TOTAL IONIZING DOSE TEST REPORT

Part Type: H5TC4G83CFR

Package: FBGA-78

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

Manufacturer: HYNIX Inc.

Date Code: 1517

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

Esa Estec Technical Responsible: Christian POIVEY

Hirex reference:	HRX/TID/01587	Issue:01	Date:	November 12, 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 12, 2018	All	Original Issue

TOTAL IONIZING DOSE TEST REPORT
on HYNIX Inc.
H5TC4G83CFR
4Gb (512Mb x 8) DDR3L SDRAM

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1 Introduction

Two total ionizing dose verification test runs for the HYNIX Inc. H5TC4G83CFR, 4Gb (512Mb x 8) DDR3L SDRAM have been performed with an accumulated dose of 460 krad(Si) for batch 1 at a dose rate of 220 rad(Si)/hour and 206kRad(Si) for batch 2 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/0095 issue 02.
- Hirex Engineering Detail Design Document: HRX/DDD/02438 Issue 01
- Hirex Engineering Test Conditions: HRX/TC/01886 Issue 01
- ESCC Basic Specification No. 22900 issue 05.

2.2 Reference Documents

- Hynix Datasheet rev.1.1 December 2014

3 Test Samples

35 samples of the H5TC4G83CFR 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 51 to 60	Dynamic Low Frequency
SN 61 to 70	Dynamic Max Frequency

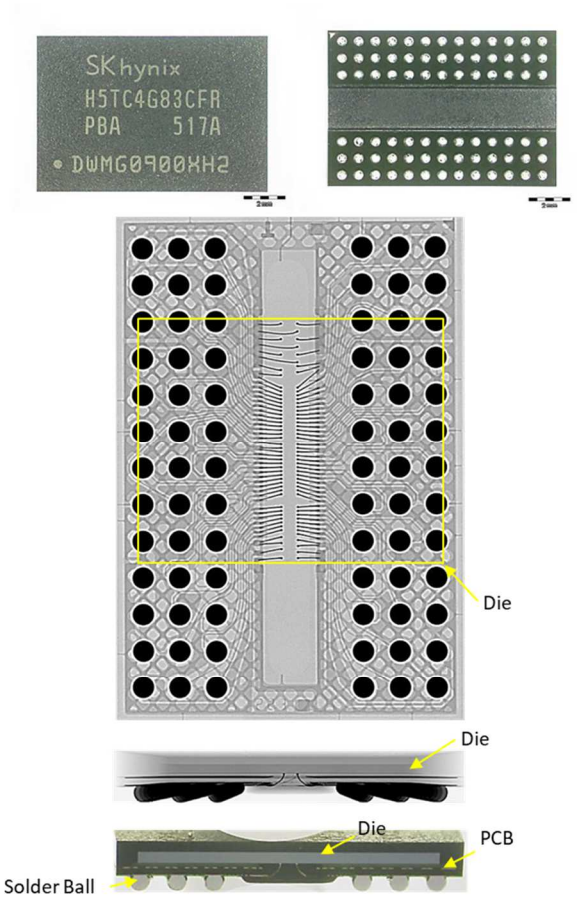
Batch 2

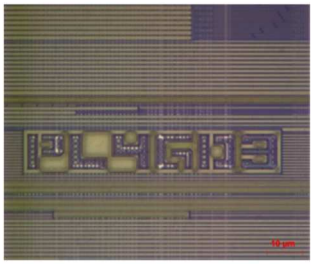
Serial Numbers	Allocation
SN 87	Control
SN 71 to 80	Biased ON
SN 81 to 85	Biased OFF

Identification of the H5TC4G83CFR is provided below:

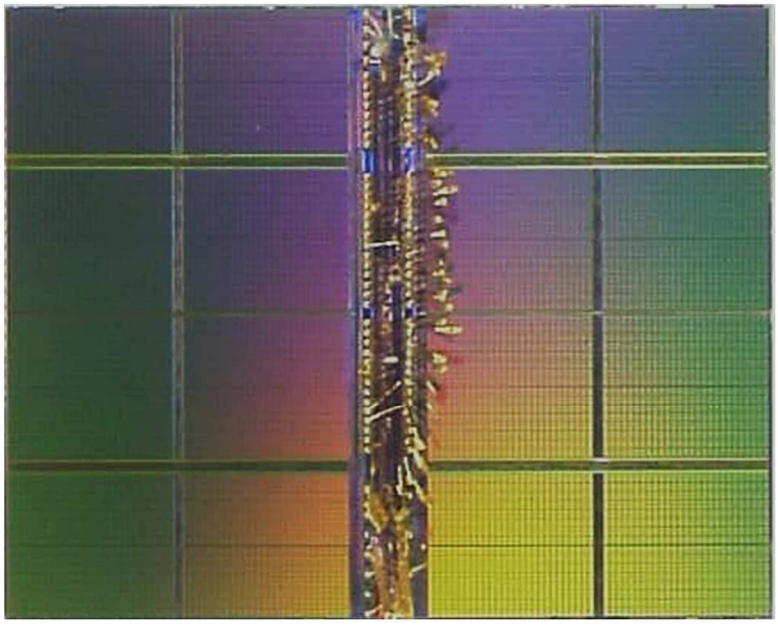
Part Number:	H5TC4G83CFR
Top Marking:	SKHynix H5TC4G83CFR PBA 517A DWMG0900XH2
Diffusion Lot:	
Date Code:	1517

Identification of the component including external marking and any die identification is provided on the following photos.





Part type : H5TC4G83CFR-PBA
Marking : SKhynix H5TC4G83CFR PBA 517A DWMG0900XH2
Date code : 1517
Packaging : 78-Ball FBGA 7.5 x 11 mm
Die size : 5.2 x 6.5 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

Total Irradiation Dose	Pellet Dosimetry data	Dose rate	Annealing steps	Start Exposure Date	End Exposure Date	Comment
krad (Si)	krad(Si)	rad(Si)/h				
460	460	224	-	11/06/2018 11:00	05/09/2018 17:00	Dry-Ice during 5 days after exposure
-	-	-	24 h / Room	10/09/2018 14:30	11/09/2018 14:30	
-	-	-	168 h / 85°C	12/09/2018 16:30	19/09/2018 14:30	

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.

Total Irradiation Dose	Dosimetry data	Dose rate	Annealing steps	Date	Irradiation Time Out	Start Meas Time	End Meas Time	Irradiation Time In	Temp. Meas
krad (Si)	krad(Si)	rad(Si)/h							°C
0	0	-	-	03/07/2018		-	-	11:56	22
30	30.3	210	-	09/07/2018	09:36	09:59	10:24	11:35	22
45	49.9	210		13/07/2018	09:33	10:14	10:36	11:33	21
100	99.9	210	-	23/07/2018	09:32	10:01	10:23	11:25	22
250	206.1 (*)	210	-	13/08/2018	09:32	10.05	10:35	11:20	22
350 (note 2)	-	-	-	-	-	-	-	-	
500 (note 2)	-	-	-	-	-	-	-	-	
-	-	-	24 h / Room	19/07/2018	12:00	12:30	12:49	14:00	
-	-	-	168 h / 100°C	26/07/2018	14:00	14:50	15:42	-	21

Note (*): See appendix 2: Vdd Power supply currents increased up to the clamping current (400mA for 5 devices)
Note 2 : Step not performed

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.

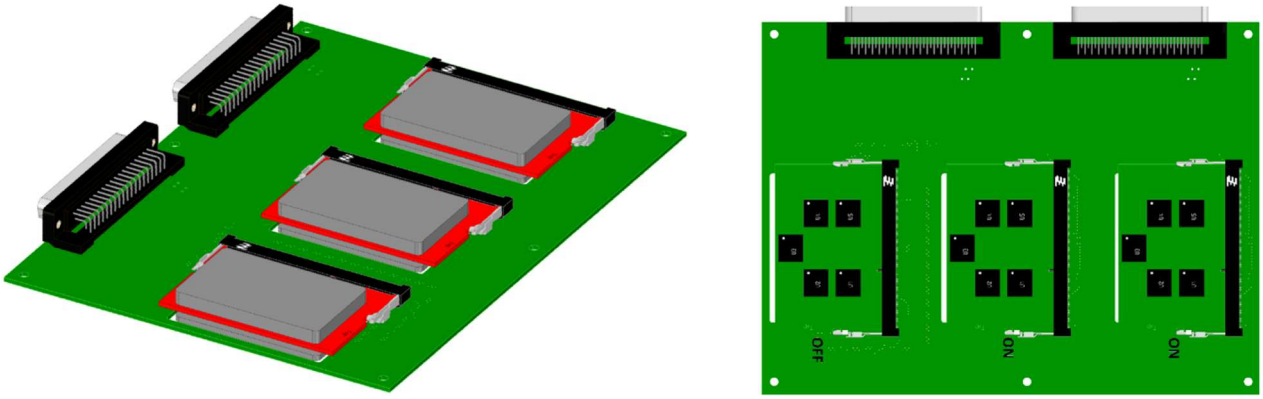


Figure 1 : PL239A – Bias board

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 H5TC4G83CFR 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.

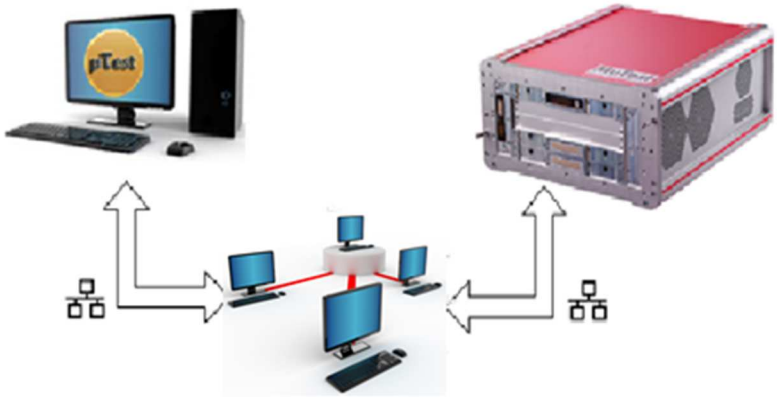


Figure 3: H5TC4G83CFR test setup synoptic

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	-	-	27	mA
10500	Operating Current 1 -> One Bank Activate-> Read-> Precharge	IDD1	VilAC160, VihAC160; RST=0V or VDDQ	-	-	34	mA
10600	Precharge power-down current: Slow exit	IDD2P0	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	7	mA
10700	Precharge power-down current: Fast exit	IDD2P1	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	7	mA
10800	Precharge standby current	IDD2N	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	12	mA
10850	Precharge standby ODT current	IDD2NT	Vil=0.515, Vih=0.835			17	mA
10870	Precharge quiet standby current	IDD2Q	VilAC160, VihAC160 ;RST=0V or VDDQ			12	mA
10900	Active power-down current	IDD3P	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	20	mA
11100	Active standby current	IDD3N	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	28	mA
11200	Burst read operating current	IDD4R	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	86	mA
11300	Burst write operating current	IDD4W	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	86	mA
11400	Burst auto refresh current	IDD5B	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	130	mA
11500	Extended temperature self refresh	IDD6ET	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	12	mA
11600	All banks interleaved read current	IDD7	VilAC160, VihAC160 ;RST=0V or VDDQ	-	-	125	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
13200	Clock Cycle time	tCK	go/no go	1.25	-	-	ns

ID	Parameters	Symbol	Test condition	Min	Nom	Max	Unit
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 HYNIX Inc. H5TC4G83CFR 4Gb (512Mb x 8) 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. No significant drift due to radiation exposure has been observed.

- Remote electrical parameter measurements

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

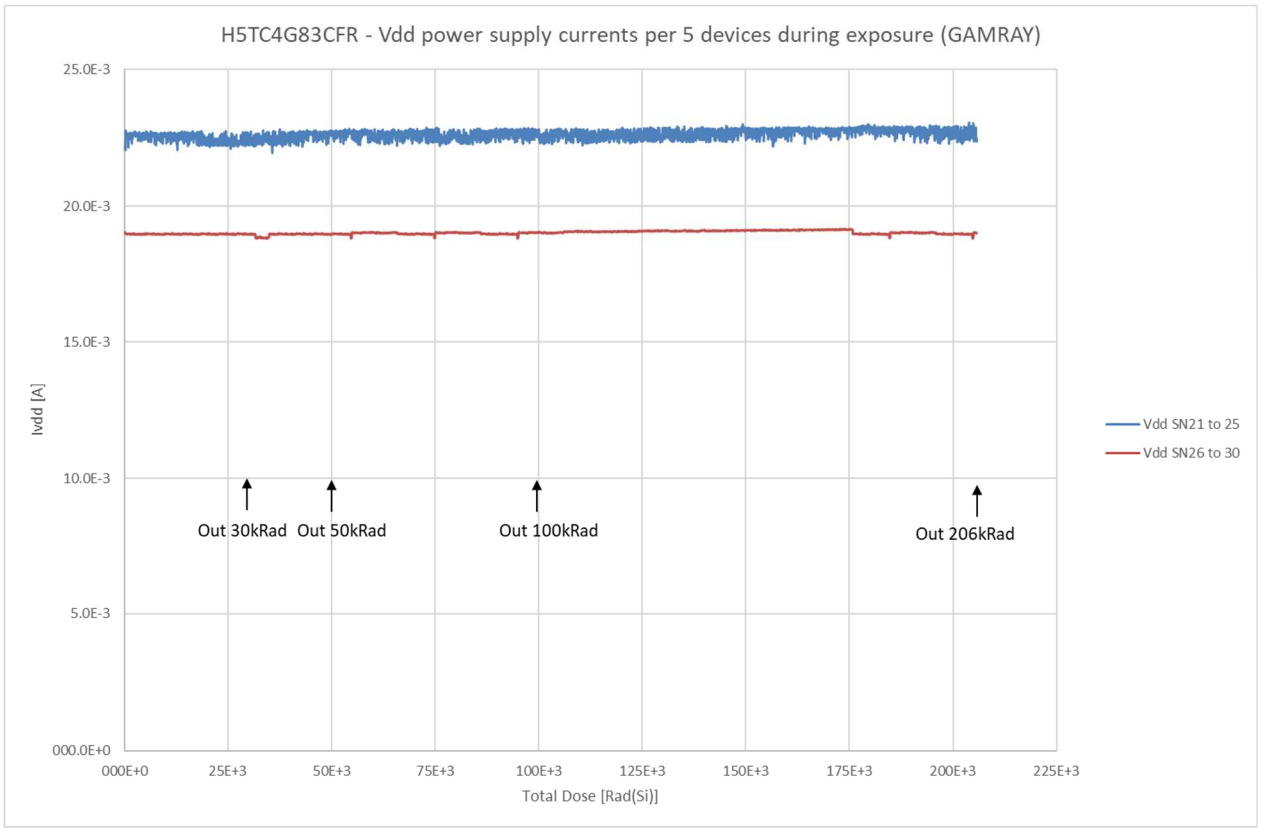
- Statistics are provided for biased ON and biased OFF samples.
- Control sample have been measured before and after each electrical measurement step.
- Corresponding control sample data (identified respectively “IN” and “OUT”) are provided here after.
- Failed values (if any) with respect to specified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

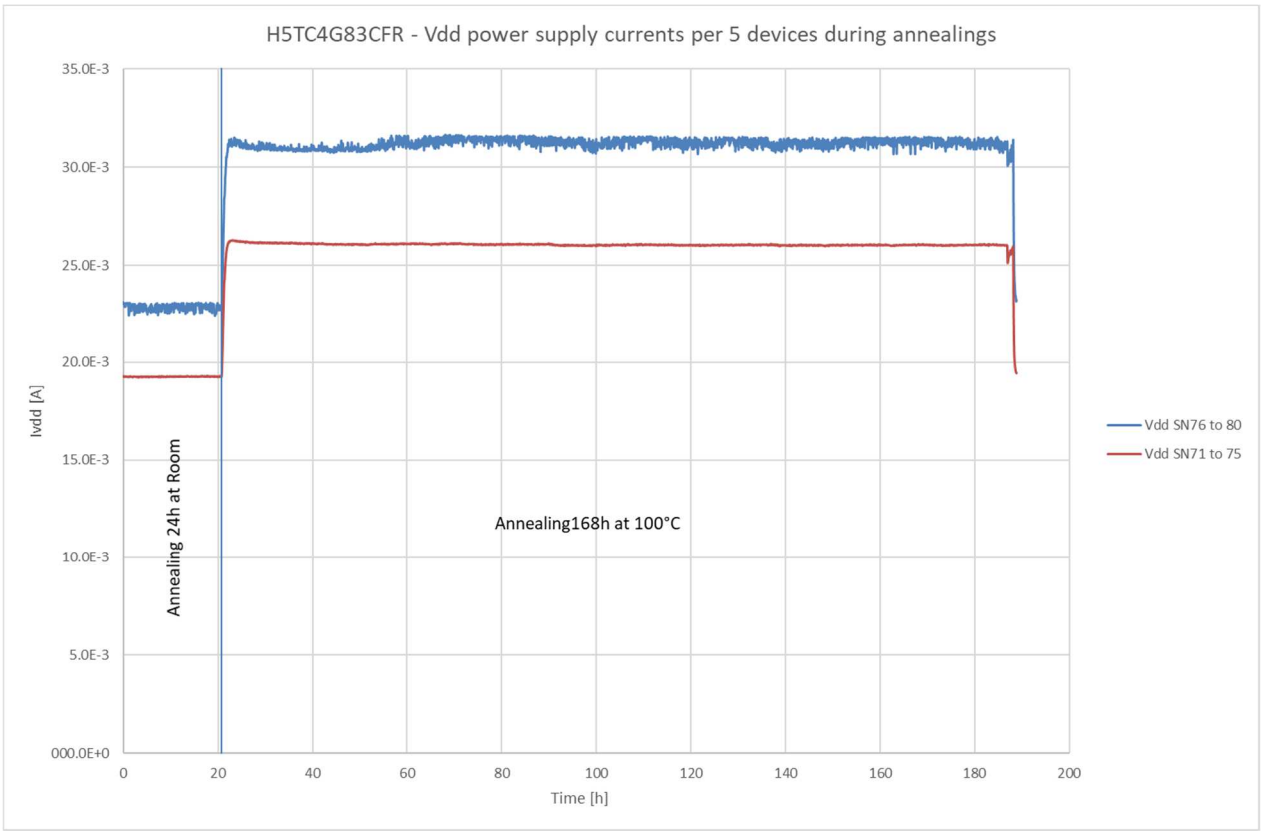
➔ **Batch 2 conclusion**

Biased OFF samples (SN81 to 85) remained within specification limits all along testing. No significant drift has been observed.

Biased ON samples (SN71 to 80) remained within specification limits all along testing. No significant drift has been observed.

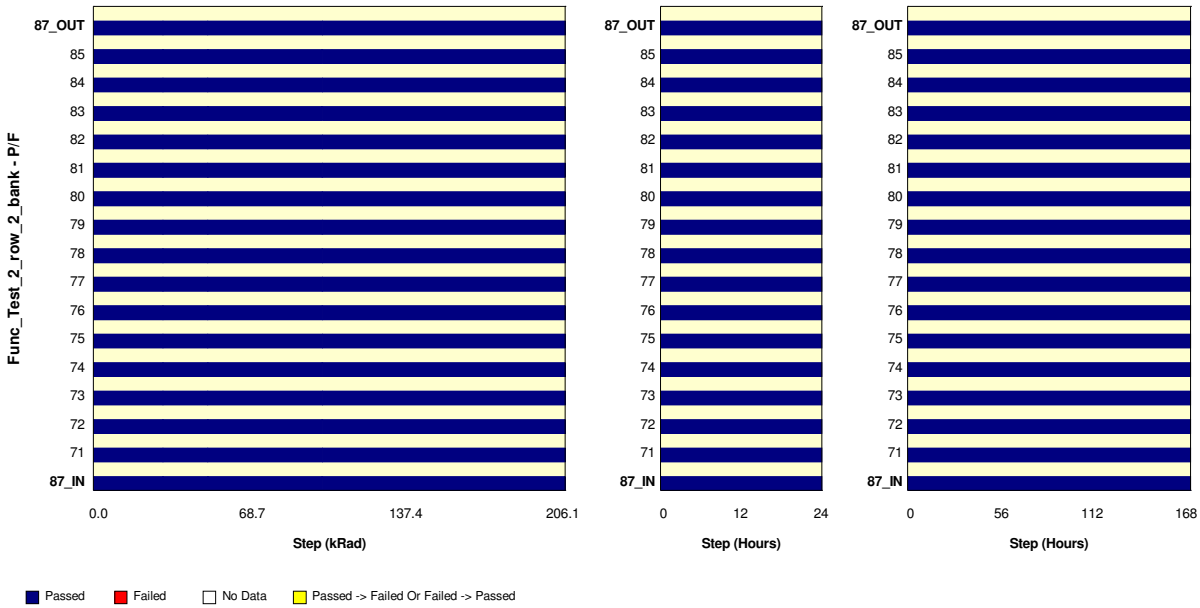
Appendix 1: Batch 2 - In-situ static current bias ON monitoring





Appendix 2: Batch 2 - Remote static bias electrical measurements

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



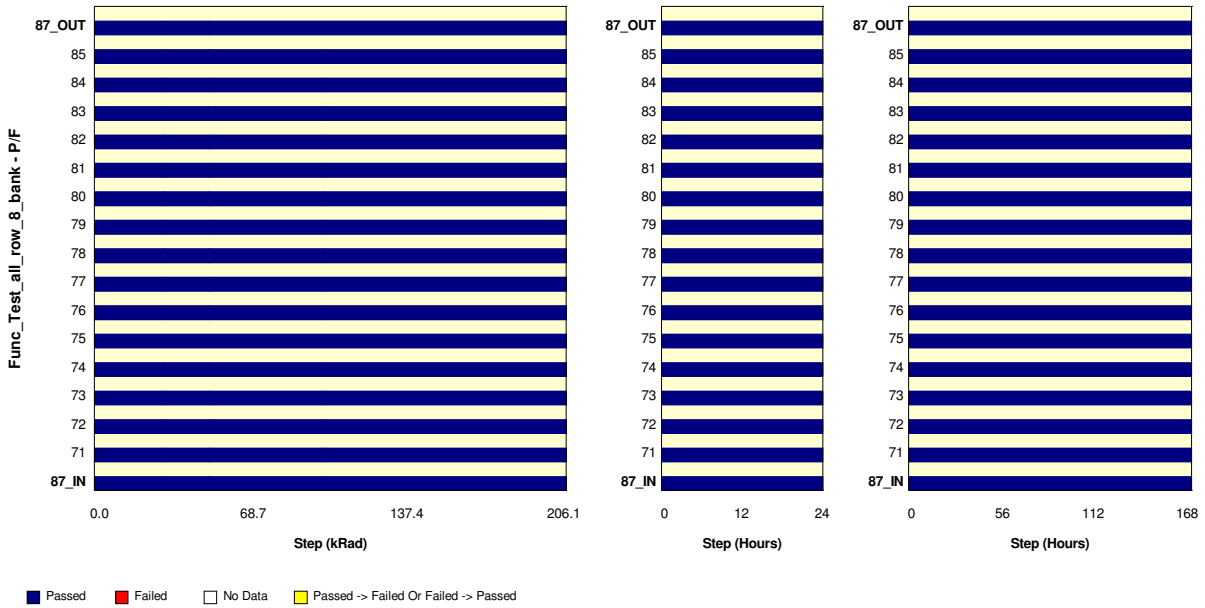
Measurements

Func_Test_2_row_2_bank	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_2_row_2_bank	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

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



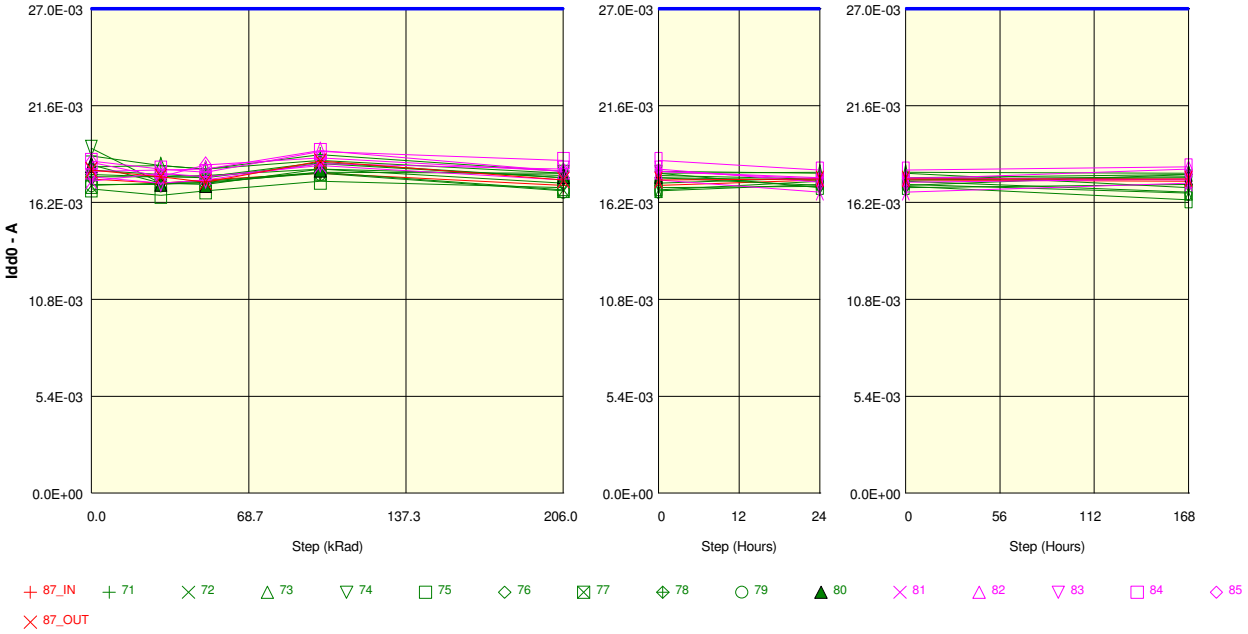
Measurements

Func_Test_all_row_8_bank	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_all_row_8_bank	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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 : 27.0E-03
Spec limits are represented in bold lines on the graphic.



