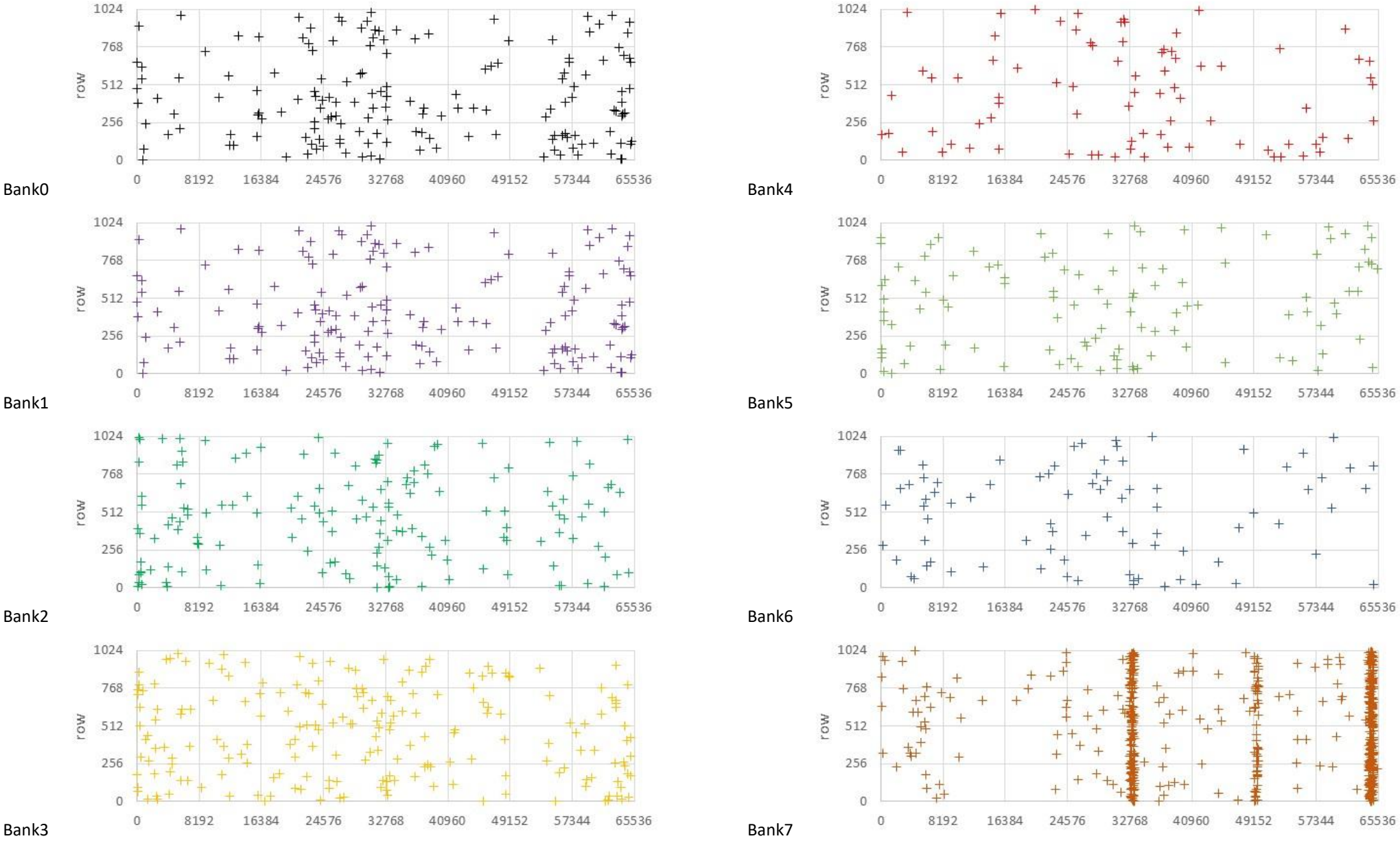