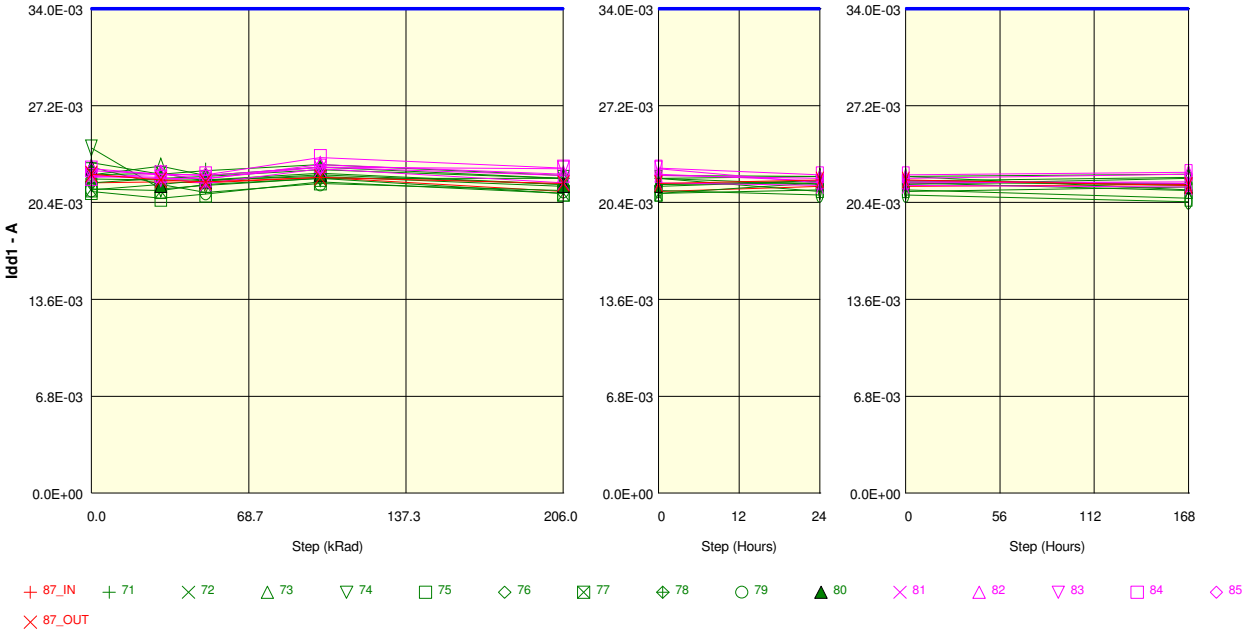
Measurements

Idd0	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	17.5E-03	17.3E-03	17.5E-03	17.8E-03	17.2E-03	17.5E-03	17.4E-03
87_OUT_REF	18.0E-03	17.6E-03	17.3E-03	18.5E-03	17.5E-03	17.5E-03	17.5E-03
ON samples							
71	18.8E-03	18.3E-03	18.1E-03	18.9E-03	17.9E-03	17.8E-03	17.0E-03
72	18.0E-03	17.8E-03	17.6E-03	18.4E-03	17.6E-03	17.5E-03	17.6E-03
73	18.2E-03	18.3E-03	18.1E-03	18.6E-03	17.8E-03	17.9E-03	17.8E-03
74	19.2E-03	17.3E-03	17.4E-03	17.9E-03	17.8E-03	17.0E-03	17.2E-03
75	17.0E-03	16.6E-03	16.8E-03	17.4E-03	17.0E-03	17.1E-03	16.4E-03
76	17.8E-03	17.6E-03	17.7E-03	18.1E-03	17.3E-03	17.6E-03	17.8E-03
77	17.2E-03	17.3E-03	17.3E-03	17.9E-03	16.9E-03	17.4E-03	16.8E-03
78	17.6E-03	17.6E-03	17.6E-03	18.4E-03	17.6E-03	17.2E-03	17.8E-03
79	17.2E-03	17.2E-03	17.3E-03	17.8E-03	16.8E-03	17.2E-03	16.7E-03
80	18.3E-03	17.3E-03	17.2E-03	18.1E-03	17.7E-03	17.5E-03	17.6E-03
Statistics							
Min	17.0E-03	16.6E-03	16.8E-03	17.4E-03	16.8E-03	17.0E-03	16.4E-03
Max	19.2E-03	18.3E-03	18.1E-03	18.9E-03	17.9E-03	17.9E-03	17.8E-03
Average	17.9E-03	17.5E-03	17.5E-03	18.1E-03	17.4E-03	17.4E-03	17.3E-03
Std Deviation	731.3E-06	502.5E-06	380.9E-06	425.5E-06	406.1E-06	296.1E-06	521.3E-06

Measurements

Idd0	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	17.5E-03	17.3E-03	17.5E-03	17.8E-03	17.2E-03	17.5E-03	17.4E-03
87_OUT_REF	18.0E-03	17.6E-03	17.3E-03	18.5E-03	17.5E-03	17.5E-03	17.5E-03
OFF samples							
81	17.4E-03	17.8E-03	17.6E-03	18.3E-03	17.5E-03	16.8E-03	17.3E-03
82	17.9E-03	18.0E-03	18.1E-03	19.1E-03	17.9E-03	17.6E-03	17.5E-03
83	17.6E-03	17.3E-03	17.5E-03	18.4E-03	18.1E-03	17.3E-03	17.5E-03
84	18.5E-03	18.1E-03	17.9E-03	19.0E-03	18.6E-03	18.0E-03	18.2E-03
85	18.4E-03	17.6E-03	18.3E-03	18.7E-03	17.9E-03	17.5E-03	18.1E-03
Statistics							
Min	17.4E-03	17.3E-03	17.5E-03	18.3E-03	17.5E-03	16.8E-03	17.3E-03
Max	18.5E-03	18.1E-03	18.3E-03	19.1E-03	18.6E-03	18.0E-03	18.2E-03
Average	18.0E-03	17.8E-03	17.9E-03	18.7E-03	18.0E-03	17.4E-03	17.7E-03
Std Deviation	482.0E-06	319.9E-06	338.3E-06	384.3E-06	391.9E-06	442.8E-06	402.3E-06

Parameter : Operating Current 1 -> One Bank Activate-> Read-> Precharge : Idd1
Test conditions : VilAC160. VihAC160; RST=0V or VDDQ
Unit : A
Spec Limit Max : 34.0E-03
Spec limits are represented in bold lines on the graphic.



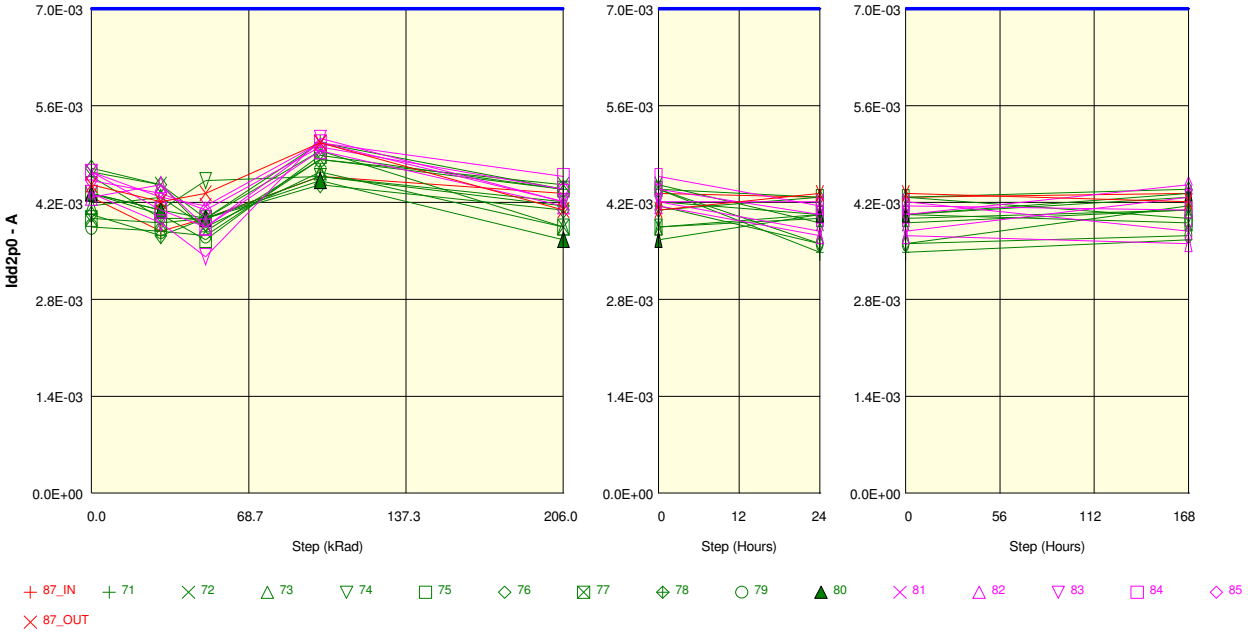
Measurements

Idd1	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	21.8E-03	21.9E-03	21.8E-03	22.2E-03	21.2E-03	21.5E-03	21.7E-03
87_OUT_REF	22.4E-03	22.0E-03	21.9E-03	22.2E-03	21.7E-03	22.0E-03	21.6E-03
ON samples							
71	23.2E-03	22.4E-03	22.6E-03	23.1E-03	22.3E-03	22.2E-03	21.3E-03
72	22.3E-03	22.5E-03	21.9E-03	22.3E-03	21.7E-03	21.8E-03	21.7E-03
73	22.3E-03	22.9E-03	22.3E-03	22.9E-03	22.1E-03	22.2E-03	22.4E-03
74	24.2E-03	21.4E-03	21.6E-03	22.1E-03	22.1E-03	21.2E-03	21.5E-03
75	21.2E-03	20.7E-03	21.0E-03	21.9E-03	21.1E-03	21.3E-03	20.7E-03
76	22.0E-03	22.0E-03	22.0E-03	22.2E-03	21.5E-03	21.9E-03	22.2E-03
77	21.4E-03	21.2E-03	21.7E-03	22.1E-03	21.1E-03	21.8E-03	21.2E-03
78	21.8E-03	22.1E-03	22.2E-03	22.7E-03	22.1E-03	21.7E-03	22.1E-03
79	21.3E-03	21.7E-03	21.1E-03	21.7E-03	21.2E-03	20.9E-03	20.4E-03
80	22.9E-03	21.7E-03	22.0E-03	22.5E-03	21.7E-03	21.9E-03	21.6E-03
Statistics							
Min	21.2E-03	20.7E-03	21.0E-03	21.7E-03	21.1E-03	20.9E-03	20.4E-03
Max	24.2E-03	22.9E-03	22.6E-03	23.1E-03	22.3E-03	22.2E-03	22.4E-03
Average	22.3E-03	21.9E-03	21.8E-03	22.3E-03	21.7E-03	21.7E-03	21.5E-03
Std Deviation	962.0E-06	664.9E-06	509.8E-06	438.4E-06	454.9E-06	429.1E-06	626.0E-06

Measurements

Idd1	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	21.8E-03	21.9E-03	21.8E-03	22.2E-03	21.2E-03	21.5E-03	21.7E-03
87_OUT_REF	22.4E-03	22.0E-03	21.9E-03	22.2E-03	21.7E-03	22.0E-03	21.6E-03
OFF samples							
81	22.3E-03	22.2E-03	21.7E-03	22.8E-03	21.8E-03	21.6E-03	21.5E-03
82	22.2E-03	22.4E-03	22.0E-03	23.1E-03	22.4E-03	21.9E-03	21.7E-03
83	22.2E-03	22.1E-03	22.1E-03	22.9E-03	22.8E-03	21.8E-03	21.9E-03
84	22.8E-03	22.4E-03	22.3E-03	23.6E-03	22.8E-03	22.3E-03	22.5E-03
85	22.6E-03	22.4E-03	22.3E-03	22.9E-03	22.3E-03	22.1E-03	22.4E-03
Statistics							
Min	22.2E-03	22.1E-03	21.7E-03	22.8E-03	21.8E-03	21.6E-03	21.5E-03
Max	22.8E-03	22.4E-03	22.3E-03	23.6E-03	22.8E-03	22.3E-03	22.5E-03
Average	22.4E-03	22.3E-03	22.1E-03	23.0E-03	22.4E-03	21.9E-03	22.0E-03
Std Deviation	274.2E-06	151.9E-06	240.2E-06	313.2E-06	419.1E-06	281.8E-06	445.6E-06

Parameter : Precharge power-down current: Slow exit : Idd2p0
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 7.0E-03
Spec limits are represented in bold lines on the graphic.



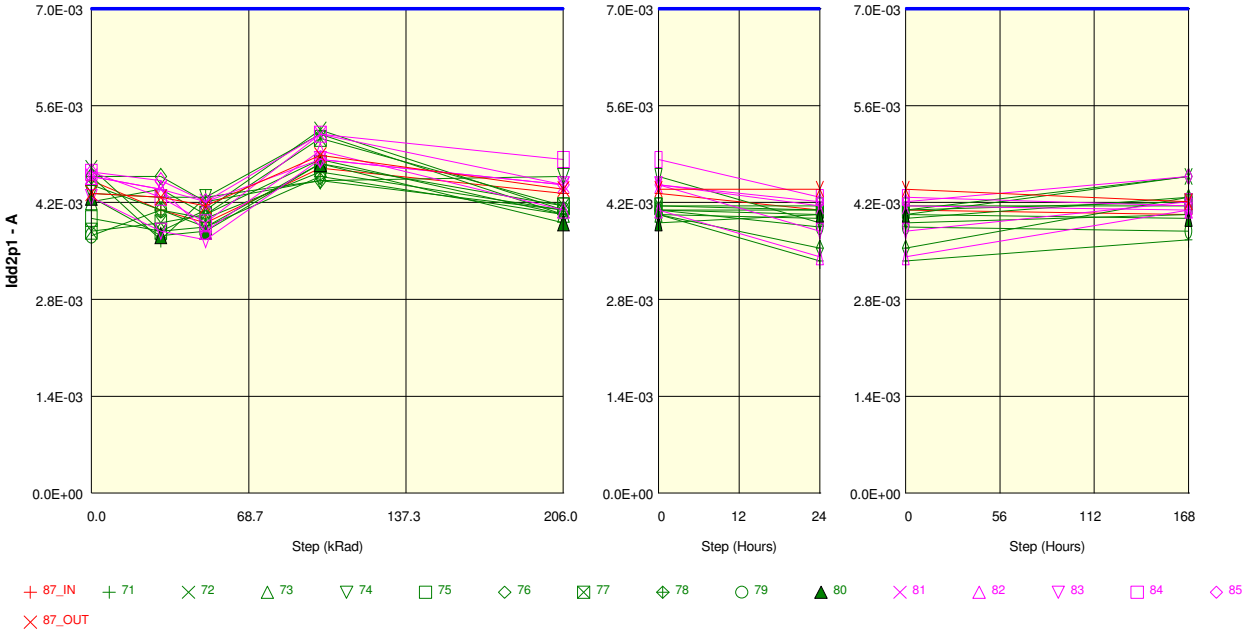
Measurements

Idd2p0	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.3E-03	3.8E-03	4.0E-03	4.6E-03	4.3E-03	4.3E-03	4.3E-03
87_OUT_REF	4.5E-03	4.2E-03	4.3E-03	5.1E-03	4.1E-03	4.3E-03	4.2E-03
ON samples							
71	4.6E-03	4.0E-03	4.0E-03	5.1E-03	4.4E-03	3.5E-03	3.7E-03
72	4.6E-03	4.5E-03	3.8E-03	4.8E-03	4.5E-03	3.9E-03	4.1E-03
73	4.2E-03	4.3E-03	3.8E-03	4.6E-03	3.8E-03	4.0E-03	4.1E-03
74	4.3E-03	4.1E-03	4.5E-03	4.6E-03	4.2E-03	4.0E-03	4.3E-03
75	4.3E-03	4.0E-03	3.7E-03	4.9E-03	4.4E-03	4.3E-03	4.0E-03
76	4.7E-03	4.5E-03	4.0E-03	4.5E-03	4.1E-03	4.3E-03	4.4E-03
77	4.0E-03	3.9E-03	4.0E-03	4.9E-03	3.8E-03	4.0E-03	3.9E-03
78	4.0E-03	3.7E-03	4.0E-03	4.6E-03	4.2E-03	3.6E-03	4.2E-03
79	3.8E-03	3.8E-03	3.7E-03	4.8E-03	4.4E-03	3.6E-03	3.7E-03
80	4.3E-03	4.1E-03	4.0E-03	4.5E-03	3.7E-03	4.0E-03	4.3E-03
Statistics							
Min	3.8E-03	3.7E-03	3.7E-03	4.5E-03	3.7E-03	3.5E-03	3.7E-03
Max	4.7E-03	4.5E-03	4.5E-03	5.1E-03	4.5E-03	4.3E-03	4.4E-03
Average	4.3E-03	4.1E-03	3.9E-03	4.7E-03	4.1E-03	3.9E-03	4.1E-03
Std Deviation	292.1E-06	253.8E-06	234.2E-06	204.0E-06	279.6E-06	275.7E-06	246.3E-06

Measurements

Idd2p0	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.3E-03	3.8E-03	4.0E-03	4.6E-03	4.3E-03	4.3E-03	4.3E-03
87_OUT_REF	4.5E-03	4.2E-03	4.3E-03	5.1E-03	4.1E-03	4.3E-03	4.2E-03
OFF samples							
81	4.6E-03	4.3E-03	4.2E-03	5.1E-03	4.2E-03	4.2E-03	3.8E-03
82	4.3E-03	4.5E-03	3.8E-03	4.9E-03	4.2E-03	3.7E-03	3.6E-03
83	4.3E-03	3.9E-03	3.4E-03	5.1E-03	4.2E-03	3.8E-03	4.3E-03
84	4.6E-03	4.1E-03	3.8E-03	5.1E-03	4.6E-03	4.2E-03	4.1E-03
85	4.5E-03	4.3E-03	4.1E-03	5.0E-03	4.4E-03	4.0E-03	4.5E-03
Statistics							
Min	4.3E-03	3.9E-03	3.4E-03	4.9E-03	4.2E-03	3.7E-03	3.6E-03
Max	4.6E-03	4.5E-03	4.2E-03	5.1E-03	4.6E-03	4.2E-03	4.5E-03
Average	4.5E-03	4.2E-03	3.9E-03	5.0E-03	4.3E-03	4.0E-03	4.0E-03
Std Deviation	170.5E-06	215.8E-06	288.2E-06	69.6E-06	175.8E-06	217.5E-06	349.0E-06

Parameter : Precharge power-down current: Fast exit : Idd2p1
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 7.0E-03
Spec limits are represented in bold lines on the graphic.



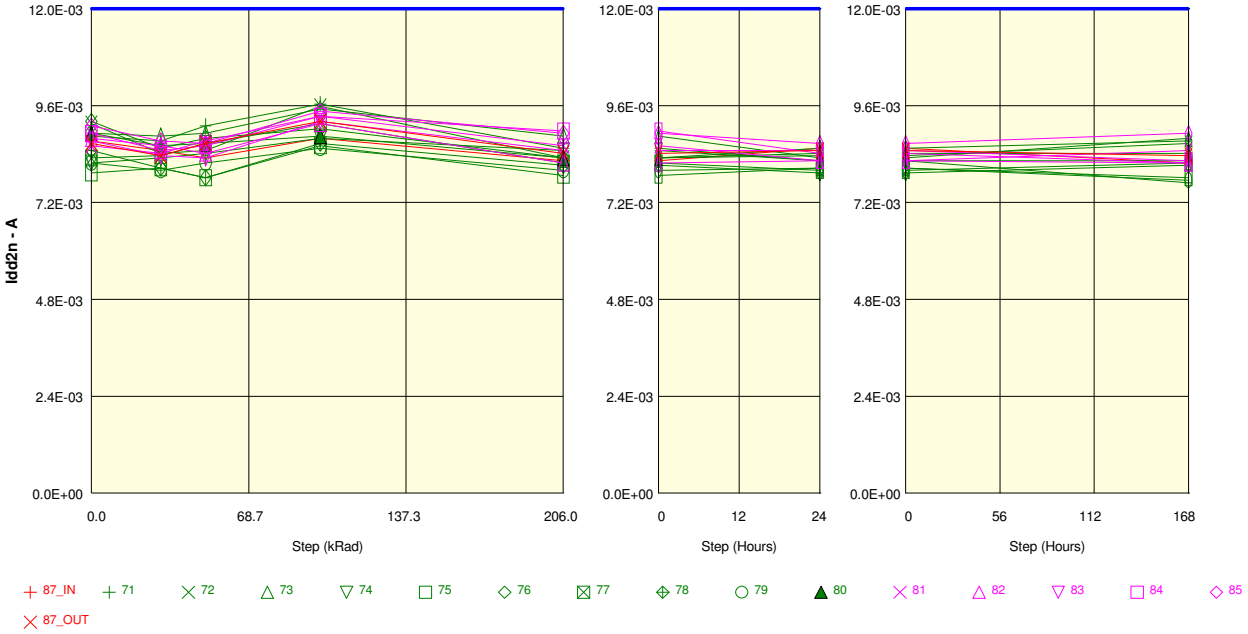
Measurements

Idd2p1	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.5E-03	4.1E-03	3.9E-03	4.7E-03	4.3E-03	4.1E-03	4.0E-03
87_OUT_REF	4.3E-03	4.3E-03	4.2E-03	4.9E-03	4.4E-03	4.4E-03	4.2E-03
ON samples							
71	4.6E-03	3.7E-03	4.3E-03	5.2E-03	4.0E-03	3.4E-03	3.7E-03
72	4.7E-03	3.8E-03	4.1E-03	5.2E-03	4.1E-03	4.0E-03	4.6E-03
73	4.2E-03	4.4E-03	4.0E-03	4.8E-03	4.0E-03	4.0E-03	4.3E-03
74	4.3E-03	4.3E-03	4.3E-03	4.5E-03	4.6E-03	3.9E-03	4.0E-03
75	4.0E-03	3.8E-03	3.8E-03	4.8E-03	4.2E-03	4.2E-03	4.2E-03
76	4.6E-03	4.6E-03	4.2E-03	4.5E-03	4.1E-03	4.1E-03	4.6E-03
77	3.8E-03	3.9E-03	4.0E-03	5.1E-03	4.2E-03	4.1E-03	4.2E-03
78	4.5E-03	4.1E-03	3.8E-03	4.6E-03	4.0E-03	3.5E-03	4.3E-03
79	3.7E-03	4.1E-03	4.0E-03	4.6E-03	4.1E-03	3.8E-03	3.8E-03
80	4.3E-03	3.7E-03	3.8E-03	4.8E-03	3.9E-03	4.0E-03	4.0E-03
Statistics							
Min	3.7E-03	3.7E-03	3.8E-03	4.5E-03	3.9E-03	3.4E-03	3.7E-03
Max	4.7E-03	4.6E-03	4.3E-03	5.2E-03	4.6E-03	4.2E-03	4.6E-03
Average	4.3E-03	4.0E-03	4.0E-03	4.8E-03	4.1E-03	3.9E-03	4.2E-03
Std Deviation	340.2E-06	309.9E-06	178.4E-06	278.1E-06	177.8E-06	258.1E-06	301.8E-06

Measurements

Idd2p1	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.5E-03	4.1E-03	3.9E-03	4.7E-03	4.3E-03	4.1E-03	4.0E-03
87_OUT_REF	4.3E-03	4.3E-03	4.2E-03	4.9E-03	4.4E-03	4.4E-03	4.2E-03
OFF samples							
81	4.6E-03	4.4E-03	4.2E-03	5.2E-03	4.5E-03	4.2E-03	4.1E-03
82	4.6E-03	4.4E-03	3.8E-03	4.9E-03	4.1E-03	3.4E-03	4.1E-03
83	4.3E-03	3.8E-03	3.7E-03	4.8E-03	4.5E-03	3.8E-03	4.2E-03
84	4.6E-03	4.3E-03	3.9E-03	5.2E-03	4.8E-03	4.3E-03	4.2E-03
85	4.6E-03	4.5E-03	4.2E-03	4.8E-03	4.5E-03	4.2E-03	4.6E-03
Statistics							
Min	4.3E-03	3.8E-03	3.7E-03	4.8E-03	4.1E-03	3.4E-03	4.1E-03
Max	4.6E-03	4.5E-03	4.2E-03	5.2E-03	4.8E-03	4.3E-03	4.6E-03
Average	4.5E-03	4.3E-03	4.0E-03	5.0E-03	4.5E-03	4.0E-03	4.2E-03
Std Deviation	153.2E-06	286.3E-06	249.4E-06	185.1E-06	258.9E-06	361.1E-06	204.2E-06

Parameter : Precharge standby current : Idd2n
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 12.0E-03
Spec limits are represented in bold lines on the graphic.



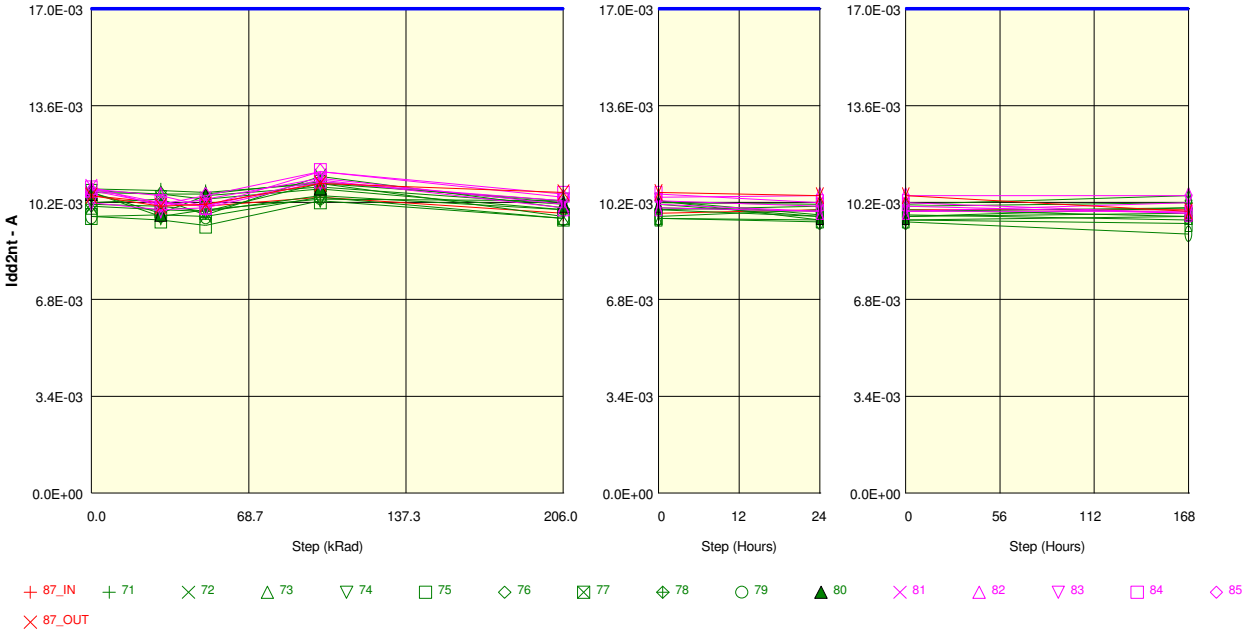
Measurements

Idd2n	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	8.7E-03	8.5E-03	8.3E-03	8.8E-03	8.2E-03	8.5E-03	8.2E-03
87_OUT_REF	8.7E-03	8.4E-03	8.7E-03	9.2E-03	8.4E-03	8.5E-03	8.4E-03
ON samples							
71	8.9E-03	8.7E-03	9.1E-03	9.6E-03	8.5E-03	8.2E-03	7.7E-03
72	9.2E-03	8.4E-03	8.5E-03	9.6E-03	8.3E-03	8.4E-03	8.7E-03
73	8.9E-03	8.9E-03	8.9E-03	9.5E-03	8.9E-03	8.3E-03	8.8E-03
74	8.2E-03	8.3E-03	8.4E-03	8.8E-03	8.5E-03	8.2E-03	8.2E-03
75	7.9E-03	8.1E-03	7.8E-03	8.6E-03	7.9E-03	8.1E-03	7.8E-03
76	9.2E-03	8.5E-03	8.8E-03	9.0E-03	8.3E-03	8.5E-03	8.7E-03
77	8.3E-03	8.4E-03	8.7E-03	9.2E-03	8.2E-03	8.0E-03	8.2E-03
78	8.5E-03	8.1E-03	7.8E-03	8.7E-03	8.1E-03	7.9E-03	8.1E-03
79	8.2E-03	8.0E-03	8.2E-03	8.5E-03	8.0E-03	8.1E-03	7.8E-03
80	8.9E-03	8.6E-03	8.7E-03	8.9E-03	8.3E-03	8.4E-03	8.4E-03
Statistics							
Min	7.9E-03	8.0E-03	7.8E-03	8.5E-03	7.9E-03	7.9E-03	7.7E-03
Max	9.2E-03	8.9E-03	9.1E-03	9.6E-03	8.9E-03	8.5E-03	8.8E-03
Average	8.6E-03	8.4E-03	8.5E-03	9.0E-03	8.3E-03	8.2E-03	8.2E-03
Std Deviation	452.6E-06	295.2E-06	436.3E-06	418.4E-06	282.6E-06	199.8E-06	407.9E-06

Measurements

Idd2n	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	8.7E-03	8.5E-03	8.3E-03	8.8E-03	8.2E-03	8.5E-03	8.2E-03
87_OUT_REF	8.7E-03	8.4E-03	8.7E-03	9.2E-03	8.4E-03	8.5E-03	8.4E-03
OFF samples							
81	8.6E-03	8.4E-03	8.7E-03	9.3E-03	8.6E-03	8.2E-03	8.5E-03
82	8.8E-03	8.6E-03	8.4E-03	9.2E-03	8.2E-03	8.2E-03	8.2E-03
83	8.7E-03	8.4E-03	8.3E-03	9.2E-03	8.5E-03	8.5E-03	8.2E-03
84	8.9E-03	8.5E-03	8.6E-03	9.3E-03	9.0E-03	8.4E-03	8.2E-03
85	9.1E-03	8.7E-03	8.7E-03	9.5E-03	8.9E-03	8.7E-03	8.9E-03
Statistics							
Min	8.6E-03	8.4E-03	8.3E-03	9.2E-03	8.2E-03	8.2E-03	8.2E-03
Max	9.1E-03	8.7E-03	8.7E-03	9.5E-03	9.0E-03	8.7E-03	8.9E-03
Average	8.8E-03	8.5E-03	8.5E-03	9.3E-03	8.6E-03	8.4E-03	8.4E-03
Std Deviation	186.1E-06	147.0E-06	177.9E-06	119.0E-06	324.7E-06	180.1E-06	313.0E-06

Parameter : Precharge standby ODT current : Idd2nt
Test conditions : Vil=0.515. Vih=0.835
Unit : A
Spec Limit Max : 17.0E-03
Spec limits are represented in bold lines on the graphic.



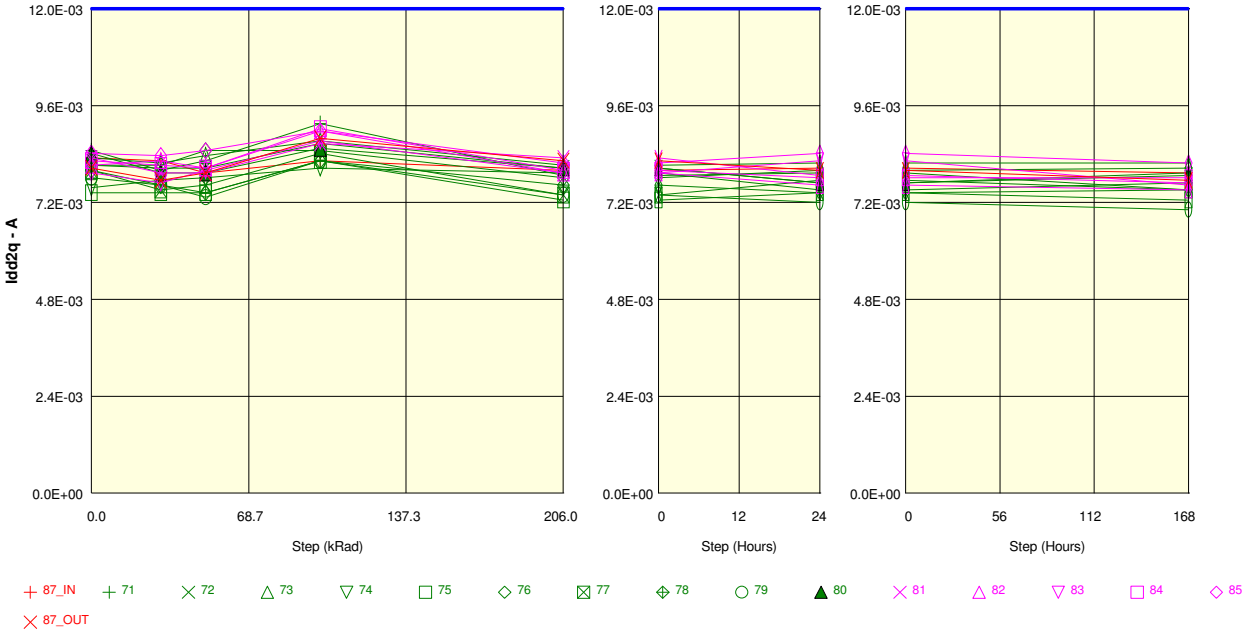
Measurements

Idd2nt	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	10.4E-03	10.2E-03	10.1E-03	10.4E-03	9.8E-03	9.9E-03	9.9E-03
87_OUT_REF	10.4E-03	10.1E-03	10.1E-03	10.9E-03	10.6E-03	10.4E-03	9.9E-03
ON samples							
71	10.7E-03	10.6E-03	10.6E-03	10.9E-03	10.3E-03	9.8E-03	9.6E-03
72	10.2E-03	10.3E-03	9.8E-03	11.1E-03	10.0E-03	9.9E-03	10.0E-03
73	10.6E-03	10.5E-03	10.5E-03	10.9E-03	10.2E-03	10.1E-03	10.4E-03
74	10.6E-03	9.7E-03	9.9E-03	10.3E-03	10.3E-03	9.6E-03	9.7E-03
75	9.7E-03	9.6E-03	9.4E-03	10.3E-03	9.6E-03	9.6E-03	9.5E-03
76	10.6E-03	10.5E-03	10.3E-03	10.7E-03	9.9E-03	10.1E-03	10.2E-03
77	10.1E-03	9.9E-03	9.9E-03	10.9E-03	9.7E-03	9.9E-03	9.7E-03
78	10.1E-03	10.1E-03	9.9E-03	10.4E-03	9.9E-03	9.7E-03	10.0E-03
79	9.7E-03	9.8E-03	9.7E-03	10.4E-03	9.6E-03	9.5E-03	9.1E-03
80	10.6E-03	9.8E-03	10.4E-03	10.7E-03	10.1E-03	9.7E-03	9.8E-03
Statistics							
Min	9.7E-03	9.6E-03	9.4E-03	10.3E-03	9.6E-03	9.5E-03	9.1E-03
Max	10.7E-03	10.6E-03	10.6E-03	11.1E-03	10.3E-03	10.1E-03	10.4E-03
Average	10.3E-03	10.1E-03	10.0E-03	10.7E-03	10.0E-03	9.8E-03	9.8E-03
Std Deviation	372.0E-06	374.9E-06	389.5E-06	293.5E-06	241.1E-06	211.9E-06	384.1E-06

Measurements

Idd2nt	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	10.4E-03	10.2E-03	10.1E-03	10.4E-03	9.8E-03	9.9E-03	9.9E-03
87_OUT_REF	10.4E-03	10.1E-03	10.1E-03	10.9E-03	10.6E-03	10.4E-03	9.9E-03
OFF samples							
81	10.7E-03	10.1E-03	10.3E-03	11.0E-03	10.1E-03	9.9E-03	10.2E-03
82	10.7E-03	10.4E-03	10.1E-03	11.0E-03	10.0E-03	9.9E-03	9.9E-03
83	10.2E-03	9.9E-03	10.0E-03	10.9E-03	10.3E-03	10.1E-03	9.8E-03
84	10.7E-03	10.2E-03	10.1E-03	11.3E-03	10.5E-03	10.2E-03	9.8E-03
85	10.6E-03	10.1E-03	10.4E-03	11.3E-03	10.4E-03	10.4E-03	10.4E-03
Statistics							
Min	10.2E-03	9.9E-03	10.0E-03	10.9E-03	10.0E-03	9.9E-03	9.8E-03
Max	10.7E-03	10.4E-03	10.4E-03	11.3E-03	10.5E-03	10.4E-03	10.4E-03
Average	10.6E-03	10.2E-03	10.2E-03	11.1E-03	10.3E-03	10.1E-03	10.0E-03
Std Deviation	222.5E-06	181.0E-06	185.0E-06	173.1E-06	192.9E-06	230.8E-06	271.6E-06

Parameter : Precharge quiet standby current : Idd2q
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 12.0E-03
Spec limits are represented in bold lines on the graphic.



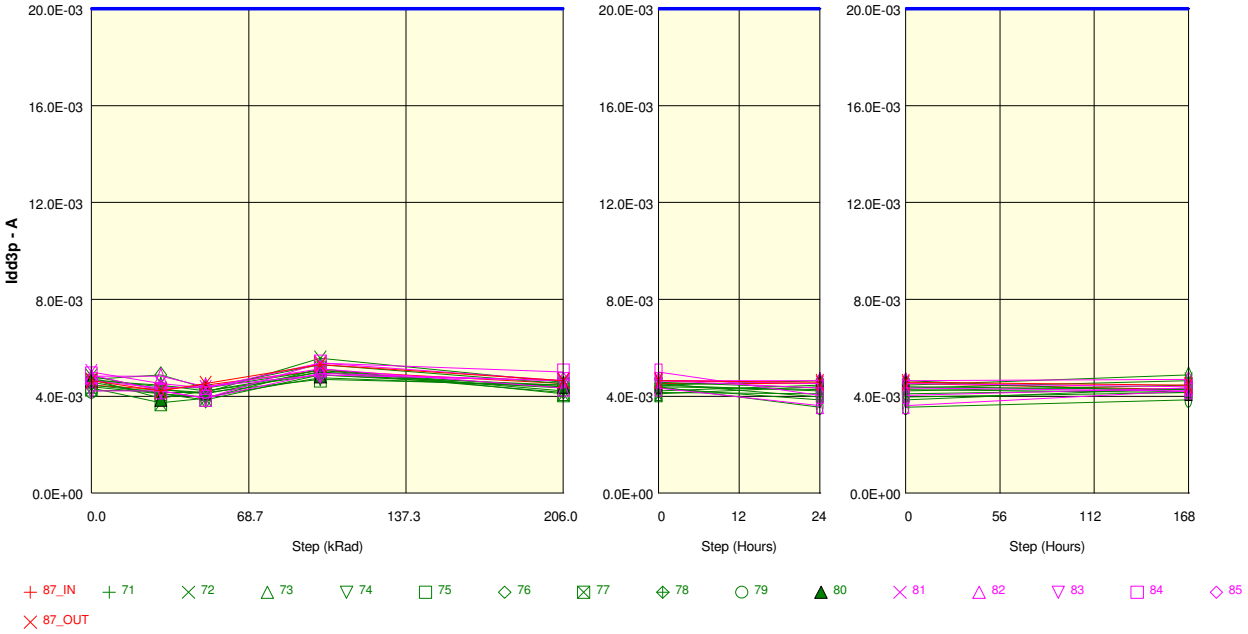
Measurements

Idd2q	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	8.3E-03	8.2E-03	7.9E-03	8.2E-03	8.0E-03	8.1E-03	7.9E-03
87_OUT_REF	8.1E-03	7.8E-03	7.9E-03	8.8E-03	8.2E-03	8.0E-03	7.8E-03
ON samples							
71	8.5E-03	8.0E-03	8.2E-03	9.2E-03	7.9E-03	7.9E-03	7.5E-03
72	8.1E-03	8.1E-03	8.1E-03	8.7E-03	8.1E-03	7.7E-03	7.9E-03
73	8.3E-03	8.2E-03	8.4E-03	8.7E-03	8.1E-03	8.2E-03	8.2E-03
74	7.6E-03	7.8E-03	7.8E-03	8.1E-03	7.9E-03	7.5E-03	7.7E-03
75	7.4E-03	7.4E-03	7.4E-03	8.2E-03	7.3E-03	7.4E-03	7.3E-03
76	8.1E-03	8.1E-03	8.5E-03	8.5E-03	7.8E-03	8.0E-03	8.1E-03
77	8.0E-03	7.5E-03	7.6E-03	8.4E-03	7.4E-03	7.8E-03	7.5E-03
78	8.0E-03	7.6E-03	7.4E-03	8.2E-03	7.6E-03	7.4E-03	7.5E-03
79	7.8E-03	7.6E-03	7.3E-03	8.2E-03	7.4E-03	7.2E-03	7.0E-03
80	8.4E-03	7.9E-03	7.9E-03	8.5E-03	8.1E-03	7.7E-03	7.9E-03
Statistics							
Min	7.4E-03	7.4E-03	7.3E-03	8.1E-03	7.3E-03	7.2E-03	7.0E-03
Max	8.5E-03	8.2E-03	8.5E-03	9.2E-03	8.1E-03	8.2E-03	8.2E-03
Average	8.0E-03	7.8E-03	7.9E-03	8.5E-03	7.8E-03	7.7E-03	7.7E-03
Std Deviation	342.0E-06	265.0E-06	409.9E-06	318.4E-06	315.2E-06	295.5E-06	363.0E-06

Measurements

Idd2q	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	8.3E-03	8.2E-03	7.9E-03	8.2E-03	8.0E-03	8.1E-03	7.9E-03
87_OUT_REF	8.1E-03	7.8E-03	7.9E-03	8.8E-03	8.2E-03	8.0E-03	7.8E-03
OFF samples							
81	8.3E-03	7.9E-03	7.9E-03	8.7E-03	8.3E-03	7.9E-03	7.7E-03
82	8.1E-03	8.2E-03	8.1E-03	9.0E-03	7.9E-03	7.6E-03	7.5E-03
83	7.9E-03	7.7E-03	8.0E-03	8.7E-03	7.9E-03	8.2E-03	7.6E-03
84	8.2E-03	8.1E-03	8.1E-03	9.0E-03	8.0E-03	7.8E-03	7.8E-03
85	8.4E-03	8.4E-03	8.5E-03	9.0E-03	8.2E-03	8.4E-03	8.2E-03
Statistics							
Min	7.9E-03	7.7E-03	7.9E-03	8.7E-03	7.9E-03	7.6E-03	7.5E-03
Max	8.4E-03	8.4E-03	8.5E-03	9.0E-03	8.3E-03	8.4E-03	8.2E-03
Average	8.2E-03	8.1E-03	8.1E-03	8.9E-03	8.1E-03	8.0E-03	7.8E-03
Std Deviation	186.1E-06	263.9E-06	217.5E-06	164.9E-06	163.8E-06	325.8E-06	256.8E-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.