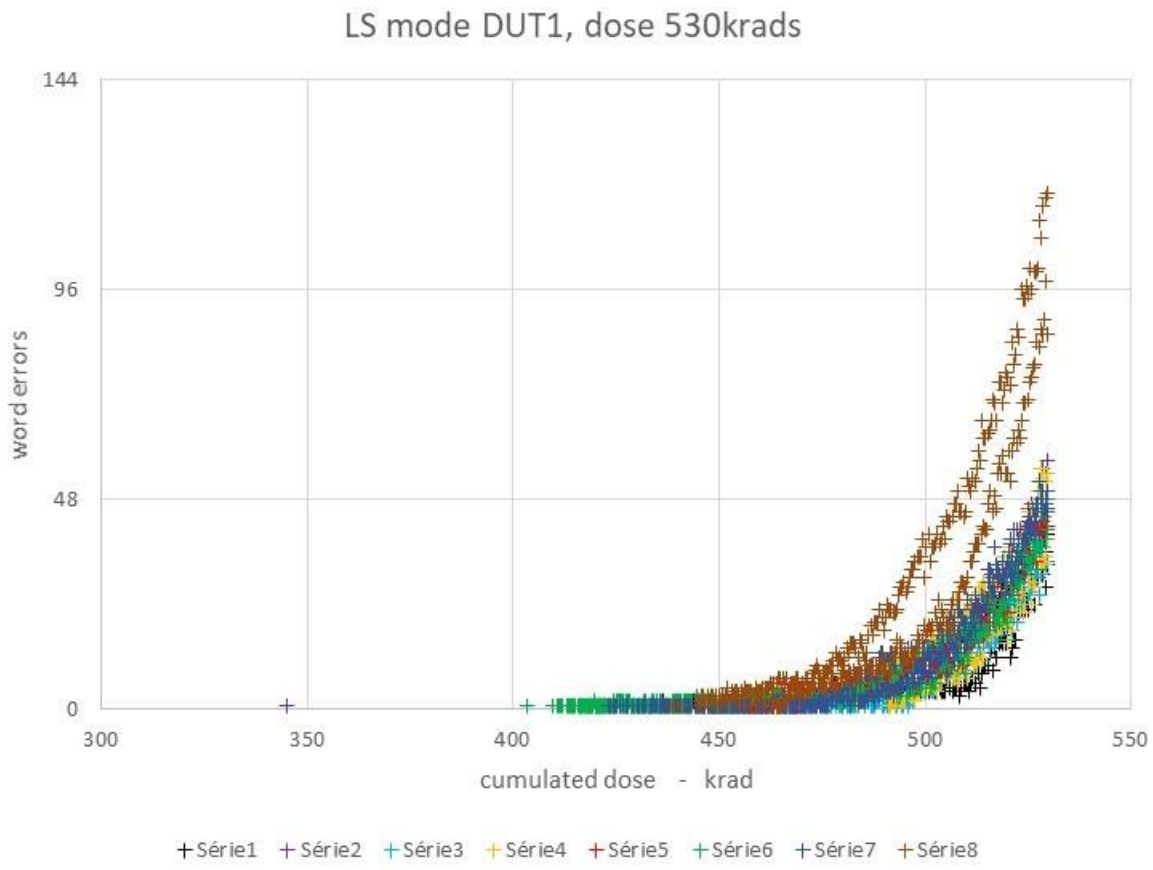