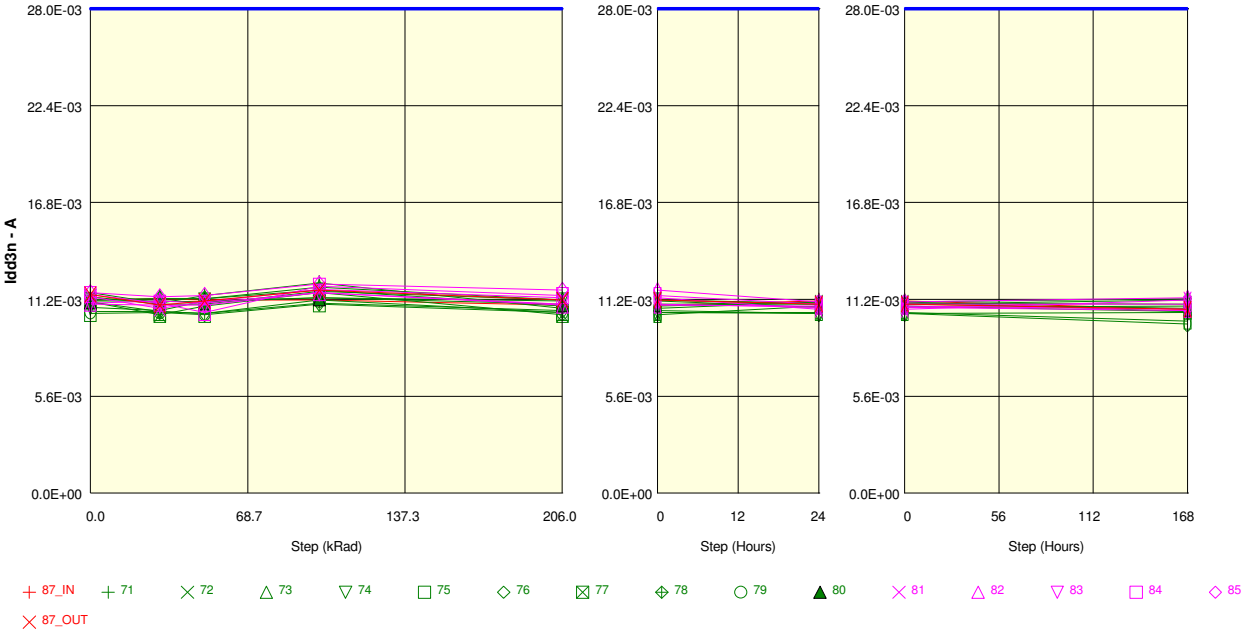
Measurements

Idd3p	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.5E-03	4.3E-03	4.5E-03	5.1E-03	4.5E-03	4.5E-03	4.3E-03
87_OUT_REF	4.6E-03	4.2E-03	4.5E-03	5.3E-03	4.6E-03	4.6E-03	4.5E-03
ON samples							
71	4.7E-03	4.4E-03	4.3E-03	5.3E-03	4.5E-03	4.0E-03	4.2E-03
72	4.8E-03	4.3E-03	4.2E-03	5.6E-03	4.6E-03	4.3E-03	4.6E-03
73	4.6E-03	4.5E-03	4.2E-03	5.0E-03	4.2E-03	4.1E-03	4.3E-03
74	4.6E-03	4.1E-03	4.0E-03	4.8E-03	4.4E-03	4.3E-03	4.2E-03
75	4.5E-03	4.2E-03	4.2E-03	4.7E-03	4.5E-03	4.2E-03	4.5E-03
76	4.7E-03	4.9E-03	4.3E-03	5.1E-03	4.2E-03	4.5E-03	4.9E-03
77	4.3E-03	3.7E-03	3.9E-03	5.1E-03	4.1E-03	4.4E-03	4.3E-03
78	4.4E-03	4.1E-03	3.8E-03	4.9E-03	4.3E-03	3.8E-03	4.3E-03
79	4.2E-03	4.3E-03	4.1E-03	5.0E-03	4.4E-03	3.5E-03	3.8E-03
80	4.7E-03	3.9E-03	4.2E-03	4.9E-03	4.5E-03	4.6E-03	4.2E-03
Statistics							
Min	4.2E-03	3.7E-03	3.8E-03	4.7E-03	4.1E-03	3.5E-03	3.8E-03
Max	4.8E-03	4.9E-03	4.3E-03	5.6E-03	4.6E-03	4.6E-03	4.9E-03
Average	4.6E-03	4.2E-03	4.1E-03	5.0E-03	4.4E-03	4.2E-03	4.3E-03
Std Deviation	195.6E-06	318.8E-06	168.4E-06	256.1E-06	160.7E-06	323.2E-06	289.2E-06

Measurements

Idd3p	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.5E-03	4.3E-03	4.5E-03	5.1E-03	4.5E-03	4.5E-03	4.3E-03
87_OUT_REF	4.6E-03	4.2E-03	4.5E-03	5.3E-03	4.6E-03	4.6E-03	4.5E-03
OFF samples							
81	5.0E-03	4.5E-03	4.3E-03	5.4E-03	4.6E-03	4.5E-03	4.4E-03
82	4.8E-03	4.8E-03	4.4E-03	5.1E-03	4.3E-03	3.6E-03	4.2E-03
83	4.2E-03	4.2E-03	3.9E-03	4.9E-03	4.6E-03	4.3E-03	4.2E-03
84	4.9E-03	4.2E-03	3.9E-03	5.4E-03	5.0E-03	4.0E-03	4.3E-03
85	4.6E-03	4.3E-03	4.4E-03	4.9E-03	4.6E-03	4.6E-03	4.7E-03
Statistics							
Min	4.2E-03	4.2E-03	3.9E-03	4.9E-03	4.3E-03	3.6E-03	4.2E-03
Max	5.0E-03	4.8E-03	4.4E-03	5.4E-03	5.0E-03	4.6E-03	4.7E-03
Average	4.7E-03	4.4E-03	4.2E-03	5.1E-03	4.7E-03	4.2E-03	4.4E-03
Std Deviation	309.4E-06	257.5E-06	257.5E-06	230.0E-06	238.0E-06	417.1E-06	200.6E-06

Parameter : Active standby current : Idd3n
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 28.0E-03
Spec limits are represented in bold lines on the graphic.



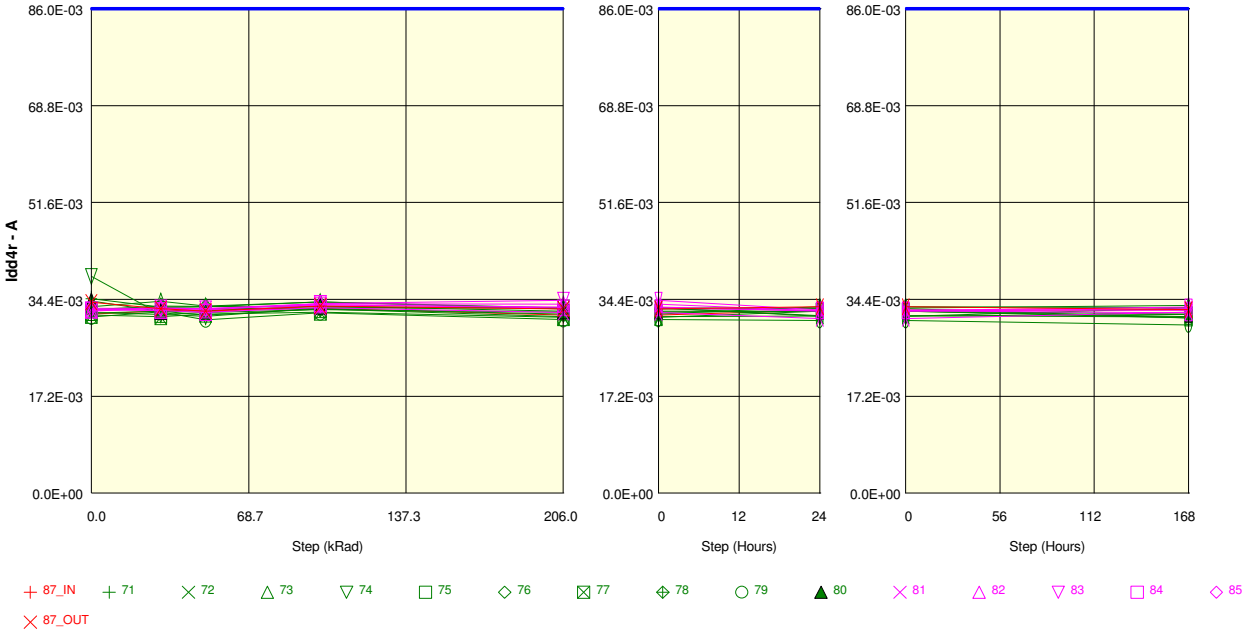
Measurements

Idd3n	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	11.2E-03	11.2E-03	11.2E-03	11.2E-03	10.9E-03	11.1E-03	10.6E-03
87_OUT_REF	11.5E-03	10.9E-03	11.1E-03	11.7E-03	11.2E-03	10.9E-03	10.6E-03
ON samples							
71	11.6E-03	11.0E-03	11.4E-03	12.1E-03	10.7E-03	11.0E-03	10.5E-03
72	11.4E-03	10.9E-03	10.9E-03	11.7E-03	11.2E-03	11.0E-03	10.9E-03
73	11.2E-03	11.2E-03	11.2E-03	11.9E-03	11.2E-03	10.9E-03	11.2E-03
74	10.7E-03	10.6E-03	11.1E-03	11.3E-03	11.1E-03	10.7E-03	10.8E-03
75	10.4E-03	10.4E-03	10.3E-03	10.9E-03	10.4E-03	10.4E-03	9.9E-03
76	11.2E-03	11.2E-03	11.2E-03	11.7E-03	10.8E-03	11.0E-03	11.2E-03
77	11.0E-03	10.3E-03	10.8E-03	11.6E-03	10.3E-03	10.8E-03	10.5E-03
78	11.0E-03	10.5E-03	10.4E-03	11.0E-03	10.6E-03	10.4E-03	10.4E-03
79	10.5E-03	10.5E-03	10.4E-03	11.2E-03	10.4E-03	10.4E-03	9.8E-03
80	11.1E-03	11.1E-03	11.0E-03	11.3E-03	10.9E-03	10.9E-03	10.7E-03
Statistics							
Min	10.4E-03	10.3E-03	10.3E-03	10.9E-03	10.3E-03	10.4E-03	9.8E-03
Max	11.6E-03	11.2E-03	11.4E-03	12.1E-03	11.2E-03	11.0E-03	11.2E-03
Average	11.0E-03	10.8E-03	10.9E-03	11.5E-03	10.8E-03	10.8E-03	10.6E-03
Std Deviation	374.3E-06	352.4E-06	400.7E-06	400.3E-06	322.8E-06	273.1E-06	476.3E-06

Measurements

Idd3n	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	11.2E-03	11.2E-03	11.2E-03	11.2E-03	10.9E-03	11.1E-03	10.6E-03
87_OUT_REF	11.5E-03	10.9E-03	11.1E-03	11.7E-03	11.2E-03	10.9E-03	10.6E-03
OFF samples							
81	11.4E-03	10.7E-03	11.0E-03	11.8E-03	11.3E-03	10.6E-03	11.2E-03
82	11.0E-03	11.1E-03	11.0E-03	11.6E-03	10.9E-03	10.8E-03	10.6E-03
83	10.9E-03	10.9E-03	10.9E-03	11.6E-03	10.9E-03	10.7E-03	10.6E-03
84	11.5E-03	11.0E-03	10.4E-03	12.0E-03	11.4E-03	10.9E-03	10.9E-03
85	11.6E-03	11.4E-03	11.4E-03	12.1E-03	11.7E-03	11.0E-03	11.3E-03
Statistics							
Min	10.9E-03	10.7E-03	10.4E-03	11.6E-03	10.9E-03	10.6E-03	10.6E-03
Max	11.6E-03	11.4E-03	11.4E-03	12.1E-03	11.7E-03	11.0E-03	11.3E-03
Average	11.3E-03	11.0E-03	10.9E-03	11.8E-03	11.2E-03	10.8E-03	10.9E-03
Std Deviation	298.1E-06	253.3E-06	352.3E-06	218.2E-06	354.6E-06	164.8E-06	324.2E-06

Parameter : Burst read operating current : Idd4r
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 86.0E-03
Spec limits are represented in bold lines on the graphic.



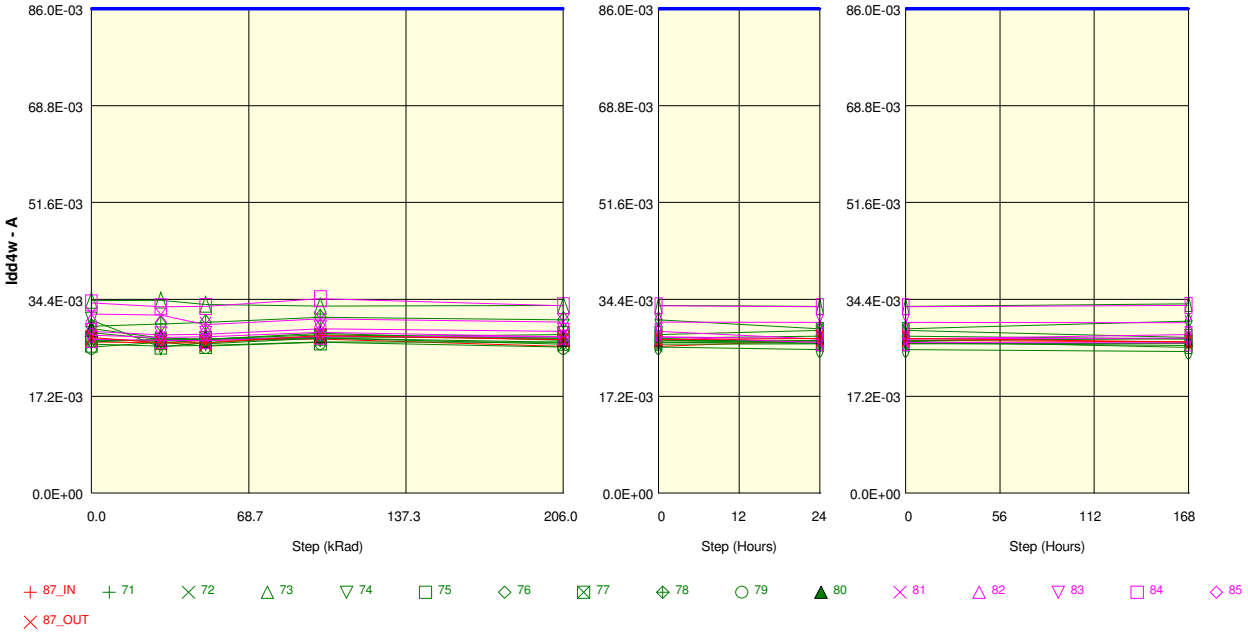
Measurements

Idd4r	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	31.8E-03	32.3E-03	32.5E-03	32.8E-03	31.6E-03	32.5E-03	32.5E-03
87_OUT_REF	33.9E-03	32.7E-03	32.3E-03	33.2E-03	32.7E-03	33.1E-03	32.6E-03
ON samples							
71	34.5E-03	33.0E-03	33.1E-03	33.9E-03	32.7E-03	32.7E-03	31.1E-03
72	31.9E-03	32.3E-03	31.6E-03	32.7E-03	31.3E-03	31.4E-03	31.7E-03
73	33.1E-03	34.1E-03	33.2E-03	33.9E-03	32.9E-03	32.9E-03	33.3E-03
74	38.5E-03	31.7E-03	31.4E-03	32.9E-03	32.9E-03	31.5E-03	31.3E-03
75	32.0E-03	31.7E-03	32.0E-03	32.6E-03	32.1E-03	32.3E-03	31.3E-03
76	32.6E-03	33.0E-03	32.8E-03	32.7E-03	31.8E-03	33.1E-03	33.0E-03
77	31.6E-03	31.3E-03	31.8E-03	32.1E-03	31.2E-03	32.3E-03	31.1E-03
78	32.6E-03	33.2E-03	33.1E-03	33.0E-03	33.0E-03	31.4E-03	32.9E-03
79	31.3E-03	32.2E-03	30.8E-03	32.0E-03	30.8E-03	30.6E-03	29.8E-03
80	34.1E-03	32.2E-03	32.3E-03	33.2E-03	32.3E-03	32.3E-03	31.8E-03
Statistics							
Min	31.3E-03	31.3E-03	30.8E-03	32.0E-03	30.8E-03	30.6E-03	29.8E-03
Max	38.5E-03	34.1E-03	33.2E-03	33.9E-03	33.0E-03	33.1E-03	33.3E-03
Average	33.2E-03	32.5E-03	32.2E-03	32.9E-03	32.1E-03	32.0E-03	31.7E-03
Std Deviation	2.1E-03	830.0E-06	836.8E-06	662.0E-06	783.6E-06	784.0E-06	1.1E-03

Measurements

Idd4r	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	31.8E-03	32.3E-03	32.5E-03	32.8E-03	31.6E-03	32.5E-03	32.5E-03
87_OUT_REF	33.9E-03	32.7E-03	32.3E-03	33.2E-03	32.7E-03	33.1E-03	32.6E-03
OFF samples							
81	32.3E-03	32.8E-03	32.1E-03	33.0E-03	32.0E-03	31.0E-03	32.1E-03
82	32.5E-03	32.7E-03	32.5E-03	33.6E-03	33.6E-03	32.3E-03	32.0E-03
83	32.5E-03	32.9E-03	32.7E-03	33.7E-03	34.2E-03	32.5E-03	32.5E-03
84	32.5E-03	32.4E-03	32.0E-03	33.4E-03	32.9E-03	32.4E-03	33.0E-03
85	32.8E-03	32.8E-03	32.7E-03	33.4E-03	33.0E-03	32.3E-03	32.7E-03
Statistics							
Min	32.3E-03	32.4E-03	32.0E-03	33.0E-03	32.0E-03	31.0E-03	32.0E-03
Max	32.8E-03	32.9E-03	32.7E-03	33.7E-03	34.2E-03	32.5E-03	33.0E-03
Average	32.5E-03	32.7E-03	32.4E-03	33.4E-03	33.2E-03	32.1E-03	32.5E-03
Std Deviation	174.7E-06	192.9E-06	327.3E-06	288.1E-06	817.3E-06	627.6E-06	428.4E-06

Parameter : Burst write operating current : Idd4w
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 86.0E-03
Spec limits are represented in bold lines on the graphic.



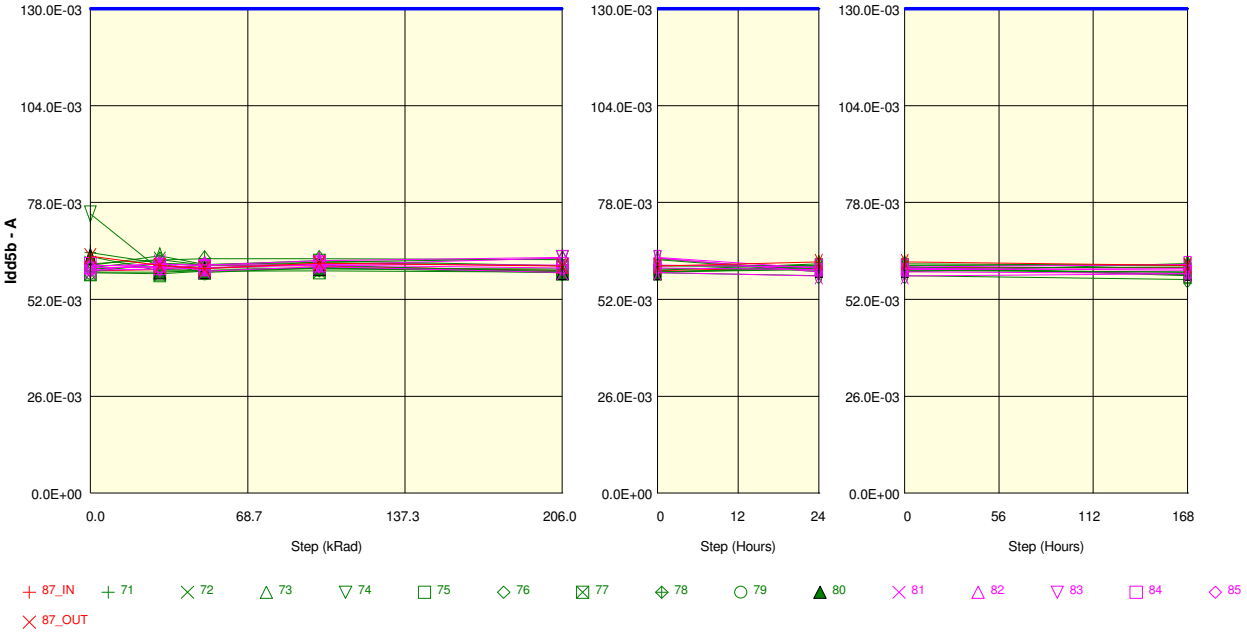
Measurements

Idd4w	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	26.9E-03	26.7E-03	27.2E-03	27.3E-03	26.1E-03	27.2E-03	26.9E-03
87_OUT_REF	27.6E-03	26.7E-03	26.7E-03	28.0E-03	27.2E-03	27.5E-03	26.9E-03
ON samples							
71	28.5E-03	27.3E-03	27.3E-03	28.3E-03	27.1E-03	26.9E-03	25.9E-03
72	26.9E-03	27.3E-03	26.5E-03	27.5E-03	26.4E-03	26.5E-03	26.6E-03
73	34.2E-03	34.2E-03	33.5E-03	33.2E-03	33.3E-03	33.1E-03	33.6E-03
74	30.7E-03	25.9E-03	26.7E-03	27.7E-03	27.5E-03	26.6E-03	26.6E-03
75	26.4E-03	26.1E-03	26.2E-03	26.9E-03	26.8E-03	26.6E-03	26.2E-03
76	27.0E-03	27.2E-03	27.3E-03	27.5E-03	26.8E-03	27.2E-03	27.4E-03
77	27.3E-03	26.9E-03	27.3E-03	27.6E-03	28.1E-03	28.9E-03	27.6E-03
78	29.6E-03	30.0E-03	30.3E-03	31.2E-03	30.8E-03	29.2E-03	30.5E-03
79	25.9E-03	26.8E-03	26.1E-03	26.8E-03	25.9E-03	25.5E-03	25.1E-03
80	29.2E-03	27.5E-03	27.3E-03	28.1E-03	27.5E-03	27.9E-03	27.3E-03
Statistics							
Min	25.9E-03	25.9E-03	26.1E-03	26.8E-03	25.9E-03	25.5E-03	25.1E-03
Max	34.2E-03	34.2E-03	33.5E-03	33.2E-03	33.3E-03	33.1E-03	33.6E-03
Average	28.6E-03	27.9E-03	27.9E-03	28.5E-03	28.0E-03	27.8E-03	27.7E-03
Std Deviation	2.5E-03	2.5E-03	2.3E-03	2.1E-03	2.3E-03	2.2E-03	2.5E-03

Measurements

Idd4w	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	26.9E-03	26.7E-03	27.2E-03	27.3E-03	26.1E-03	27.2E-03	26.9E-03
87_OUT_REF	27.6E-03	26.7E-03	26.7E-03	28.0E-03	27.2E-03	27.5E-03	26.9E-03
OFF samples							
81	31.8E-03	31.6E-03	29.9E-03	30.9E-03	30.4E-03	30.3E-03	30.2E-03
82	27.3E-03	27.1E-03	27.0E-03	27.8E-03	27.7E-03	26.7E-03	26.7E-03
83	28.7E-03	28.1E-03	28.2E-03	29.2E-03	28.7E-03	27.3E-03	28.1E-03
84	33.8E-03	33.1E-03	33.1E-03	34.5E-03	33.3E-03	33.1E-03	33.3E-03
85	28.0E-03	27.6E-03	27.7E-03	28.6E-03	27.7E-03	27.4E-03	27.5E-03
Statistics							
Min	27.3E-03	27.1E-03	27.0E-03	27.8E-03	27.7E-03	26.7E-03	26.7E-03
Max	33.8E-03	33.1E-03	33.1E-03	34.5E-03	33.3E-03	33.1E-03	33.3E-03
Average	29.9E-03	29.5E-03	29.2E-03	30.2E-03	29.6E-03	29.0E-03	29.2E-03
Std Deviation	2.8E-03	2.7E-03	2.4E-03	2.7E-03	2.3E-03	2.7E-03	2.7E-03

Parameter : Burst auto refresh current : Idd5b
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 130.0E-03
Spec limits are represented in bold lines on the graphic.



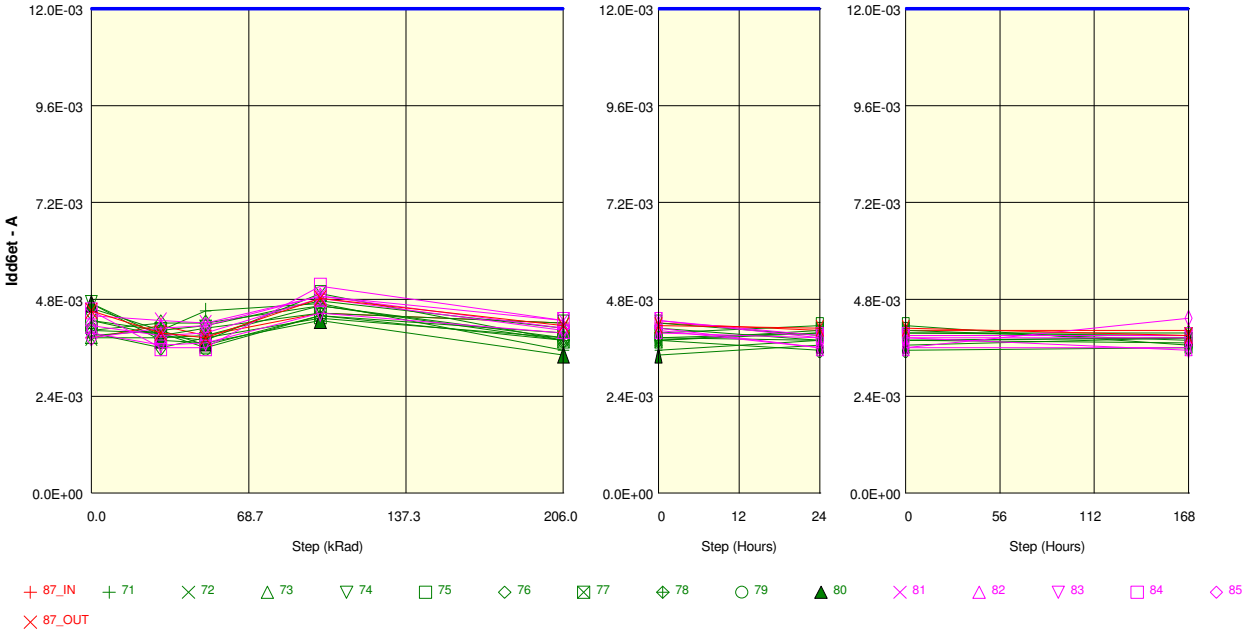
Measurements

Idd5b	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	59.6E-03	60.0E-03	61.3E-03	60.9E-03	59.8E-03	60.5E-03	60.5E-03
87_OUT_REF	63.6E-03	61.1E-03	60.2E-03	61.7E-03	60.9E-03	62.0E-03	61.1E-03
ON samples							
71	64.6E-03	61.7E-03	61.3E-03	62.4E-03	61.0E-03	60.7E-03	58.6E-03
72	61.5E-03	62.6E-03	61.2E-03	61.2E-03	59.3E-03	60.4E-03	60.7E-03
73	61.0E-03	63.7E-03	61.4E-03	61.9E-03	61.0E-03	61.0E-03	61.2E-03
74	75.0E-03	60.0E-03	60.2E-03	62.0E-03	62.9E-03	59.7E-03	59.4E-03
75	59.3E-03	59.3E-03	59.7E-03	60.4E-03	60.1E-03	60.6E-03	58.6E-03
76	60.1E-03	60.9E-03	60.6E-03	60.1E-03	59.8E-03	61.6E-03	61.1E-03
77	59.1E-03	58.9E-03	59.6E-03	59.6E-03	59.3E-03	60.7E-03	58.3E-03
78	60.5E-03	62.6E-03	62.9E-03	62.9E-03	62.6E-03	59.4E-03	61.6E-03
79	59.4E-03	61.6E-03	59.2E-03	60.4E-03	59.1E-03	58.4E-03	57.3E-03
80	63.5E-03	59.6E-03	59.8E-03	60.6E-03	59.4E-03	59.9E-03	59.2E-03
Statistics							
Min	59.1E-03	58.9E-03	59.2E-03	59.6E-03	59.1E-03	58.4E-03	57.3E-03
Max	75.0E-03	63.7E-03	62.9E-03	62.9E-03	62.9E-03	61.6E-03	61.6E-03
Average	62.4E-03	61.1E-03	60.6E-03	61.2E-03	60.4E-03	60.2E-03	59.6E-03
Std Deviation	4.8E-03	1.6E-03	1.1E-03	1.1E-03	1.4E-03	919.2E-06	1.5E-03

Measurements

Idd5b	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	59.6E-03	60.0E-03	61.3E-03	60.9E-03	59.8E-03	60.5E-03	60.5E-03
87_OUT_REF	63.6E-03	61.1E-03	60.2E-03	61.7E-03	60.9E-03	62.0E-03	61.1E-03
OFF samples							
81	59.6E-03	61.8E-03	59.6E-03	60.7E-03	59.2E-03	58.2E-03	58.8E-03
82	60.9E-03	61.5E-03	61.2E-03	62.4E-03	63.3E-03	60.4E-03	59.8E-03
83	59.8E-03	60.1E-03	60.4E-03	61.3E-03	63.0E-03	59.4E-03	59.0E-03
84	61.2E-03	60.7E-03	60.5E-03	61.5E-03	61.2E-03	60.7E-03	61.4E-03
85	60.6E-03	60.5E-03	61.3E-03	61.2E-03	60.4E-03	60.0E-03	60.3E-03
Statistics							
Min	59.6E-03	60.1E-03	59.6E-03	60.7E-03	59.2E-03	58.2E-03	58.8E-03
Max	61.2E-03	61.8E-03	61.3E-03	62.4E-03	63.3E-03	60.7E-03	61.4E-03
Average	60.4E-03	60.9E-03	60.6E-03	61.4E-03	61.4E-03	59.7E-03	59.9E-03
Std Deviation	672.9E-06	695.3E-06	688.6E-06	611.0E-06	1.7E-03	960.5E-06	1.1E-03

Parameter : Extended temperature self refresh : Idd6et
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 12.0E-03
Spec limits are represented in bold lines on the graphic.



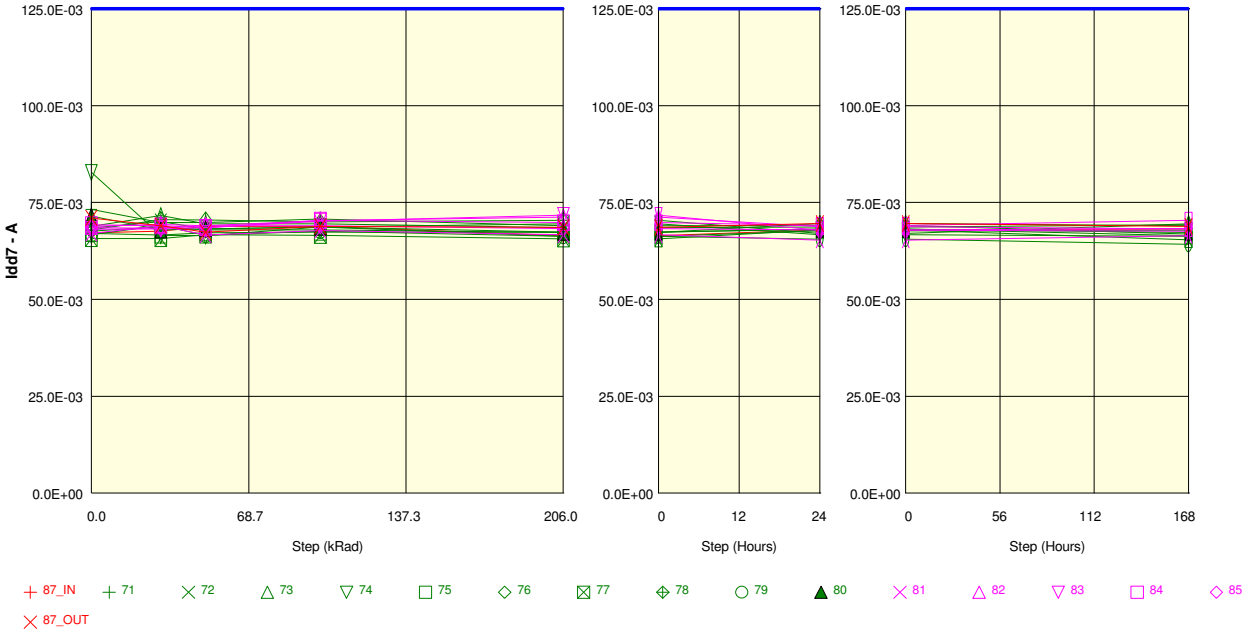
Measurements

Idd6et	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	3.8E-03	4.2E-03	3.9E-03	4.5E-03	4.2E-03	4.0E-03	4.0E-03
87_OUT_REF	4.5E-03	4.0E-03	3.8E-03	4.8E-03	4.2E-03	4.1E-03	3.9E-03
ON samples							
71	4.6E-03	4.0E-03	4.5E-03	4.7E-03	3.5E-03	3.8E-03	3.8E-03
72	3.8E-03	3.8E-03	3.9E-03	4.6E-03	3.8E-03	4.0E-03	3.9E-03
73	3.9E-03	4.0E-03	4.2E-03	4.8E-03	4.1E-03	3.8E-03	3.8E-03
74	4.7E-03	3.9E-03	4.1E-03	4.5E-03	4.2E-03	3.9E-03	3.9E-03
75	4.3E-03	4.0E-03	3.7E-03	4.4E-03	4.0E-03	4.2E-03	3.7E-03
76	4.0E-03	4.2E-03	4.2E-03	4.6E-03	3.8E-03	4.0E-03	4.0E-03
77	4.3E-03	3.9E-03	3.8E-03	4.9E-03	3.8E-03	4.0E-03	3.8E-03
78	4.0E-03	3.6E-03	3.8E-03	4.3E-03	3.8E-03	3.8E-03	3.7E-03
79	4.0E-03	4.0E-03	3.6E-03	4.4E-03	3.8E-03	3.5E-03	3.6E-03
80	4.7E-03	3.8E-03	3.7E-03	4.3E-03	3.4E-03	3.7E-03	3.8E-03
Statistics							
Min	3.8E-03	3.6E-03	3.6E-03	4.3E-03	3.4E-03	3.5E-03	3.6E-03
Max	4.7E-03	4.2E-03	4.5E-03	4.9E-03	4.2E-03	4.2E-03	4.0E-03
Average	4.2E-03	3.9E-03	3.9E-03	4.6E-03	3.8E-03	3.9E-03	3.8E-03
Std Deviation	328.1E-06	165.8E-06	287.8E-06	215.7E-06	233.8E-06	181.5E-06	115.8E-06

Measurements

Idd6et	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	3.8E-03	4.2E-03	3.9E-03	4.5E-03	4.2E-03	4.0E-03	4.0E-03
87_OUT_REF	4.5E-03	4.0E-03	3.8E-03	4.8E-03	4.2E-03	4.1E-03	3.9E-03
OFF samples							
81	4.4E-03	4.3E-03	4.2E-03	4.9E-03	4.3E-03	3.8E-03	3.8E-03
82	4.2E-03	3.9E-03	4.0E-03	4.8E-03	4.0E-03	3.6E-03	3.6E-03
83	4.0E-03	3.7E-03	3.7E-03	4.5E-03	4.0E-03	3.8E-03	3.5E-03
84	4.5E-03	3.6E-03	3.6E-03	5.1E-03	4.3E-03	3.9E-03	3.9E-03
85	3.8E-03	4.1E-03	4.2E-03	4.9E-03	4.1E-03	3.6E-03	4.3E-03
Statistics							
Min	3.8E-03	3.6E-03	3.6E-03	4.5E-03	4.0E-03	3.6E-03	3.5E-03
Max	4.5E-03	4.3E-03	4.2E-03	5.1E-03	4.3E-03	3.9E-03	4.3E-03
Average	4.2E-03	3.9E-03	3.9E-03	4.8E-03	4.1E-03	3.8E-03	3.8E-03
Std Deviation	281.7E-06	283.0E-06	264.6E-06	241.8E-06	140.5E-06	147.0E-06	314.2E-06

Parameter : All banks interleaved read current : Idd7
Test conditions : VilAC160. VihAC160 ;RST=0V or VDDQ
Unit : A
Spec Limit Max : 125.0E-03
Spec limits are represented in bold lines on the graphic.



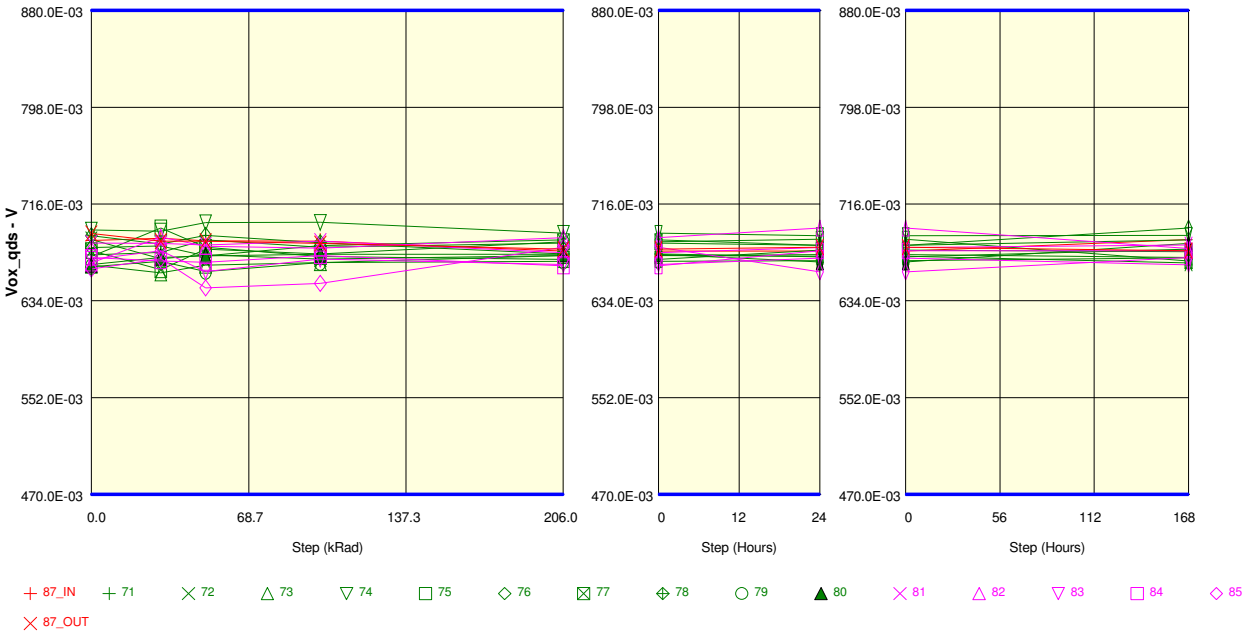
Measurements

Idd7	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	67.2E-03	67.6E-03	68.8E-03	68.8E-03	66.5E-03	67.9E-03	68.2E-03
87_OUT_REF	71.0E-03	69.0E-03	67.4E-03	68.8E-03	68.6E-03	69.6E-03	68.8E-03
ON samples							
71	73.2E-03	69.8E-03	69.8E-03	70.7E-03	69.0E-03	69.1E-03	66.8E-03
72	68.4E-03	70.1E-03	68.2E-03	68.7E-03	66.3E-03	67.7E-03	67.8E-03
73	68.8E-03	71.6E-03	69.5E-03	69.5E-03	68.5E-03	68.7E-03	69.3E-03
74	82.8E-03	66.5E-03	66.5E-03	68.7E-03	69.5E-03	66.7E-03	66.3E-03
75	67.0E-03	66.6E-03	67.1E-03	67.4E-03	67.4E-03	68.2E-03	66.5E-03
76	67.6E-03	68.7E-03	67.9E-03	67.9E-03	67.3E-03	69.6E-03	69.0E-03
77	65.7E-03	65.7E-03	66.7E-03	66.5E-03	65.6E-03	67.9E-03	65.4E-03
78	67.9E-03	70.6E-03	70.5E-03	70.0E-03	70.4E-03	67.0E-03	69.5E-03
79	66.7E-03	69.2E-03	66.5E-03	67.6E-03	66.3E-03	65.6E-03	64.2E-03
80	71.5E-03	67.9E-03	68.2E-03	68.7E-03	67.4E-03	68.1E-03	67.3E-03
Statistics							
Min	65.7E-03	65.7E-03	66.5E-03	66.5E-03	65.6E-03	65.6E-03	64.2E-03
Max	82.8E-03	71.6E-03	70.5E-03	70.7E-03	70.4E-03	69.6E-03	69.5E-03
Average	70.0E-03	68.7E-03	68.1E-03	68.6E-03	67.8E-03	67.8E-03	67.2E-03
Std Deviation	5.0E-03	1.9E-03	1.5E-03	1.3E-03	1.5E-03	1.2E-03	1.7E-03

Measurements

Idd7	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	67.2E-03	67.6E-03	68.8E-03	68.8E-03	66.5E-03	67.9E-03	68.2E-03
87_OUT_REF	71.0E-03	69.0E-03	67.4E-03	68.8E-03	68.6E-03	69.6E-03	68.8E-03
OFF samples							
81	67.0E-03	69.0E-03	66.6E-03	67.7E-03	66.7E-03	65.3E-03	66.5E-03
82	68.8E-03	69.3E-03	69.0E-03	70.3E-03	71.2E-03	68.7E-03	68.2E-03
83	68.1E-03	68.2E-03	68.5E-03	70.2E-03	71.7E-03	67.8E-03	67.6E-03
84	69.3E-03	69.0E-03	68.5E-03	70.4E-03	69.8E-03	69.1E-03	70.4E-03
85	68.5E-03	68.4E-03	69.0E-03	69.0E-03	68.3E-03	67.9E-03	68.3E-03
Statistics							
Min	67.0E-03	68.2E-03	66.6E-03	67.7E-03	66.7E-03	65.3E-03	66.5E-03
Max	69.3E-03	69.3E-03	69.0E-03	70.4E-03	71.7E-03	69.1E-03	70.4E-03
Average	68.3E-03	68.8E-03	68.3E-03	69.5E-03	69.5E-03	67.8E-03	68.2E-03
Std Deviation	863.7E-06	487.4E-06	999.9E-06	1.1E-03	2.1E-03	1.5E-03	1.4E-03

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



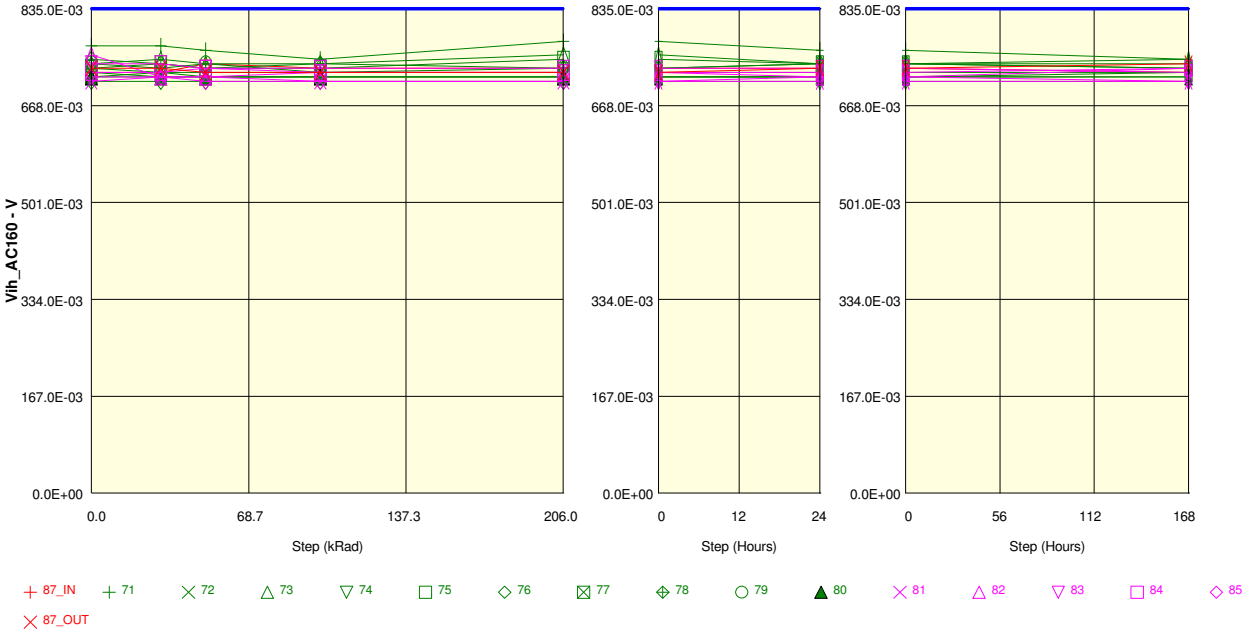
Measurements

Vox_qds	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	684.9E-03	687.0E-03	684.7E-03	684.4E-03	676.1E-03	676.2E-03	686.0E-03
87_OUT_REF	691.1E-03	684.5E-03	684.4E-03	682.6E-03	677.9E-03	679.6E-03	676.6E-03
ON samples							
71	672.9E-03	675.0E-03	685.7E-03	679.5E-03	683.0E-03	681.0E-03	685.5E-03
72	686.0E-03	669.6E-03	672.9E-03	669.3E-03	672.2E-03	671.9E-03	666.1E-03
73	664.1E-03	657.5E-03	664.2E-03	666.3E-03	672.4E-03	673.0E-03	670.9E-03
74	693.9E-03	692.9E-03	700.3E-03	700.5E-03	691.2E-03	689.2E-03	689.4E-03
75	671.6E-03	695.6E-03	679.4E-03	671.6E-03	669.1E-03	677.0E-03	675.5E-03
76	679.0E-03	680.5E-03	672.1E-03	680.9E-03	685.7E-03	680.9E-03	695.6E-03
77	676.5E-03	660.5E-03	677.9E-03	673.7E-03	683.9E-03	686.3E-03	667.9E-03
78	689.2E-03	682.0E-03	689.6E-03	683.2E-03	673.9E-03	671.4E-03	677.9E-03
79	662.8E-03	667.6E-03	658.8E-03	666.3E-03	667.4E-03	668.1E-03	670.4E-03
80	664.8E-03	670.8E-03	672.2E-03	673.6E-03	673.5E-03	666.9E-03	682.6E-03
Statistics							
Min	662.8E-03	657.5E-03	658.8E-03	666.3E-03	667.4E-03	666.9E-03	666.1E-03
Max	693.9E-03	695.6E-03	700.3E-03	700.5E-03	691.2E-03	689.2E-03	695.6E-03
Average	676.1E-03	675.2E-03	677.3E-03	676.5E-03	677.2E-03	676.6E-03	678.2E-03
Std Deviation	10.9E-03	12.7E-03	12.2E-03	10.3E-03	8.0E-03	7.6E-03	9.9E-03

Measurements

Vox_qds	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	684.9E-03	687.0E-03	684.7E-03	684.4E-03	676.1E-03	676.2E-03	686.0E-03
87_OUT_REF	691.1E-03	684.5E-03	684.4E-03	682.6E-03	677.9E-03	679.6E-03	676.6E-03
OFF samples							
81	682.9E-03	682.7E-03	681.3E-03	684.4E-03	674.7E-03	679.1E-03	681.3E-03
82	666.0E-03	688.0E-03	680.2E-03	678.5E-03	687.4E-03	695.6E-03	678.2E-03
83	669.1E-03	676.3E-03	658.9E-03	669.4E-03	664.9E-03	670.1E-03	664.7E-03
84	670.8E-03	667.7E-03	666.6E-03	672.4E-03	663.5E-03	676.4E-03	676.4E-03
85	660.9E-03	669.6E-03	645.0E-03	648.7E-03	679.6E-03	658.5E-03	670.8E-03
Statistics							
Min	660.9E-03	667.7E-03	645.0E-03	648.7E-03	663.5E-03	658.5E-03	664.7E-03
Max	682.9E-03	688.0E-03	681.3E-03	684.4E-03	687.4E-03	695.6E-03	681.3E-03
Average	670.0E-03	676.9E-03	666.4E-03	670.7E-03	674.0E-03	676.0E-03	674.3E-03
Std Deviation	8.2E-03	8.6E-03	15.2E-03	13.6E-03	10.1E-03	13.6E-03	6.6E-03

Parameter : Input High Voltage : Vih_AC160
Test conditions : Except CKE. RESET.ODT & differential pin
Unit : V
Spec Limit Max : 835.0E-03
Spec limits are represented in bold lines on the graphic.