Figure 9 - High Speed DUT1, error mapping at dose 530 krads



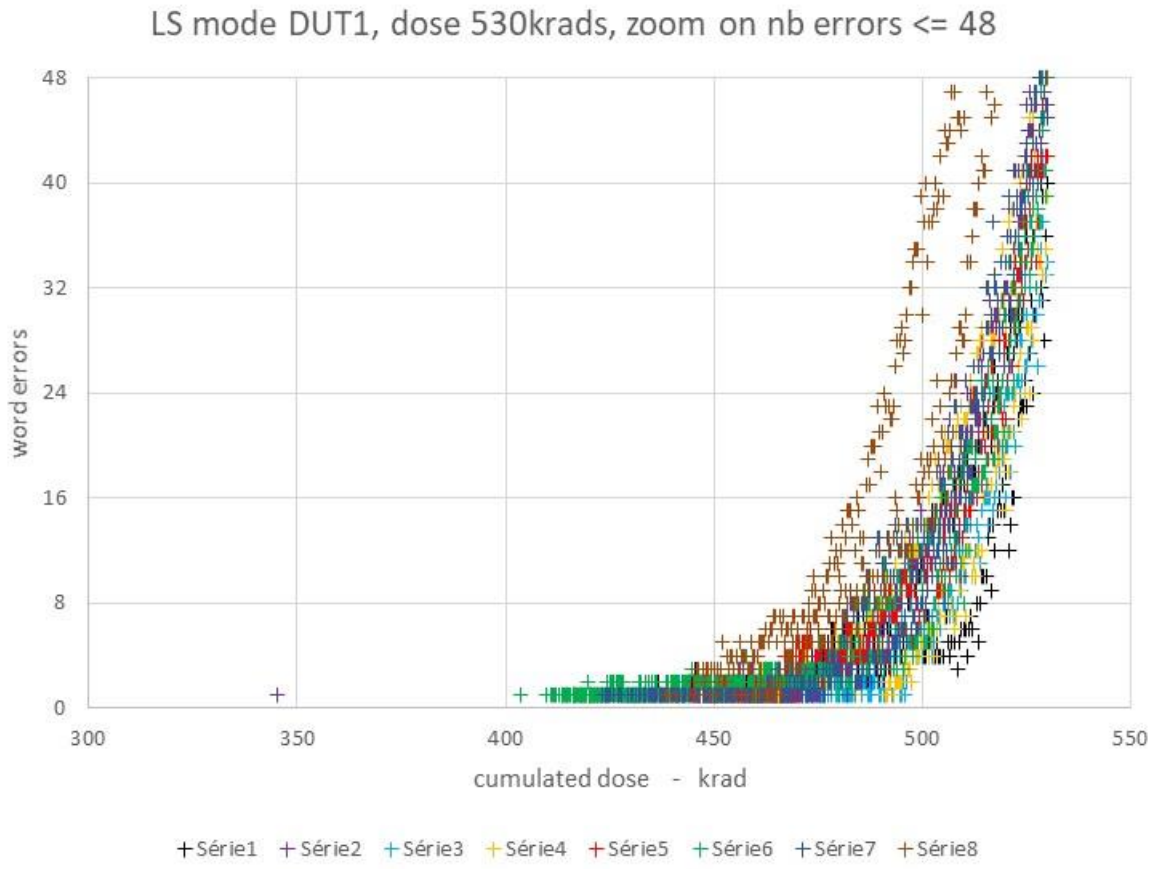


Figure 10 - Low Speed DUT1, number of errors per bank with dose=530krads

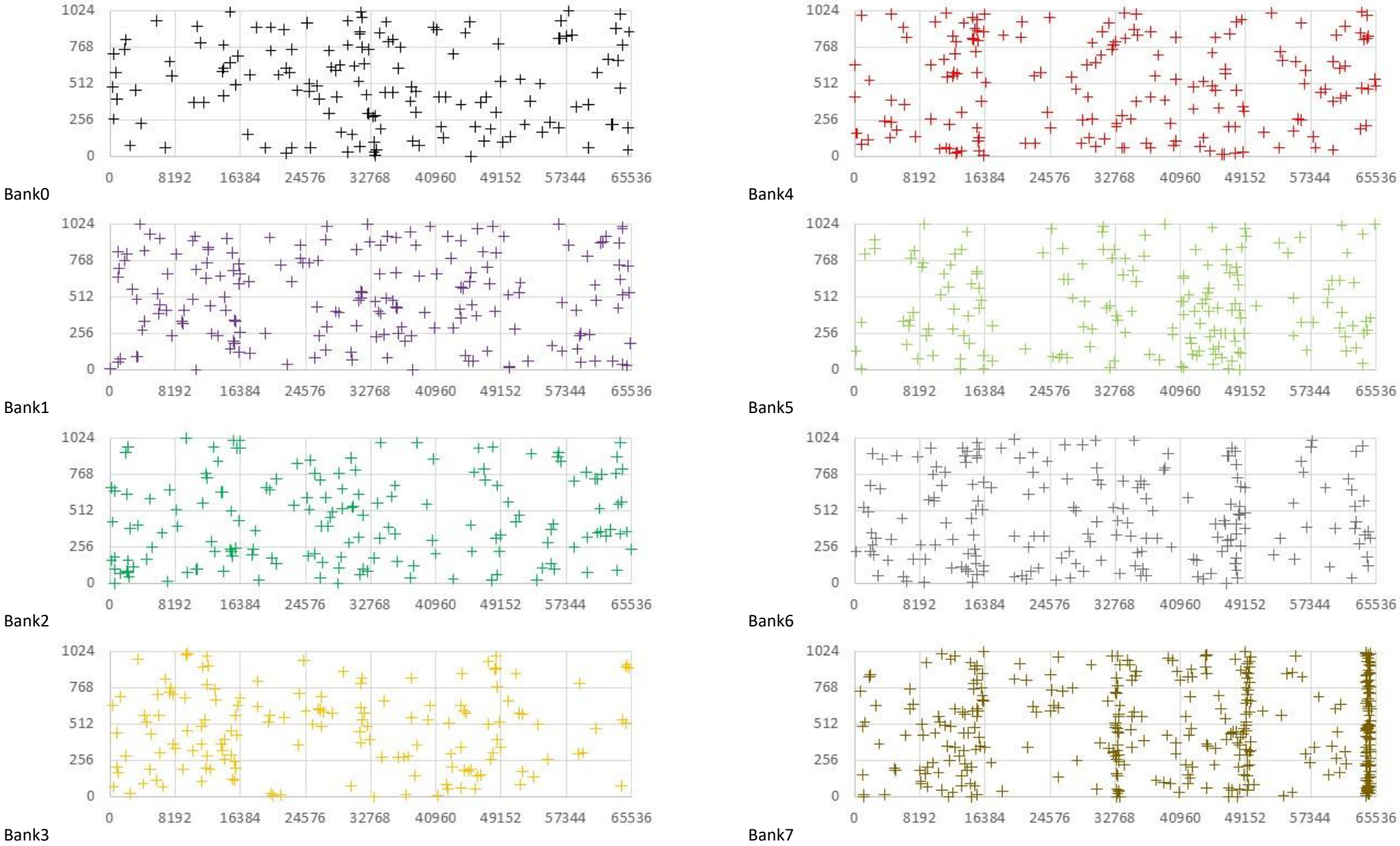


Figure 11 - Low Speed DUT1, error mapping at dose 530 krads

4.3 Annealing test results

4.3.1 Read mode

No word error has been detected when calibration was working.

4.3.2 Write mode