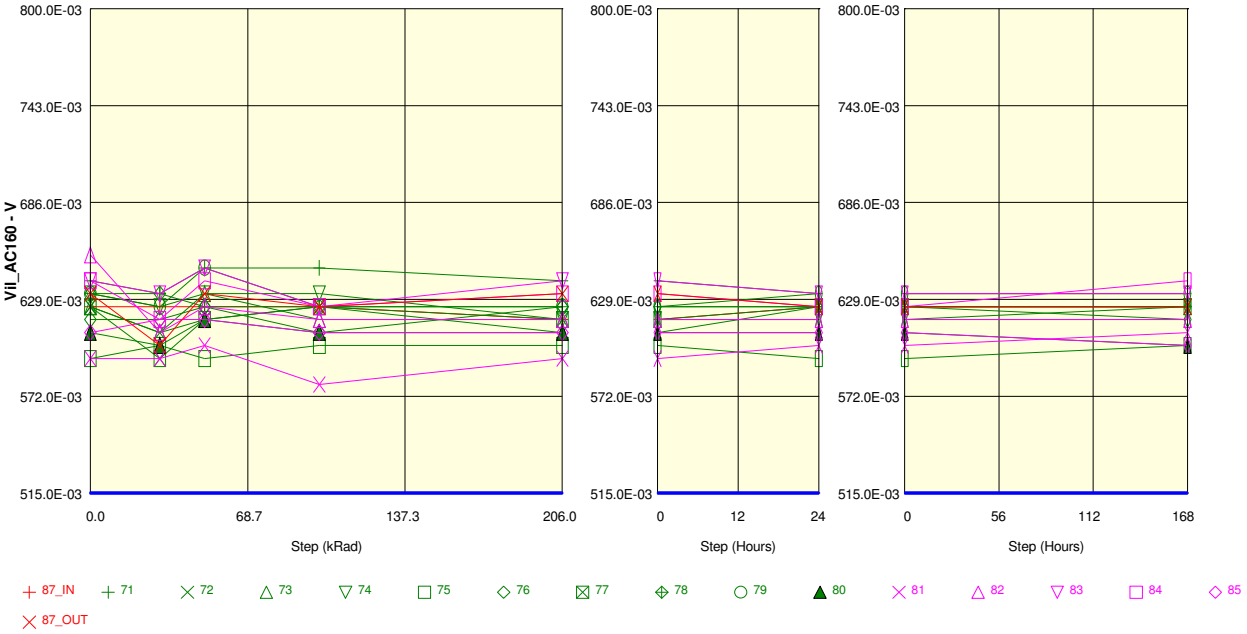
Measurements

Vih_AC160	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	725.4E-03	725.4E-03	740.6E-03	733.0E-03	733.0E-03	733.0E-03	725.4E-03
87_OUT_REF	733.0E-03	733.0E-03	725.4E-03	725.4E-03	725.4E-03	733.0E-03	740.6E-03
ON samples							
71	771.1E-03	771.1E-03	763.5E-03	748.2E-03	778.7E-03	763.5E-03	748.2E-03
72	725.4E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03
73	740.6E-03	748.2E-03	740.6E-03	740.6E-03	755.9E-03	740.6E-03	748.2E-03
74	733.0E-03	725.4E-03	725.4E-03	725.4E-03	725.4E-03	725.4E-03	725.4E-03
75	733.0E-03	740.6E-03	733.0E-03	733.0E-03	748.2E-03	740.6E-03	733.0E-03
76	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03
77	717.8E-03	725.4E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03	725.4E-03
78	748.2E-03	740.6E-03	733.0E-03	740.6E-03	733.0E-03	740.6E-03	740.6E-03
79	740.6E-03	733.0E-03	740.6E-03	725.4E-03	733.0E-03	740.6E-03	733.0E-03
80	717.8E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03	717.8E-03
Statistics							
Min	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03
Max	771.1E-03	771.1E-03	763.5E-03	748.2E-03	778.7E-03	763.5E-03	748.2E-03
Average	733.8E-03	733.0E-03	730.0E-03	727.7E-03	733.8E-03	731.5E-03	730.0E-03
Std Deviation	17.8E-03	18.0E-03	15.7E-03	12.5E-03	21.4E-03	16.4E-03	13.0E-03

Measurements

Vih_AC160	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	725.4E-03	725.4E-03	740.6E-03	733.0E-03	733.0E-03	733.0E-03	725.4E-03
87_OUT_REF	733.0E-03	733.0E-03	725.4E-03	725.4E-03	725.4E-03	733.0E-03	740.6E-03
OFF samples							
81	710.2E-03	717.8E-03	717.8E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03
82	755.9E-03	717.8E-03	717.8E-03	725.4E-03	725.4E-03	717.8E-03	733.0E-03
83	740.6E-03	740.6E-03	733.0E-03	733.0E-03	733.0E-03	733.0E-03	725.4E-03
84	725.4E-03	725.4E-03	733.0E-03	725.4E-03	725.4E-03	725.4E-03	733.0E-03
85	717.8E-03	717.8E-03	710.2E-03	710.2E-03	710.2E-03	717.8E-03	710.2E-03
Statistics							
Min	710.2E-03	717.8E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03	710.2E-03
Max	755.9E-03	740.6E-03	733.0E-03	733.0E-03	733.0E-03	733.0E-03	733.0E-03
Average	730.0E-03	723.9E-03	722.3E-03	720.8E-03	720.8E-03	720.8E-03	722.3E-03
Std Deviation	18.3E-03	9.9E-03	10.2E-03	10.2E-03	10.2E-03	8.7E-03	11.6E-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.



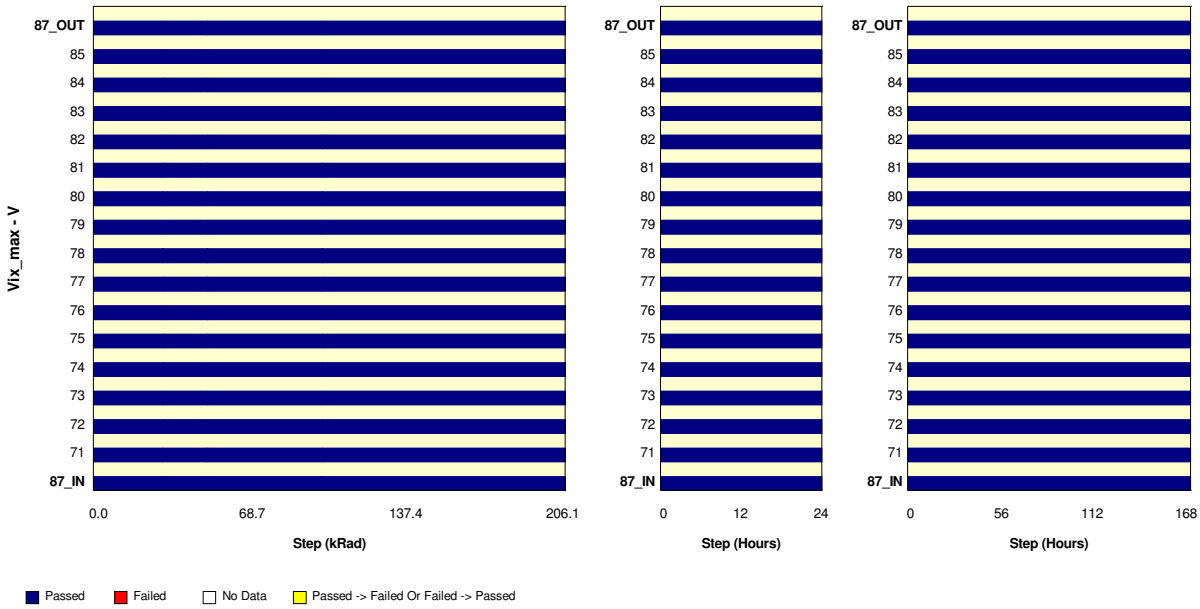
Measurements

Vil_AC160	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	624.6E-03	624.6E-03	624.6E-03	624.6E-03	617.0E-03	624.6E-03	624.6E-03
87_OUT_REF	632.2E-03	601.8E-03	632.2E-03	624.6E-03	632.2E-03	624.6E-03	624.6E-03
ON samples							
71	639.8E-03	632.2E-03	647.5E-03	647.5E-03	639.8E-03	632.2E-03	632.2E-03
72	624.6E-03	609.4E-03	617.0E-03	624.6E-03	609.4E-03	624.6E-03	624.6E-03
73	624.6E-03	609.4E-03	632.2E-03	617.0E-03	617.0E-03	617.0E-03	617.0E-03
74	632.2E-03	624.6E-03	632.2E-03	632.2E-03	617.0E-03	617.0E-03	624.6E-03
75	594.1E-03	601.8E-03	594.1E-03	601.8E-03	601.8E-03	594.1E-03	601.8E-03
76	617.0E-03	617.0E-03	624.6E-03	609.4E-03	624.6E-03	624.6E-03	617.0E-03
77	624.6E-03	594.1E-03	617.0E-03	624.6E-03	617.0E-03	624.6E-03	624.6E-03
78	632.2E-03	632.2E-03	624.6E-03	624.6E-03	624.6E-03	624.6E-03	624.6E-03
79	632.2E-03	624.6E-03	647.5E-03	624.6E-03	624.6E-03	632.2E-03	632.2E-03
80	609.4E-03	601.8E-03	617.0E-03	609.4E-03	609.4E-03	609.4E-03	601.8E-03
Statistics							
Min	594.1E-03	594.1E-03	594.1E-03	601.8E-03	601.8E-03	594.1E-03	601.8E-03
Max	639.8E-03	632.2E-03	647.5E-03	647.5E-03	639.8E-03	632.2E-03	632.2E-03
Average	623.1E-03	614.7E-03	625.4E-03	621.6E-03	618.5E-03	620.0E-03	620.0E-03
Std Deviation	13.3E-03	13.5E-03	15.8E-03	13.0E-03	10.7E-03	11.5E-03	10.9E-03

Measurements

Vil_AC160	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	624.6E-03	624.6E-03	624.6E-03	624.6E-03	617.0E-03	624.6E-03	624.6E-03
87_OUT_REF	632.2E-03	601.8E-03	632.2E-03	624.6E-03	632.2E-03	624.6E-03	624.6E-03
OFF samples							
81	594.1E-03	594.1E-03	601.8E-03	578.9E-03	594.1E-03	601.8E-03	609.4E-03
82	655.1E-03	609.4E-03	624.6E-03	617.0E-03	617.0E-03	617.0E-03	617.0E-03
83	639.8E-03	632.2E-03	647.5E-03	624.6E-03	639.8E-03	632.2E-03	632.2E-03
84	639.8E-03	617.0E-03	639.8E-03	624.6E-03	632.2E-03	624.6E-03	639.8E-03
85	609.4E-03	617.0E-03	617.0E-03	609.4E-03	609.4E-03	609.4E-03	601.8E-03
Statistics							
Min	594.1E-03	594.1E-03	601.8E-03	578.9E-03	594.1E-03	601.8E-03	601.8E-03
Max	655.1E-03	632.2E-03	647.5E-03	624.6E-03	639.8E-03	632.2E-03	639.8E-03
Average	627.7E-03	613.9E-03	626.1E-03	610.9E-03	618.5E-03	617.0E-03	620.0E-03
Std Deviation	25.0E-03	13.8E-03	18.2E-03	19.0E-03	18.2E-03	12.0E-03	15.8E-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.



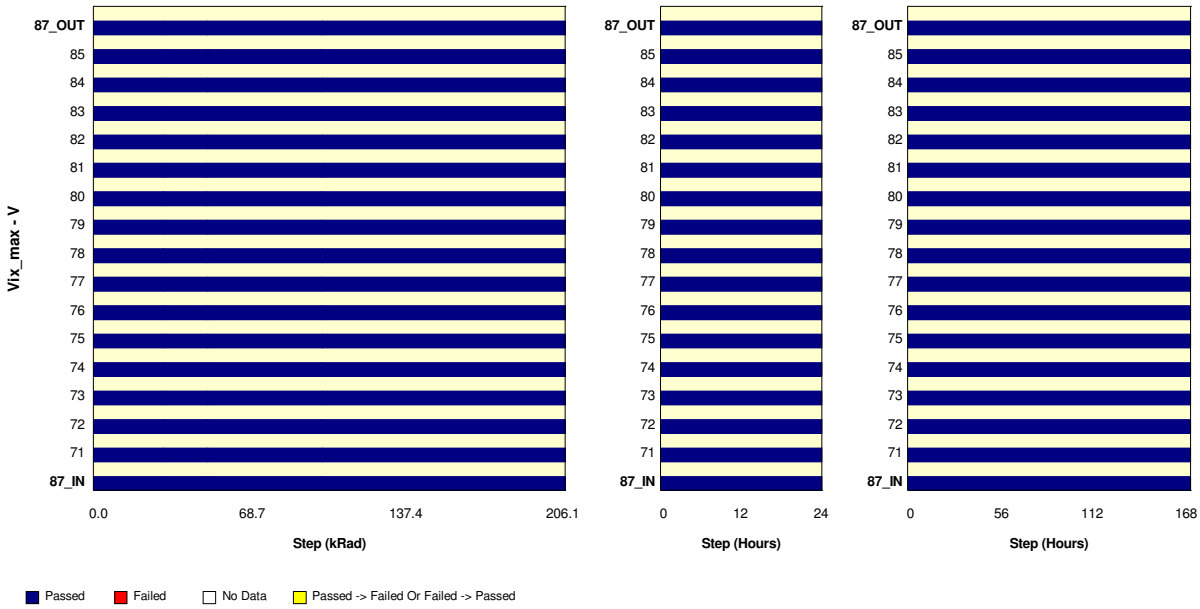
Measurements

Vix_max<CK>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_max<CK>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_max<DQS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-31.7E-09	-35.4E-09	-30.5E-09	-28.1E-09	-36.6E-09	-36.6E-09
87_OUT_REF	-30.5E-09	-29.3E-09	-37.8E-09	-33.0E-09	-35.4E-09	-35.4E-09	-33.0E-09
ON samples							
71	-30.5E-09	-34.2E-09	-35.4E-09	-31.7E-09	-35.4E-09	-35.4E-09	-26.9E-09
72	-34.2E-09	-30.5E-09	-28.1E-09	-30.5E-09	-26.9E-09	-24.4E-09	-31.7E-09
73	-30.5E-09	-33.0E-09	-25.6E-09	-34.2E-09	-35.4E-09	-34.2E-09	-33.0E-09
74	-33.0E-09	-28.1E-09	-30.5E-09	-29.3E-09	-34.2E-09	-30.5E-09	-29.3E-09
75	-24.4E-09	-33.0E-09	-28.1E-09	-28.1E-09	-31.7E-09	-28.1E-09	-28.1E-09
76	-26.9E-09	-31.7E-09	-30.5E-09	-36.6E-09	-31.7E-09	-35.4E-09	-30.5E-09
77	-30.5E-09	-29.3E-09	-35.4E-09	-30.5E-09	-34.2E-09	-35.4E-09	-36.6E-09
78	-31.7E-09	-34.2E-09	-30.5E-09	-33.0E-09	-34.2E-09	-35.4E-09	-30.5E-09
79	-29.3E-09	-34.2E-09	-33.0E-09	-40.3E-09	-33.0E-09	-33.0E-09	-28.1E-09
80	-29.3E-09	-29.3E-09	-34.2E-09	-30.5E-09	-31.7E-09	-30.5E-09	-37.8E-09
Statistics							
Min	-34.2E-09	-34.2E-09	-35.4E-09	-40.3E-09	-35.4E-09	-35.4E-09	-37.8E-09
Max	-24.4E-09	-28.1E-09	-25.6E-09	-28.1E-09	-26.9E-09	-24.4E-09	-26.9E-09
Average	-30.0E-09	-31.7E-09	-31.1E-09	-32.5E-09	-32.8E-09	-32.2E-09	-31.3E-09
Std Deviation	2.8E-09	2.3E-09	3.3E-09	3.7E-09	2.5E-09	3.8E-09	3.6E-09

Measurements

Iozl<DQ[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-31.7E-09	-35.4E-09	-30.5E-09	-28.1E-09	-36.6E-09	-36.6E-09
87_OUT_REF	-30.5E-09	-29.3E-09	-37.8E-09	-33.0E-09	-35.4E-09	-35.4E-09	-33.0E-09
OFF samples							
81	-34.2E-09	-34.2E-09	-31.7E-09	-28.1E-09	-29.3E-09	-36.6E-09	-33.0E-09
82	-29.3E-09	-33.0E-09	-29.3E-09	-29.3E-09	-26.9E-09	-35.4E-09	-34.2E-09
83	-31.7E-09	-30.5E-09	-34.2E-09	-34.2E-09	-34.2E-09	-30.5E-09	-28.1E-09
84	-31.7E-09	-31.7E-09	-29.3E-09	-33.0E-09	-36.6E-09	-36.6E-09	-33.0E-09
85	-34.2E-09	-26.9E-09	-36.6E-09	-33.0E-09	-31.7E-09	-28.1E-09	-30.5E-09
Statistics							
Min	-34.2E-09	-34.2E-09	-36.6E-09	-34.2E-09	-36.6E-09	-36.6E-09	-34.2E-09
Max	-29.3E-09	-26.9E-09	-29.3E-09	-28.1E-09	-26.9E-09	-28.1E-09	-28.1E-09
Average	-32.2E-09	-31.3E-09	-32.2E-09	-31.5E-09	-31.7E-09	-33.4E-09	-31.7E-09
Std Deviation	2.0E-09	2.8E-09	3.2E-09	2.6E-09	3.9E-09	3.9E-09	2.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.8E-09	-11.0E-09	-6.1E-09	-11.0E-09	-13.4E-09	-14.6E-09	-11.0E-09
87_OUT_REF	-6.1E-09	-4.9E-09	-7.3E-09	-8.5E-09	-9.8E-09	-17.1E-09	-11.0E-09
ON samples							
71	-15.9E-09	-8.5E-09	-7.3E-09	-11.0E-09	-13.4E-09	-12.2E-09	-13.4E-09
72	-7.3E-09	-8.5E-09	-9.8E-09	-8.5E-09	-4.9E-09	-15.9E-09	-3.7E-09
73	-11.0E-09	-9.8E-09	-12.2E-09	-9.8E-09	-12.2E-09	-9.8E-09	-13.4E-09
74	-9.8E-09	-9.8E-09	-11.0E-09	-9.8E-09	-11.0E-09	-13.4E-09	-9.8E-09
75	-14.6E-09	-8.5E-09	-7.3E-09	-11.0E-09	-9.8E-09	-8.5E-09	-9.8E-09
76	-9.8E-09	-8.5E-09	-8.5E-09	-11.0E-09	-14.6E-09	-9.8E-09	-11.0E-09
77	-9.8E-09	-7.3E-09	-6.1E-09	-14.6E-09	-8.5E-09	-6.1E-09	-6.1E-09
78	-9.8E-09	-9.8E-09	-11.0E-09	-8.5E-09	-13.4E-09	-9.8E-09	-7.3E-09
79	-11.0E-09	-9.8E-09	-11.0E-09	-4.9E-09	-12.2E-09	-9.8E-09	-9.8E-09
80	-11.0E-09	-14.6E-09	-6.1E-09	-9.8E-09	-12.2E-09	-13.4E-09	-15.9E-09
Statistics							
Min	-15.9E-09	-14.6E-09	-12.2E-09	-14.6E-09	-14.6E-09	-15.9E-09	-15.9E-09
Max	-7.3E-09	-7.3E-09	-6.1E-09	-4.9E-09	-4.9E-09	-6.1E-09	-3.7E-09
Average	-11.0E-09	-9.5E-09	-9.0E-09	-9.9E-09	-11.2E-09	-10.9E-09	-10.0E-09
Std Deviation	2.5E-09	2.0E-09	2.2E-09	2.5E-09	2.9E-09	2.8E-09	3.7E-09

Measurements

Iozl<DQ[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.8E-09	-11.0E-09	-6.1E-09	-11.0E-09	-13.4E-09	-14.6E-09	-11.0E-09
87_OUT_REF	-6.1E-09	-4.9E-09	-7.3E-09	-8.5E-09	-9.8E-09	-17.1E-09	-11.0E-09
OFF samples							
81	-9.8E-09	-11.0E-09	-4.9E-09	-9.8E-09	-13.4E-09	-9.8E-09	-13.4E-09
82	-9.8E-09	-11.0E-09	-8.5E-09	-11.0E-09	-11.0E-09	-17.1E-09	-11.0E-09
83	-6.1E-09	-9.8E-09	-11.0E-09	-11.0E-09	-3.7E-09	-14.6E-09	-9.8E-09
84	-12.2E-09	-8.5E-09	-9.8E-09	-11.0E-09	-8.5E-09	-7.3E-09	-11.0E-09
85	-8.5E-09	-11.0E-09	-9.8E-09	-8.5E-09	-11.0E-09	-11.0E-09	-12.2E-09
Statistics							
Min	-12.2E-09	-11.0E-09	-11.0E-09	-11.0E-09	-13.4E-09	-17.1E-09	-13.4E-09
Max	-6.1E-09	-8.5E-09	-4.9E-09	-8.5E-09	-3.7E-09	-7.3E-09	-9.8E-09
Average	-9.3E-09	-10.3E-09	-8.8E-09	-10.3E-09	-9.5E-09	-12.0E-09	-11.5E-09
Std Deviation	2.2E-09	1.1E-09	2.3E-09	1.1E-09	3.7E-09	3.9E-09	1.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-23.2E-09	-22.0E-09	-22.0E-09	-18.3E-09	-18.3E-09	-26.9E-09	-26.9E-09
87_OUT_REF	-18.3E-09	-18.3E-09	-25.6E-09	-20.8E-09	-26.9E-09	-24.4E-09	-25.6E-09
ON samples							
71	-22.0E-09	-18.3E-09	-24.4E-09	-25.6E-09	-26.9E-09	-28.1E-09	-28.1E-09
72	-20.8E-09	-23.2E-09	-22.0E-09	-18.3E-09	-24.4E-09	-25.6E-09	-26.9E-09
73	-18.3E-09	-22.0E-09	-26.9E-09	-18.3E-09	-24.4E-09	-25.6E-09	-26.9E-09
74	-17.1E-09	-19.5E-09	-25.6E-09	-20.8E-09	-25.6E-09	-22.0E-09	-24.4E-09
75	-17.1E-09	-25.6E-09	-20.8E-09	-18.3E-09	-24.4E-09	-23.2E-09	-18.3E-09
76	-20.8E-09	-23.2E-09	-29.3E-09	-22.0E-09	-28.1E-09	-20.8E-09	-26.9E-09
77	-22.0E-09	-20.8E-09	-23.2E-09	-18.3E-09	-22.0E-09	-30.5E-09	-25.6E-09
78	-23.2E-09	-25.6E-09	-22.0E-09	-19.5E-09	-30.5E-09	-28.1E-09	-26.9E-09
79	-20.8E-09	-20.8E-09	-28.1E-09	-19.5E-09	-28.1E-09	-25.6E-09	-22.0E-09
80	-20.8E-09	-23.2E-09	-24.4E-09	-23.2E-09	-30.5E-09	-30.5E-09	-23.2E-09
Statistics							
Min	-23.2E-09	-25.6E-09	-29.3E-09	-25.6E-09	-30.5E-09	-30.5E-09	-28.1E-09
Max	-17.1E-09	-18.3E-09	-20.8E-09	-18.3E-09	-22.0E-09	-20.8E-09	-18.3E-09
Average	-20.3E-09	-22.2E-09	-24.7E-09	-20.4E-09	-26.5E-09	-26.0E-09	-24.9E-09
Std Deviation	2.1E-09	2.4E-09	2.8E-09	2.5E-09	2.8E-09	3.4E-09	3.0E-09