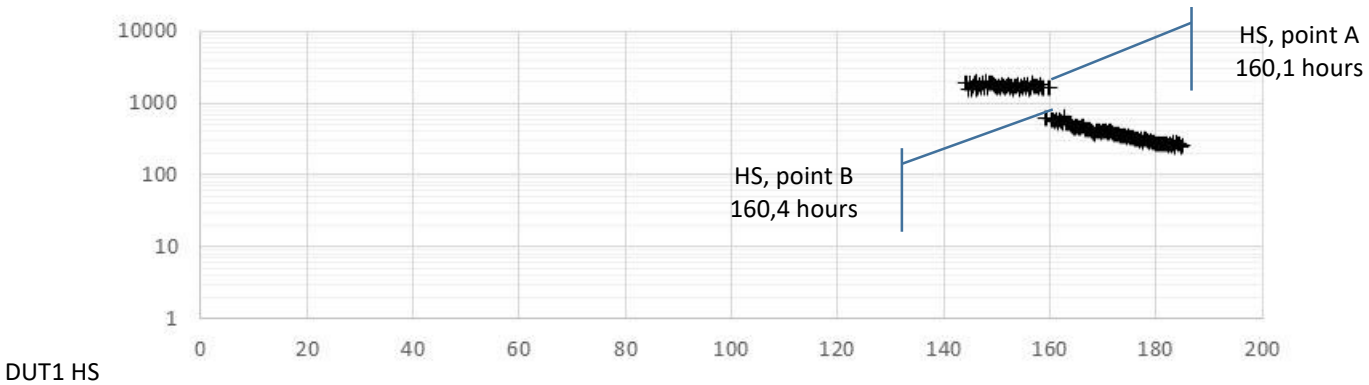
For high speed mode, as calibration worked again toward the end of 85°C annealing step, word errors have been recorded.
Figure 12 shows the number of word errors recorded for each sample as a function of annealing time in hours.
In Figure 13, one can observe that only single bit word errors are detected when annealing time is increasing (after point B).

For low speed, no word errors could be detected due to the absence of proper calibration

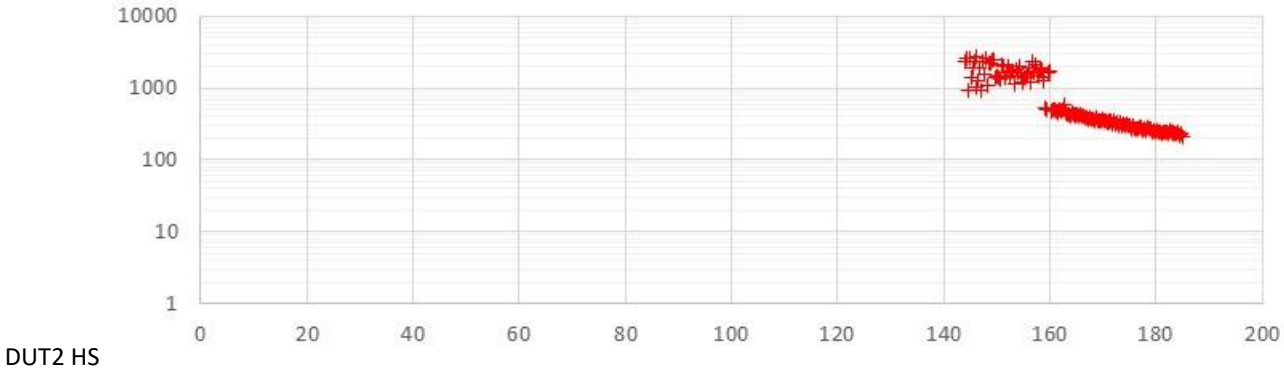
4.4 Post Annealing test results

A sample verification test at room temperature has been performed in November 2018 with the following results:

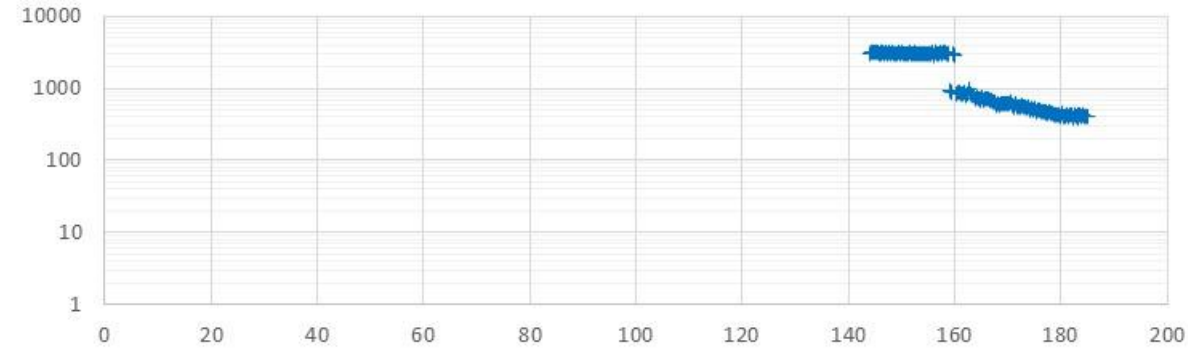
- Very few errors (all single bit word errors) have been recorded with high speed write SODDIM module: less than 10 errors / DUT/ bank.
- No word error with low speed write SODDIM module
- No word error was detected with both low speed read and high speed write SODDIM modules.