Measurements

Iozl<DQ[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-23.2E-09	-22.0E-09	-22.0E-09	-18.3E-09	-18.3E-09	-26.9E-09	-26.9E-09
87_OUT_REF	-18.3E-09	-18.3E-09	-25.6E-09	-20.8E-09	-26.9E-09	-24.4E-09	-25.6E-09
OFF samples							
81	-18.3E-09	-19.5E-09	-25.6E-09	-23.2E-09	-25.6E-09	-25.6E-09	-22.0E-09
82	-22.0E-09	-24.4E-09	-28.1E-09	-20.8E-09	-24.4E-09	-26.9E-09	-25.6E-09
83	-18.3E-09	-23.2E-09	-22.0E-09	-18.3E-09	-20.8E-09	-20.8E-09	-24.4E-09
84	-22.0E-09	-24.4E-09	-23.2E-09	-20.8E-09	-30.5E-09	-18.3E-09	-24.4E-09
85	-22.0E-09	-18.3E-09	-22.0E-09	-20.8E-09	-25.6E-09	-23.2E-09	-25.6E-09
Statistics							
Min	-22.0E-09	-24.4E-09	-28.1E-09	-23.2E-09	-30.5E-09	-26.9E-09	-25.6E-09
Max	-18.3E-09	-18.3E-09	-22.0E-09	-18.3E-09	-20.8E-09	-18.3E-09	-22.0E-09
Average	-20.5E-09	-22.0E-09	-24.2E-09	-20.8E-09	-25.4E-09	-22.9E-09	-24.4E-09
Std Deviation	2.0E-09	2.9E-09	2.6E-09	1.7E-09	3.5E-09	3.5E-09	1.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-36.6E-09	-39.1E-09	-31.7E-09	-35.4E-09	-36.6E-09	-40.3E-09	-36.6E-09
87_OUT_REF	-41.5E-09	-40.3E-09	-34.2E-09	-39.1E-09	-31.7E-09	-35.4E-09	-34.2E-09
ON samples							
71	-34.2E-09	-30.5E-09	-35.4E-09	-40.3E-09	-37.8E-09	-41.5E-09	-29.3E-09
72	-36.6E-09	-33.0E-09	-34.2E-09	-34.2E-09	-37.8E-09	-35.4E-09	-30.5E-09
73	-37.8E-09	-34.2E-09	-40.3E-09	-36.6E-09	-34.2E-09	-35.4E-09	-33.0E-09
74	-35.4E-09	-31.7E-09	-37.8E-09	-36.6E-09	-36.6E-09	-31.7E-09	-30.5E-09
75	-37.8E-09	-37.8E-09	-34.2E-09	-36.6E-09	-35.4E-09	-34.2E-09	-34.2E-09
76	-37.8E-09	-34.2E-09	-33.0E-09	-34.2E-09	-35.4E-09	-34.2E-09	-31.7E-09
77	-35.4E-09	-34.2E-09	-33.0E-09	-36.6E-09	-34.2E-09	-36.6E-09	-35.4E-09
78	-35.4E-09	-35.4E-09	-29.3E-09	-35.4E-09	-36.6E-09	-37.8E-09	-35.4E-09
79	-34.2E-09	-33.0E-09	-36.6E-09	-35.4E-09	-31.7E-09	-33.0E-09	-33.0E-09
80	-40.3E-09	-37.8E-09	-28.1E-09	-35.4E-09	-33.0E-09	-34.2E-09	-36.6E-09
Statistics							
Min	-40.3E-09	-37.8E-09	-40.3E-09	-40.3E-09	-37.8E-09	-41.5E-09	-36.6E-09
Max	-34.2E-09	-30.5E-09	-28.1E-09	-34.2E-09	-31.7E-09	-31.7E-09	-29.3E-09
Average	-36.5E-09	-34.2E-09	-34.2E-09	-36.1E-09	-35.3E-09	-35.4E-09	-33.0E-09
Std Deviation	1.9E-09	2.4E-09	3.7E-09	1.7E-09	2.0E-09	2.8E-09	2.4E-09

Measurements

Iozl<DQ[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-36.6E-09	-39.1E-09	-31.7E-09	-35.4E-09	-36.6E-09	-40.3E-09	-36.6E-09
87_OUT_REF	-41.5E-09	-40.3E-09	-34.2E-09	-39.1E-09	-31.7E-09	-35.4E-09	-34.2E-09
OFF samples							
81	-39.1E-09	-33.0E-09	-34.2E-09	-36.6E-09	-41.5E-09	-35.4E-09	-30.5E-09
82	-31.7E-09	-35.4E-09	-31.7E-09	-39.1E-09	-35.4E-09	-36.6E-09	-37.8E-09
83	-35.4E-09	-37.8E-09	-31.7E-09	-37.8E-09	-35.4E-09	-34.2E-09	-34.2E-09
84	-39.1E-09	-36.6E-09	-39.1E-09	-34.2E-09	-29.3E-09	-36.6E-09	-37.8E-09
85	-31.7E-09	-33.0E-09	-33.0E-09	-37.8E-09	-35.4E-09	-37.8E-09	-36.6E-09
Statistics							
Min	-39.1E-09	-37.8E-09	-39.1E-09	-39.1E-09	-41.5E-09	-37.8E-09	-37.8E-09
Max	-31.7E-09	-33.0E-09	-31.7E-09	-34.2E-09	-29.3E-09	-34.2E-09	-30.5E-09
Average	-35.4E-09	-35.2E-09	-33.9E-09	-37.1E-09	-35.4E-09	-36.1E-09	-35.4E-09
Std Deviation	3.7E-09	2.2E-09	3.0E-09	1.9E-09	4.3E-09	1.4E-09	3.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-33.0E-09	-28.1E-09	-30.5E-09	-29.3E-09	-30.5E-09	-31.7E-09	-28.1E-09
87_OUT_REF	-31.7E-09	-29.3E-09	-28.1E-09	-28.1E-09	-22.0E-09	-25.6E-09	-31.7E-09
ON samples							
71	-26.9E-09	-25.6E-09	-24.4E-09	-34.2E-09	-23.2E-09	-24.4E-09	-22.0E-09
72	-28.1E-09	-31.7E-09	-26.9E-09	-31.7E-09	-26.9E-09	-26.9E-09	-26.9E-09
73	-28.1E-09	-34.2E-09	-29.3E-09	-28.1E-09	-30.5E-09	-28.1E-09	-28.1E-09
74	-25.6E-09	-29.3E-09	-29.3E-09	-31.7E-09	-26.9E-09	-22.0E-09	-29.3E-09
75	-28.1E-09	-30.5E-09	-30.5E-09	-31.7E-09	-30.5E-09	-23.2E-09	-24.4E-09
76	-24.4E-09	-29.3E-09	-24.4E-09	-31.7E-09	-25.6E-09	-28.1E-09	-25.6E-09
77	-29.3E-09	-29.3E-09	-31.7E-09	-30.5E-09	-30.5E-09	-29.3E-09	-28.1E-09
78	-25.6E-09	-23.2E-09	-29.3E-09	-29.3E-09	-29.3E-09	-29.3E-09	-20.8E-09
79	-31.7E-09	-28.1E-09	-31.7E-09	-25.6E-09	-28.1E-09	-29.3E-09	-29.3E-09
80	-22.0E-09	-30.5E-09	-25.6E-09	-28.1E-09	-31.7E-09	-24.4E-09	-31.7E-09
Statistics							
Min	-31.7E-09	-34.2E-09	-31.7E-09	-34.2E-09	-31.7E-09	-29.3E-09	-31.7E-09
Max	-22.0E-09	-23.2E-09	-24.4E-09	-25.6E-09	-23.2E-09	-22.0E-09	-20.8E-09
Average	-27.0E-09	-29.2E-09	-28.3E-09	-30.3E-09	-28.3E-09	-26.5E-09	-26.6E-09
Std Deviation	2.7E-09	3.1E-09	2.8E-09	2.5E-09	2.7E-09	2.8E-09	3.4E-09

Measurements

Iozl<DQ[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-33.0E-09	-28.1E-09	-30.5E-09	-29.3E-09	-30.5E-09	-31.7E-09	-28.1E-09
87_OUT_REF	-31.7E-09	-29.3E-09	-28.1E-09	-28.1E-09	-22.0E-09	-25.6E-09	-31.7E-09
OFF samples							
81	-31.7E-09	-29.3E-09	-26.9E-09	-25.6E-09	-33.0E-09	-30.5E-09	-29.3E-09
82	-23.2E-09	-28.1E-09	-29.3E-09	-31.7E-09	-28.1E-09	-26.9E-09	-23.2E-09
83	-30.5E-09	-26.9E-09	-30.5E-09	-29.3E-09	-31.7E-09	-28.1E-09	-29.3E-09
84	-25.6E-09	-29.3E-09	-35.4E-09	-30.5E-09	-26.9E-09	-29.3E-09	-22.0E-09
85	-23.2E-09	-28.1E-09	-34.2E-09	-33.0E-09	-25.6E-09	-28.1E-09	-31.7E-09
Statistics							
Min	-31.7E-09	-29.3E-09	-35.4E-09	-33.0E-09	-33.0E-09	-30.5E-09	-31.7E-09
Max	-23.2E-09	-26.9E-09	-26.9E-09	-25.6E-09	-25.6E-09	-26.9E-09	-22.0E-09
Average	-26.9E-09	-28.3E-09	-31.3E-09	-30.0E-09	-29.1E-09	-28.6E-09	-27.1E-09
Std Deviation	4.0E-09	1.0E-09	3.5E-09	2.8E-09	3.2E-09	1.4E-09	4.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-28.1E-09	-31.7E-09	-26.9E-09	-28.1E-09	-24.4E-09	-28.1E-09	-23.2E-09
87_OUT_REF	-26.9E-09	-30.5E-09	-26.9E-09	-22.0E-09	-26.9E-09	-24.4E-09	-26.9E-09
ON samples							
71	-29.3E-09	-23.2E-09	-24.4E-09	-24.4E-09	-31.7E-09	-28.1E-09	-29.3E-09
72	-22.0E-09	-18.3E-09	-30.5E-09	-25.6E-09	-30.5E-09	-29.3E-09	-33.0E-09
73	-24.4E-09	-22.0E-09	-26.9E-09	-26.9E-09	-25.6E-09	-26.9E-09	-23.2E-09
74	-28.1E-09	-28.1E-09	-24.4E-09	-23.2E-09	-30.5E-09	-25.6E-09	-23.2E-09
75	-24.4E-09	-24.4E-09	-26.9E-09	-22.0E-09	-20.8E-09	-24.4E-09	-25.6E-09
76	-23.2E-09	-29.3E-09	-29.3E-09	-23.2E-09	-24.4E-09	-31.7E-09	-28.1E-09
77	-29.3E-09	-23.2E-09	-20.8E-09	-28.1E-09	-25.6E-09	-25.6E-09	-28.1E-09
78	-26.9E-09	-22.0E-09	-23.2E-09	-29.3E-09	-33.0E-09	-25.6E-09	-29.3E-09
79	-22.0E-09	-20.8E-09	-24.4E-09	-28.1E-09	-28.1E-09	-23.2E-09	-24.4E-09
80	-25.6E-09	-26.9E-09	-25.6E-09	-26.9E-09	-29.3E-09	-26.9E-09	-28.1E-09
Statistics							
Min	-29.3E-09	-29.3E-09	-30.5E-09	-29.3E-09	-33.0E-09	-31.7E-09	-33.0E-09
Max	-22.0E-09	-18.3E-09	-20.8E-09	-22.0E-09	-20.8E-09	-23.2E-09	-23.2E-09
Average	-25.5E-09	-23.8E-09	-25.6E-09	-25.8E-09	-28.0E-09	-26.7E-09	-27.2E-09
Std Deviation	2.8E-09	3.4E-09	2.9E-09	2.5E-09	3.8E-09	2.5E-09	3.1E-09

Measurements

Iozl<DQ[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-28.1E-09	-31.7E-09	-26.9E-09	-28.1E-09	-24.4E-09	-28.1E-09	-23.2E-09
87_OUT_REF	-26.9E-09	-30.5E-09	-26.9E-09	-22.0E-09	-26.9E-09	-24.4E-09	-26.9E-09
OFF samples							
81	-26.9E-09	-22.0E-09	-26.9E-09	-19.5E-09	-33.0E-09	-23.2E-09	-29.3E-09
82	-25.6E-09	-20.8E-09	-25.6E-09	-22.0E-09	-26.9E-09	-31.7E-09	-25.6E-09
83	-28.1E-09	-26.9E-09	-24.4E-09	-26.9E-09	-33.0E-09	-30.5E-09	-24.4E-09
84	-23.2E-09	-29.3E-09	-22.0E-09	-26.9E-09	-23.2E-09	-26.9E-09	-26.9E-09
85	-22.0E-09	-30.5E-09	-31.7E-09	-24.4E-09	-25.6E-09	-26.9E-09	-23.2E-09
Statistics							
Min	-28.1E-09	-30.5E-09	-31.7E-09	-26.9E-09	-33.0E-09	-31.7E-09	-29.3E-09
Max	-22.0E-09	-20.8E-09	-22.0E-09	-19.5E-09	-23.2E-09	-23.2E-09	-23.2E-09
Average	-25.1E-09	-25.9E-09	-26.1E-09	-23.9E-09	-28.3E-09	-27.8E-09	-25.9E-09
Std Deviation	2.5E-09	4.4E-09	3.6E-09	3.2E-09	4.4E-09	3.4E-09	2.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-29.3E-09	-26.9E-09	-30.5E-09	-24.4E-09	-28.1E-09	-24.4E-09	-29.3E-09
87_OUT_REF	-29.3E-09	-29.3E-09	-20.8E-09	-22.0E-09	-25.6E-09	-28.1E-09	-24.4E-09
ON samples							
71	-20.8E-09	-23.2E-09	-28.1E-09	-23.2E-09	-30.5E-09	-30.5E-09	-24.4E-09
72	-30.5E-09	-26.9E-09	-22.0E-09	-18.3E-09	-30.5E-09	-28.1E-09	-26.9E-09
73	-29.3E-09	-22.0E-09	-25.6E-09	-24.4E-09	-29.3E-09	-23.2E-09	-26.9E-09
74	-20.8E-09	-23.2E-09	-25.6E-09	-22.0E-09	-31.7E-09	-19.5E-09	-25.6E-09
75	-18.3E-09	-22.0E-09	-22.0E-09	-20.8E-09	-31.7E-09	-24.4E-09	-26.9E-09
76	-29.3E-09	-23.2E-09	-28.1E-09	-22.0E-09	-30.5E-09	-25.6E-09	-26.9E-09
77	-23.2E-09	-23.2E-09	-28.1E-09	-24.4E-09	-26.9E-09	-26.9E-09	-20.8E-09
78	-25.6E-09	-20.8E-09	-25.6E-09	-24.4E-09	-31.7E-09	-22.0E-09	-29.3E-09
79	-25.6E-09	-22.0E-09	-25.6E-09	-22.0E-09	-25.6E-09	-28.1E-09	-20.8E-09
80	-25.6E-09	-22.0E-09	-23.2E-09	-25.6E-09	-22.0E-09	-25.6E-09	-26.9E-09
Statistics							
Min	-30.5E-09	-26.9E-09	-28.1E-09	-25.6E-09	-31.7E-09	-30.5E-09	-29.3E-09
Max	-18.3E-09	-20.8E-09	-22.0E-09	-18.3E-09	-22.0E-09	-19.5E-09	-20.8E-09
Average	-24.9E-09	-22.8E-09	-25.4E-09	-22.7E-09	-29.1E-09	-25.4E-09	-25.5E-09
Std Deviation	4.1E-09	1.6E-09	2.4E-09	2.2E-09	3.2E-09	3.2E-09	2.8E-09

Measurements

Iozl<DQ[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-29.3E-09	-26.9E-09	-30.5E-09	-24.4E-09	-28.1E-09	-24.4E-09	-29.3E-09
87_OUT_REF	-29.3E-09	-29.3E-09	-20.8E-09	-22.0E-09	-25.6E-09	-28.1E-09	-24.4E-09
OFF samples							
81	-26.9E-09	-23.2E-09	-19.5E-09	-19.5E-09	-28.1E-09	-31.7E-09	-26.9E-09
82	-31.7E-09	-20.8E-09	-24.4E-09	-24.4E-09	-22.0E-09	-23.2E-09	-31.7E-09
83	-19.5E-09	-20.8E-09	-19.5E-09	-23.2E-09	-28.1E-09	-24.4E-09	-30.5E-09
84	-26.9E-09	-20.8E-09	-28.1E-09	-18.3E-09	-29.3E-09	-24.4E-09	-26.9E-09
85	-20.8E-09	-25.6E-09	-31.7E-09	-20.8E-09	-24.4E-09	-29.3E-09	-24.4E-09
Statistics							
Min	-31.7E-09	-25.6E-09	-31.7E-09	-24.4E-09	-29.3E-09	-31.7E-09	-31.7E-09
Max	-19.5E-09	-20.8E-09	-19.5E-09	-18.3E-09	-22.0E-09	-23.2E-09	-24.4E-09
Average	-25.1E-09	-22.2E-09	-24.7E-09	-21.2E-09	-26.4E-09	-26.6E-09	-28.1E-09
Std Deviation	5.0E-09	2.2E-09	5.3E-09	2.5E-09	3.1E-09	3.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-24.4E-09	-19.5E-09	-18.3E-09	-13.4E-09	-20.8E-09	-19.5E-09
87_OUT_REF	-24.4E-09	-18.3E-09	-22.0E-09	-17.1E-09	-17.1E-09	-23.2E-09	-22.0E-09
ON samples							
71	-26.9E-09	-24.4E-09	-20.8E-09	-22.0E-09	-19.5E-09	-19.5E-09	-25.6E-09
72	-18.3E-09	-26.9E-09	-17.1E-09	-20.8E-09	-20.8E-09	-17.1E-09	-20.8E-09
73	-22.0E-09	-17.1E-09	-18.3E-09	-23.2E-09	-17.1E-09	-23.2E-09	-20.8E-09
74	-25.6E-09	-23.2E-09	-15.9E-09	-17.1E-09	-18.3E-09	-17.1E-09	-20.8E-09
75	-19.5E-09	-19.5E-09	-15.9E-09	-18.3E-09	-22.0E-09	-19.5E-09	-24.4E-09
76	-19.5E-09	-22.0E-09	-18.3E-09	-15.9E-09	-24.4E-09	-22.0E-09	-22.0E-09
77	-26.9E-09	-23.2E-09	-22.0E-09	-18.3E-09	-20.8E-09	-19.5E-09	-22.0E-09
78	-19.5E-09	-19.5E-09	-18.3E-09	-20.8E-09	-20.8E-09	-22.0E-09	-22.0E-09
79	-19.5E-09	-17.1E-09	-20.8E-09	-20.8E-09	-18.3E-09	-23.2E-09	-18.3E-09
80	-22.0E-09	-22.0E-09	-18.3E-09	-23.2E-09	-17.1E-09	-18.3E-09	-22.0E-09
Statistics							
Min	-26.9E-09	-26.9E-09	-22.0E-09	-23.2E-09	-24.4E-09	-23.2E-09	-25.6E-09
Max	-18.3E-09	-17.1E-09	-15.9E-09	-15.9E-09	-17.1E-09	-17.1E-09	-18.3E-09
Average	-22.0E-09	-21.5E-09	-18.6E-09	-20.0E-09	-19.9E-09	-20.1E-09	-21.9E-09
Std Deviation	3.3E-09	3.2E-09	2.1E-09	2.5E-09	2.3E-09	2.3E-09	2.0E-09

Measurements

Iozl<DQ[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-24.4E-09	-19.5E-09	-18.3E-09	-13.4E-09	-20.8E-09	-19.5E-09
87_OUT_REF	-24.4E-09	-18.3E-09	-22.0E-09	-17.1E-09	-17.1E-09	-23.2E-09	-22.0E-09
OFF samples							
81	-24.4E-09	-23.2E-09	-25.6E-09	-17.1E-09	-20.8E-09	-19.5E-09	-18.3E-09
82	-22.0E-09	-17.1E-09	-22.0E-09	-19.5E-09	-14.6E-09	-15.9E-09	-20.8E-09
83	-23.2E-09	-20.8E-09	-23.2E-09	-19.5E-09	-15.9E-09	-24.4E-09	-22.0E-09
84	-23.2E-09	-18.3E-09	-19.5E-09	-22.0E-09	-24.4E-09	-25.6E-09	-17.1E-09
85	-23.2E-09	-18.3E-09	-20.8E-09	-19.5E-09	-23.2E-09	-18.3E-09	-18.3E-09
Statistics							
Min	-24.4E-09	-23.2E-09	-25.6E-09	-22.0E-09	-24.4E-09	-25.6E-09	-22.0E-09
Max	-22.0E-09	-17.1E-09	-19.5E-09	-17.1E-09	-14.6E-09	-15.9E-09	-17.1E-09
Average	-23.2E-09	-19.5E-09	-22.2E-09	-19.5E-09	-19.8E-09	-20.8E-09	-19.3E-09
Std Deviation	863.0E-12	2.4E-09	2.3E-09	1.7E-09	4.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-9.8E-09	-14.6E-09	-9.8E-09	-11.0E-09	-8.5E-09	-11.0E-09
87_OUT_REF	-6.1E-09	-14.6E-09	-15.9E-09	-14.6E-09	-12.2E-09	-14.6E-09	-14.6E-09
ON samples							
71	-13.4E-09	-15.9E-09	-6.1E-09	-4.9E-09	-4.9E-09	-7.3E-09	-9.8E-09
72	-9.8E-09	-17.1E-09	-15.9E-09	-9.8E-09	-12.2E-09	-14.6E-09	-15.9E-09
73	-8.5E-09	-6.1E-09	-9.8E-09	-6.1E-09	-12.2E-09	-12.2E-09	-9.8E-09
74	-14.6E-09	-13.4E-09	-11.0E-09	-11.0E-09	-8.5E-09	-14.6E-09	-13.4E-09
75	-17.1E-09	-12.2E-09	-15.9E-09	-12.2E-09	-20.8E-09	-15.9E-09	-17.1E-09
76	-12.2E-09	-18.3E-09	-13.4E-09	-9.8E-09	-18.3E-09	-15.9E-09	-19.5E-09
77	-14.6E-09	-15.9E-09	-9.8E-09	-8.5E-09	-8.5E-09	-17.1E-09	-18.3E-09
78	-9.8E-09	-8.5E-09	-17.1E-09	-14.6E-09	-18.3E-09	-14.6E-09	-14.6E-09
79	-12.2E-09	-14.6E-09	-11.0E-09	-11.0E-09	-14.6E-09	-13.4E-09	-12.2E-09
80	-8.5E-09	-9.8E-09	-11.0E-09	-4.9E-09	-6.1E-09	-11.0E-09	-9.8E-09
Statistics							
Min	-17.1E-09	-18.3E-09	-17.1E-09	-14.6E-09	-20.8E-09	-17.1E-09	-19.5E-09
Max	-8.5E-09	-6.1E-09	-6.1E-09	-4.9E-09	-4.9E-09	-7.3E-09	-9.8E-09
Average	-12.1E-09	-13.2E-09	-12.1E-09	-9.3E-09	-12.5E-09	-13.7E-09	-14.0E-09
Std Deviation	2.9E-09	4.0E-09	3.4E-09	3.2E-09	5.5E-09	2.9E-09	3.7E-09

Measurements

Iozh<DQ[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-9.8E-09	-14.6E-09	-9.8E-09	-11.0E-09	-8.5E-09	-11.0E-09
87_OUT_REF	-6.1E-09	-14.6E-09	-15.9E-09	-14.6E-09	-12.2E-09	-14.6E-09	-14.6E-09
OFF samples							
81	-4.9E-09	-12.2E-09	-4.9E-09	-8.5E-09	-12.2E-09	-11.0E-09	-12.2E-09
82	-14.6E-09	-14.6E-09	-12.2E-09	-8.5E-09	-15.9E-09	-17.1E-09	-19.5E-09
83	-11.0E-09	-4.9E-09	-13.4E-09	-11.0E-09	-15.9E-09	-12.2E-09	-15.9E-09
84	-7.3E-09	-13.4E-09	-12.2E-09	-7.3E-09	-4.9E-09	-6.1E-09	-6.1E-09
85	-12.2E-09	-14.6E-09	-15.9E-09	-8.5E-09	-17.1E-09	-9.8E-09	-14.6E-09
Statistics							
Min	-14.6E-09	-14.6E-09	-15.9E-09	-11.0E-09	-17.1E-09	-17.1E-09	-19.5E-09
Max	-4.9E-09	-4.9E-09	-4.9E-09	-7.3E-09	-4.9E-09	-6.1E-09	-6.1E-09
Average	-10.0E-09	-12.0E-09	-11.7E-09	-8.8E-09	-13.2E-09	-11.2E-09	-13.7E-09
Std Deviation	3.9E-09	4.1E-09	4.1E-09	1.3E-09	5.0E-09	4.0E-09	5.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.2E-09	1.2E-09	-3.7E-09	8.5E-09	6.1E-09	-2.4E-09	1.2E-09
87_OUT_REF	1.2E-09	2.4E-09	0.0E+00	7.3E-09	2.4E-09	-1.2E-09	1.2E-09
ON samples							
71	1.2E-09	3.7E-09	9.8E-09	9.8E-09	6.1E-09	4.9E-09	0.0E+00
72	-2.4E-09	0.0E+00	0.0E+00	4.9E-09	0.0E+00	-2.4E-09	1.2E-09
73	4.9E-09	2.4E-09	3.7E-09	7.3E-09	0.0E+00	-2.4E-09	0.0E+00
74	-1.2E-09	-4.9E-09	0.0E+00	3.7E-09	-2.4E-09	0.0E+00	4.9E-09
75	1.2E-09	-3.7E-09	1.2E-09	-1.2E-09	-3.7E-09	-3.7E-09	1.2E-09
76	-6.1E-09	-2.4E-09	2.4E-09	2.4E-09	-2.4E-09	-2.4E-09	0.0E+00
77	-1.2E-09	0.0E+00	1.2E-09	7.3E-09	-1.2E-09	1.2E-09	0.0E+00
78	-2.4E-09	0.0E+00	2.4E-09	2.4E-09	-1.2E-09	1.2E-09	2.4E-09
79	0.0E+00	-4.9E-09	7.3E-09	9.8E-09	0.0E+00	-3.7E-09	9.8E-09
80	7.3E-09	6.1E-09	4.9E-09	3.7E-09	2.4E-09	0.0E+00	-1.2E-09
Statistics							
Min	-6.1E-09	-4.9E-09	0.0E+00	-1.2E-09	-3.7E-09	-3.7E-09	-1.2E-09
Max	7.3E-09	6.1E-09	9.8E-09	9.8E-09	6.1E-09	4.9E-09	9.8E-09
Average	122.1E-12	-366.2E-12	3.3E-09	5.0E-09	-244.1E-12	-732.4E-12	1.8E-09
Std Deviation	3.8E-09	3.7E-09	3.2E-09	3.5E-09	2.8E-09	2.7E-09	3.3E-09