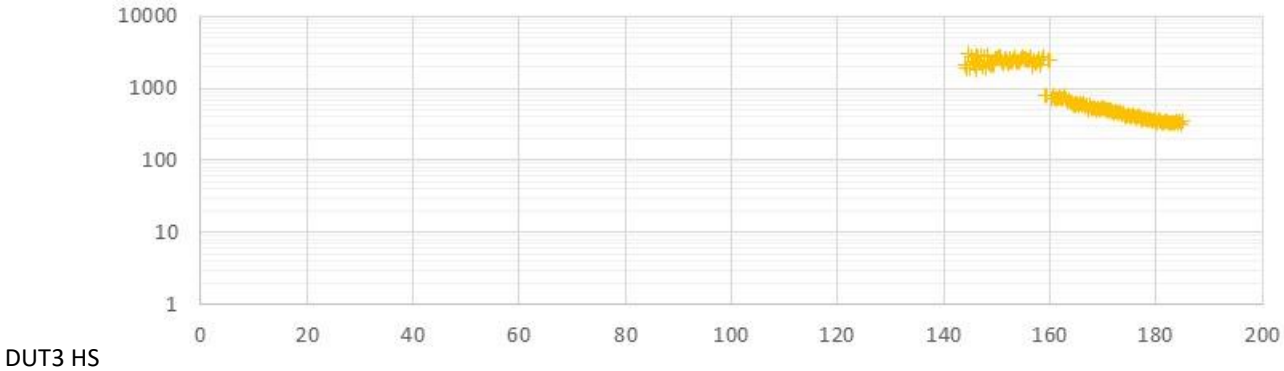


DUT1 HS

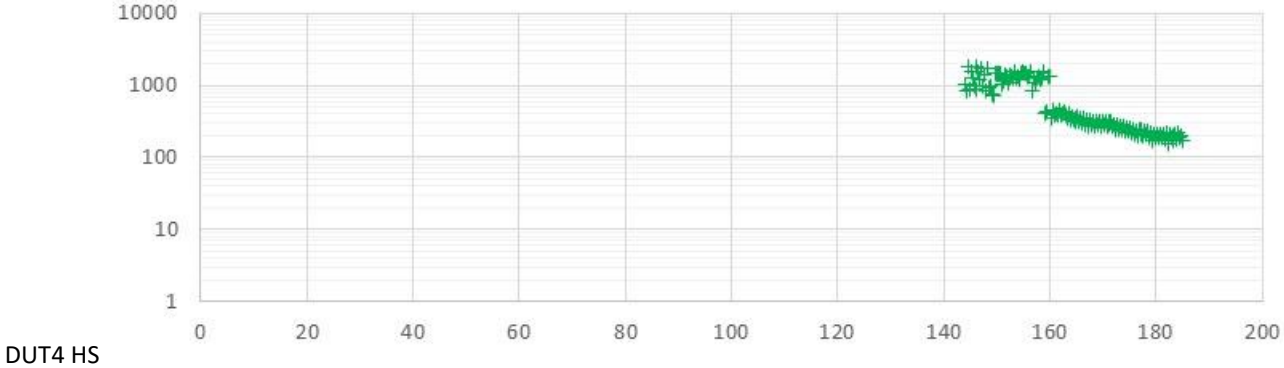


DUT2 HS





DUT3 HS

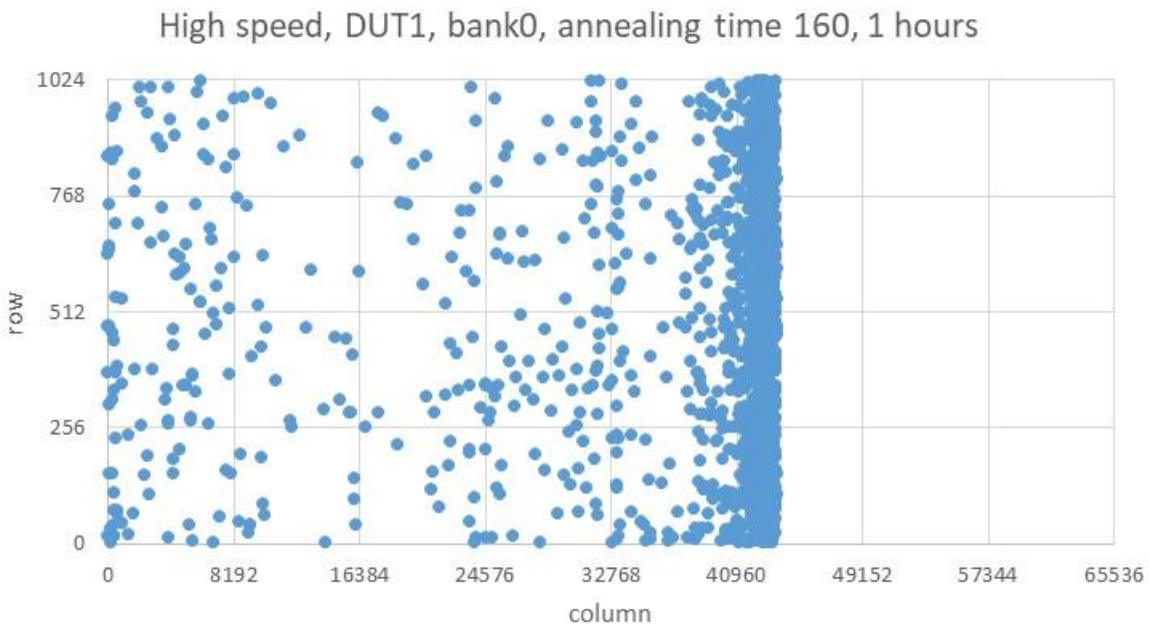


DUT4 HS

Figure 12 – Annealing 85°C, High speed, bank0, word errors as a function of annealing time in hours

Limit (10000 words for the 5 DUTs) is reached 1649 Single bit word errors (SEU) and 3 2-bits words errors (MBU2) are observed

Correspond to HS Point A of Figure 12



All word errors (590) are single bit word errors

Correspond to HS Point B of Figure 12

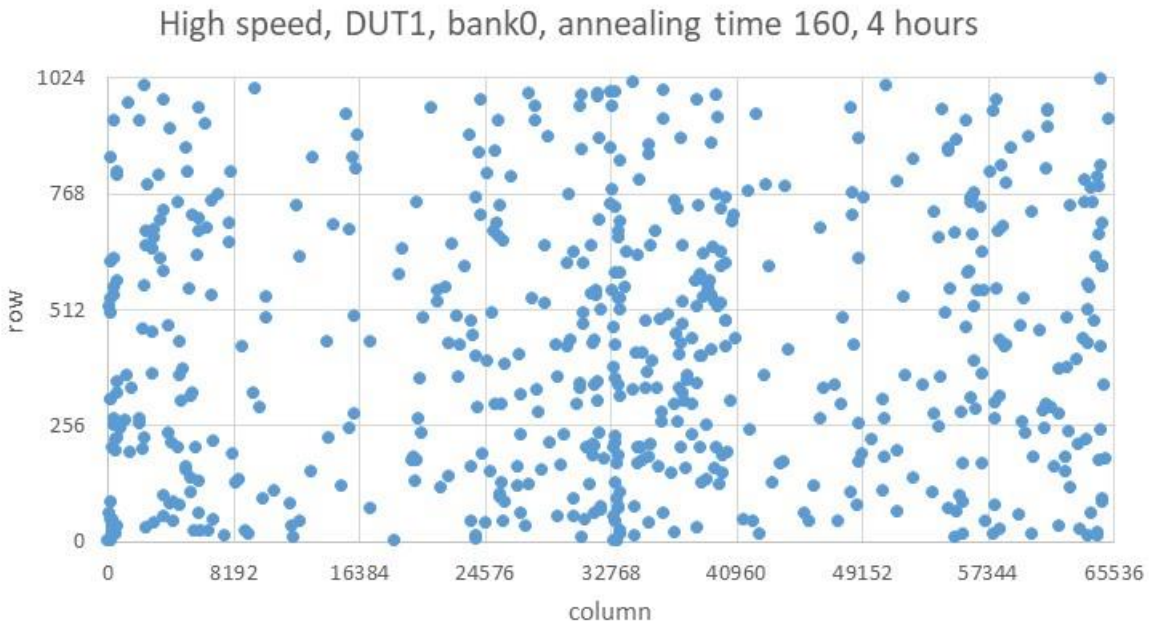


Figure 13 – Annealing 85°C, High speed, DUT1, bank0, error mapping at pointA: 160.1 hours and pointB: 160.4 hours