Measurements

Iozh<DQ[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.2E-09	1.2E-09	-3.7E-09	8.5E-09	6.1E-09	-2.4E-09	1.2E-09
87_OUT_REF	1.2E-09	2.4E-09	0.0E+00	7.3E-09	2.4E-09	-1.2E-09	1.2E-09
OFF samples							
81	7.3E-09	3.7E-09	1.2E-09	3.7E-09	1.2E-09	7.3E-09	3.7E-09
82	-6.1E-09	-1.2E-09	4.9E-09	0.0E+00	0.0E+00	0.0E+00	-1.2E-09
83	1.2E-09	0.0E+00	0.0E+00	3.7E-09	0.0E+00	2.4E-09	1.2E-09
84	4.9E-09	6.1E-09	7.3E-09	8.5E-09	6.1E-09	7.3E-09	2.4E-09
85	-2.4E-09	2.4E-09	4.9E-09	1.2E-09	-4.9E-09	-1.2E-09	2.4E-09
Statistics							
Min	-6.1E-09	-1.2E-09	0.0E+00	0.0E+00	-4.9E-09	-1.2E-09	-1.2E-09
Max	7.3E-09	6.1E-09	7.3E-09	8.5E-09	6.1E-09	7.3E-09	3.7E-09
Average	976.6E-12	2.2E-09	3.7E-09	3.4E-09	488.3E-12	3.2E-09	1.7E-09
Std Deviation	5.4E-09	2.9E-09	3.0E-09	3.3E-09	3.9E-09	4.0E-09	1.9E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-1.2E-09	-6.1E-09	3.7E-09	-3.7E-09	-8.5E-09	-3.7E-09
87_OUT_REF	4.9E-09	-8.5E-09	-1.2E-09	1.2E-09	-9.8E-09	-7.3E-09	-9.8E-09
ON samples							
71	-1.2E-09	0.0E+00	-3.7E-09	7.3E-09	-2.4E-09	2.4E-09	-2.4E-09
72	-2.4E-09	-2.4E-09	0.0E+00	2.4E-09	-7.3E-09	-1.2E-09	0.0E+00
73	3.7E-09	-2.4E-09	-1.2E-09	6.1E-09	0.0E+00	-4.9E-09	-2.4E-09
74	2.4E-09	2.4E-09	0.0E+00	2.4E-09	-6.1E-09	-2.4E-09	1.2E-09
75	-1.2E-09	-4.9E-09	-6.1E-09	6.1E-09	-4.9E-09	-6.1E-09	-8.5E-09
76	-6.1E-09	2.4E-09	-6.1E-09	2.4E-09	-3.7E-09	-6.1E-09	-11.0E-09
77	-4.9E-09	1.2E-09	-1.2E-09	0.0E+00	-8.5E-09	-2.4E-09	-1.2E-09
78	-6.1E-09	-1.2E-09	0.0E+00	1.2E-09	-4.9E-09	-1.2E-09	-3.7E-09
79	-1.2E-09	-4.9E-09	-6.1E-09	2.4E-09	0.0E+00	1.2E-09	3.7E-09
80	-1.2E-09	1.2E-09	3.7E-09	6.1E-09	-1.2E-09	-6.1E-09	-1.2E-09
Statistics							
Min	-6.1E-09	-4.9E-09	-6.1E-09	0.0E+00	-8.5E-09	-6.1E-09	-11.0E-09
Max	3.7E-09	2.4E-09	3.7E-09	7.3E-09	0.0E+00	2.4E-09	3.7E-09
Average	-1.8E-09	-854.5E-12	-2.1E-09	3.7E-09	-3.9E-09	-2.7E-09	-2.6E-09
Std Deviation	3.3E-09	2.8E-09	3.3E-09	2.5E-09	3.0E-09	3.1E-09	4.4E-09

Measurements

Iozh<DQ[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-1.2E-09	-6.1E-09	3.7E-09	-3.7E-09	-8.5E-09	-3.7E-09
87_OUT_REF	4.9E-09	-8.5E-09	-1.2E-09	1.2E-09	-9.8E-09	-7.3E-09	-9.8E-09
OFF samples							
81	4.9E-09	7.3E-09	4.9E-09	11.0E-09	-4.9E-09	-3.7E-09	3.7E-09
82	-4.9E-09	3.7E-09	-6.1E-09	1.2E-09	-4.9E-09	-3.7E-09	-6.1E-09
83	0.0E+00	1.2E-09	-1.2E-09	0.0E+00	-4.9E-09	2.4E-09	-3.7E-09
84	0.0E+00	4.9E-09	-2.4E-09	12.2E-09	0.0E+00	2.4E-09	-2.4E-09
85	-1.2E-09	-1.2E-09	0.0E+00	4.9E-09	-6.1E-09	-7.3E-09	-6.1E-09
Statistics							
Min	-4.9E-09	-1.2E-09	-6.1E-09	0.0E+00	-6.1E-09	-7.3E-09	-6.1E-09
Max	4.9E-09	7.3E-09	4.9E-09	12.2E-09	0.0E+00	2.4E-09	3.7E-09
Average	-244.1E-12	3.2E-09	-976.6E-12	5.9E-09	-4.2E-09	-2.0E-09	-2.9E-09
Std Deviation	3.5E-09	3.3E-09	4.0E-09	5.6E-09	2.4E-09	4.3E-09	4.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-19.5E-09	-11.0E-09	-12.2E-09	-17.1E-09	-12.2E-09	-9.8E-09
87_OUT_REF	-4.9E-09	-14.6E-09	-8.5E-09	-11.0E-09	-8.5E-09	-11.0E-09	-13.4E-09
ON samples							
71	-11.0E-09	-9.8E-09	-8.5E-09	-6.1E-09	-12.2E-09	-4.9E-09	-6.1E-09
72	-8.5E-09	-13.4E-09	-14.6E-09	-7.3E-09	-14.6E-09	-11.0E-09	-12.2E-09
73	-14.6E-09	-13.4E-09	-9.8E-09	-14.6E-09	-11.0E-09	-11.0E-09	-11.0E-09
74	-11.0E-09	-14.6E-09	-13.4E-09	-9.8E-09	-15.9E-09	-13.4E-09	-9.8E-09
75	-13.4E-09	-19.5E-09	-18.3E-09	-17.1E-09	-14.6E-09	-14.6E-09	-15.9E-09
76	-7.3E-09	-13.4E-09	-15.9E-09	-13.4E-09	-14.6E-09	-12.2E-09	-9.8E-09
77	-9.8E-09	-17.1E-09	-15.9E-09	-17.1E-09	-12.2E-09	-9.8E-09	-15.9E-09
78	-14.6E-09	-12.2E-09	-19.5E-09	-13.4E-09	-11.0E-09	-14.6E-09	-12.2E-09
79	-13.4E-09	-6.1E-09	-15.9E-09	-11.0E-09	-13.4E-09	-9.8E-09	-11.0E-09
80	-7.3E-09	-13.4E-09	-9.8E-09	-7.3E-09	-8.5E-09	-11.0E-09	-4.9E-09
Statistics							
Min	-14.6E-09	-19.5E-09	-19.5E-09	-17.1E-09	-15.9E-09	-14.6E-09	-15.9E-09
Max	-7.3E-09	-6.1E-09	-8.5E-09	-6.1E-09	-8.5E-09	-4.9E-09	-4.9E-09
Average	-11.1E-09	-13.3E-09	-14.2E-09	-11.7E-09	-12.8E-09	-11.2E-09	-10.9E-09
Std Deviation	2.8E-09	3.7E-09	3.7E-09	4.0E-09	2.2E-09	2.9E-09	3.6E-09

Measurements

Iozh<DQ[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-19.5E-09	-11.0E-09	-12.2E-09	-17.1E-09	-12.2E-09	-9.8E-09
87_OUT_REF	-4.9E-09	-14.6E-09	-8.5E-09	-11.0E-09	-8.5E-09	-11.0E-09	-13.4E-09
OFF samples							
81	-7.3E-09	-12.2E-09	-11.0E-09	-9.8E-09	-6.1E-09	-7.3E-09	-9.8E-09
82	-9.8E-09	-11.0E-09	-15.9E-09	-12.2E-09	-12.2E-09	-18.3E-09	-13.4E-09
83	-17.1E-09	-6.1E-09	-9.8E-09	-7.3E-09	-15.9E-09	-12.2E-09	-18.3E-09
84	-4.9E-09	-6.1E-09	-13.4E-09	-6.1E-09	-9.8E-09	-11.0E-09	-8.5E-09
85	-14.6E-09	-17.1E-09	-9.8E-09	-9.8E-09	-12.2E-09	-12.2E-09	-9.8E-09
Statistics							
Min	-17.1E-09	-17.1E-09	-15.9E-09	-12.2E-09	-15.9E-09	-18.3E-09	-18.3E-09
Max	-4.9E-09	-6.1E-09	-9.8E-09	-6.1E-09	-6.1E-09	-7.3E-09	-8.5E-09
Average	-10.7E-09	-10.5E-09	-12.0E-09	-9.0E-09	-11.2E-09	-12.2E-09	-12.0E-09
Std Deviation	5.1E-09	4.6E-09	2.6E-09	2.4E-09	3.6E-09	4.0E-09	4.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-6.1E-09	-2.4E-09	-3.7E-09	-9.8E-09	-2.4E-09	-7.3E-09
87_OUT_REF	-4.9E-09	-6.1E-09	-12.2E-09	-7.3E-09	-8.5E-09	-6.1E-09	-8.5E-09
ON samples							
71	-6.1E-09	-1.2E-09	-2.4E-09	-4.9E-09	-1.2E-09	-4.9E-09	-4.9E-09
72	-7.3E-09	-7.3E-09	-8.5E-09	-9.8E-09	-8.5E-09	-7.3E-09	-4.9E-09
73	-2.4E-09	-11.0E-09	-9.8E-09	-3.7E-09	-1.2E-09	-4.9E-09	-2.4E-09
74	-11.0E-09	-9.8E-09	-8.5E-09	-8.5E-09	-6.1E-09	-1.2E-09	0.0E+00
75	-12.2E-09	-11.0E-09	-6.1E-09	-11.0E-09	-7.3E-09	-8.5E-09	-8.5E-09
76	-4.9E-09	-8.5E-09	-11.0E-09	-6.1E-09	-6.1E-09	-14.6E-09	-7.3E-09
77	-2.4E-09	-7.3E-09	-12.2E-09	-6.1E-09	-9.8E-09	-9.8E-09	-9.8E-09
78	-8.5E-09	-11.0E-09	-7.3E-09	-8.5E-09	-6.1E-09	-4.9E-09	-6.1E-09
79	-6.1E-09	-2.4E-09	-4.9E-09	0.0E+00	-4.9E-09	-9.8E-09	-4.9E-09
80	-2.4E-09	-1.2E-09	-1.2E-09	-1.2E-09	-1.2E-09	-3.7E-09	-4.9E-09
Statistics							
Min	-12.2E-09	-11.0E-09	-12.2E-09	-11.0E-09	-9.8E-09	-14.6E-09	-9.8E-09
Max	-2.4E-09	-1.2E-09	-1.2E-09	0.0E+00	-1.2E-09	-1.2E-09	0.0E+00
Average	-6.3E-09	-7.1E-09	-7.2E-09	-6.0E-09	-5.2E-09	-7.0E-09	-5.4E-09
Std Deviation	3.5E-09	4.0E-09	3.6E-09	3.6E-09	3.1E-09	3.9E-09	2.8E-09

Measurements

Iozh<DQ[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-6.1E-09	-2.4E-09	-3.7E-09	-9.8E-09	-2.4E-09	-7.3E-09
87_OUT_REF	-4.9E-09	-6.1E-09	-12.2E-09	-7.3E-09	-8.5E-09	-6.1E-09	-8.5E-09
OFF samples							
81	-4.9E-09	-2.4E-09	-4.9E-09	-4.9E-09	-3.7E-09	-6.1E-09	-7.3E-09
82	-3.7E-09	-12.2E-09	-7.3E-09	-4.9E-09	-4.9E-09	-6.1E-09	-11.0E-09
83	-3.7E-09	-4.9E-09	-7.3E-09	-1.2E-09	0.0E+00	0.0E+00	-8.5E-09
84	-7.3E-09	-3.7E-09	-6.1E-09	-3.7E-09	0.0E+00	-4.9E-09	0.0E+00
85	-4.9E-09	-4.9E-09	-7.3E-09	-4.9E-09	-3.7E-09	-7.3E-09	-6.1E-09
Statistics							
Min	-7.3E-09	-12.2E-09	-7.3E-09	-4.9E-09	-4.9E-09	-7.3E-09	-11.0E-09
Max	-3.7E-09	-2.4E-09	-4.9E-09	-1.2E-09	0.0E+00	0.0E+00	0.0E+00
Average	-4.9E-09	-5.6E-09	-6.6E-09	-3.9E-09	-2.4E-09	-4.9E-09	-6.6E-09
Std Deviation	1.5E-09	3.8E-09	1.1E-09	1.6E-09	2.3E-09	2.9E-09	4.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.9E-09	-9.8E-09	-8.5E-09	2.4E-09	-4.9E-09	-1.2E-09	-6.1E-09
87_OUT_REF	1.2E-09	-8.5E-09	1.2E-09	-4.9E-09	-9.8E-09	-7.3E-09	-6.1E-09
ON samples							
71	-1.2E-09	-4.9E-09	4.9E-09	1.2E-09	-6.1E-09	-3.7E-09	-2.4E-09
72	1.2E-09	-4.9E-09	-9.8E-09	0.0E+00	-8.5E-09	-6.1E-09	-4.9E-09
73	-7.3E-09	-1.2E-09	-3.7E-09	0.0E+00	-1.2E-09	-6.1E-09	-6.1E-09
74	-6.1E-09	-2.4E-09	2.4E-09	-3.7E-09	-11.0E-09	-6.1E-09	-4.9E-09
75	-6.1E-09	-7.3E-09	-6.1E-09	-3.7E-09	-8.5E-09	-12.2E-09	-7.3E-09
76	-6.1E-09	-7.3E-09	-7.3E-09	-7.3E-09	-8.5E-09	-9.8E-09	-9.8E-09
77	-2.4E-09	-2.4E-09	-1.2E-09	1.2E-09	-6.1E-09	-9.8E-09	-3.7E-09
78	-6.1E-09	-6.1E-09	-8.5E-09	0.0E+00	-9.8E-09	-4.9E-09	-9.8E-09
79	-2.4E-09	-2.4E-09	1.2E-09	-1.2E-09	-4.9E-09	-2.4E-09	-4.9E-09
80	1.2E-09	-3.7E-09	-7.3E-09	4.9E-09	-1.2E-09	2.4E-09	7.3E-09
Statistics							
Min	-7.3E-09	-7.3E-09	-9.8E-09	-7.3E-09	-11.0E-09	-12.2E-09	-9.8E-09
Max	1.2E-09	-1.2E-09	4.9E-09	4.9E-09	-1.2E-09	2.4E-09	7.3E-09
Average	-3.5E-09	-4.3E-09	-3.5E-09	-854.5E-12	-6.6E-09	-5.9E-09	-4.6E-09
Std Deviation	3.2E-09	2.2E-09	5.1E-09	3.4E-09	3.4E-09	4.2E-09	4.8E-09

Measurements

Iozh<DQ[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.9E-09	-9.8E-09	-8.5E-09	2.4E-09	-4.9E-09	-1.2E-09	-6.1E-09
87_OUT_REF	1.2E-09	-8.5E-09	1.2E-09	-4.9E-09	-9.8E-09	-7.3E-09	-6.1E-09
OFF samples							
81	-2.4E-09	-6.1E-09	-2.4E-09	2.4E-09	-8.5E-09	-8.5E-09	0.0E+00
82	-2.4E-09	-9.8E-09	-8.5E-09	-2.4E-09	-8.5E-09	0.0E+00	-7.3E-09
83	-7.3E-09	-4.9E-09	-9.8E-09	0.0E+00	-6.1E-09	-4.9E-09	-3.7E-09
84	0.0E+00	-6.1E-09	4.9E-09	6.1E-09	-4.9E-09	2.4E-09	-2.4E-09
85	-2.4E-09	0.0E+00	-2.4E-09	-1.2E-09	-4.9E-09	-7.3E-09	-8.5E-09
Statistics							
Min	-7.3E-09	-9.8E-09	-9.8E-09	-2.4E-09	-8.5E-09	-8.5E-09	-8.5E-09
Max	0.0E+00	0.0E+00	4.9E-09	6.1E-09	-4.9E-09	2.4E-09	0.0E+00
Average	-2.9E-09	-5.4E-09	-3.7E-09	976.6E-12	-6.6E-09	-3.7E-09	-4.4E-09
Std Deviation	2.7E-09	3.5E-09	5.9E-09	3.4E-09	1.9E-09	4.7E-09	3.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-13.4E-09	-11.0E-09	1.2E-09	-2.4E-09	-7.3E-09	-7.3E-09
87_OUT_REF	-7.3E-09	-9.8E-09	-8.5E-09	-3.7E-09	-14.6E-09	-14.6E-09	-7.3E-09
ON samples							
71	-4.9E-09	-1.2E-09	-9.8E-09	0.0E+00	-6.1E-09	-2.4E-09	-4.9E-09
72	-7.3E-09	-8.5E-09	-12.2E-09	-3.7E-09	-12.2E-09	-4.9E-09	-14.6E-09
73	-6.1E-09	-8.5E-09	-6.1E-09	-1.2E-09	-13.4E-09	-6.1E-09	-9.8E-09
74	-7.3E-09	-3.7E-09	-3.7E-09	-2.4E-09	-8.5E-09	-6.1E-09	-11.0E-09
75	-9.8E-09	-11.0E-09	-6.1E-09	-4.9E-09	-9.8E-09	-13.4E-09	-8.5E-09
76	-13.4E-09	-8.5E-09	-15.9E-09	-3.7E-09	-17.1E-09	-15.9E-09	-9.8E-09
77	-12.2E-09	-8.5E-09	-8.5E-09	4.9E-09	-11.0E-09	-7.3E-09	-9.8E-09
78	-7.3E-09	-8.5E-09	-8.5E-09	-2.4E-09	-15.9E-09	-9.8E-09	-7.3E-09
79	-7.3E-09	-12.2E-09	-4.9E-09	-3.7E-09	-14.6E-09	-4.9E-09	-6.1E-09
80	-4.9E-09	1.2E-09	-9.8E-09	2.4E-09	-6.1E-09	-3.7E-09	-9.8E-09
Statistics							
Min	-13.4E-09	-12.2E-09	-15.9E-09	-4.9E-09	-17.1E-09	-15.9E-09	-14.6E-09
Max	-4.9E-09	1.2E-09	-3.7E-09	4.9E-09	-6.1E-09	-2.4E-09	-4.9E-09
Average	-8.1E-09	-7.0E-09	-8.5E-09	-1.5E-09	-11.5E-09	-7.4E-09	-9.2E-09
Std Deviation	2.9E-09	4.3E-09	3.6E-09	3.1E-09	3.9E-09	4.3E-09	2.7E-09

Measurements

Iozh<DQ[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-13.4E-09	-11.0E-09	1.2E-09	-2.4E-09	-7.3E-09	-7.3E-09
87_OUT_REF	-7.3E-09	-9.8E-09	-8.5E-09	-3.7E-09	-14.6E-09	-14.6E-09	-7.3E-09
OFF samples							
81	-8.5E-09	-2.4E-09	-8.5E-09	-1.2E-09	-6.1E-09	-8.5E-09	-4.9E-09
82	-14.6E-09	-9.8E-09	-12.2E-09	-1.2E-09	-13.4E-09	-11.0E-09	-13.4E-09
83	-8.5E-09	-2.4E-09	-9.8E-09	1.2E-09	-3.7E-09	-13.4E-09	-13.4E-09
84	-2.4E-09	-2.4E-09	-8.5E-09	1.2E-09	-6.1E-09	-4.9E-09	-9.8E-09
85	-12.2E-09	-11.0E-09	-7.3E-09	1.2E-09	-13.4E-09	-11.0E-09	-12.2E-09
Statistics							
Min	-14.6E-09	-11.0E-09	-12.2E-09	-1.2E-09	-13.4E-09	-13.4E-09	-13.4E-09
Max	-2.4E-09	-2.4E-09	-7.3E-09	1.2E-09	-3.7E-09	-4.9E-09	-4.9E-09
Average	-9.3E-09	-5.6E-09	-9.3E-09	244.1E-12	-8.5E-09	-9.8E-09	-10.7E-09
Std Deviation	4.6E-09	4.4E-09	1.9E-09	1.3E-09	4.6E-09	3.2E-09	3.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-3.7E-09	-11.0E-09	-2.4E-09	-1.2E-09	-4.9E-09	-1.2E-09
87_OUT_REF	0.0E+00	-1.2E-09	-2.4E-09	-1.2E-09	-4.9E-09	-7.3E-09	-4.9E-09
ON samples							
71	-3.7E-09	-1.2E-09	2.4E-09	3.7E-09	-3.7E-09	1.2E-09	2.4E-09
72	-3.7E-09	0.0E+00	-1.2E-09	1.2E-09	-7.3E-09	-6.1E-09	-3.7E-09
73	-1.2E-09	-1.2E-09	-6.1E-09	1.2E-09	-6.1E-09	0.0E+00	-9.8E-09
74	-6.1E-09	-4.9E-09	1.2E-09	-1.2E-09	-1.2E-09	-2.4E-09	-1.2E-09
75	-9.8E-09	-11.0E-09	-8.5E-09	-1.2E-09	-12.2E-09	-4.9E-09	-3.7E-09
76	-7.3E-09	-8.5E-09	-2.4E-09	-6.1E-09	-4.9E-09	-4.9E-09	-8.5E-09
77	-3.7E-09	-1.2E-09	2.4E-09	0.0E+00	0.0E+00	-4.9E-09	2.4E-09
78	-4.9E-09	-11.0E-09	-4.9E-09	-4.9E-09	-2.4E-09	-1.2E-09	-7.3E-09
79	-3.7E-09	-2.4E-09	0.0E+00	0.0E+00	1.2E-09	-1.2E-09	-2.4E-09
80	0.0E+00	-1.2E-09	-1.2E-09	9.8E-09	2.4E-09	-1.2E-09	7.3E-09
Statistics							
Min	-9.8E-09	-11.0E-09	-8.5E-09	-6.1E-09	-12.2E-09	-6.1E-09	-9.8E-09
Max	0.0E+00	0.0E+00	2.4E-09	9.8E-09	2.4E-09	1.2E-09	7.3E-09
Average	-4.4E-09	-4.3E-09	-1.8E-09	244.1E-12	-3.4E-09	-2.6E-09	-2.4E-09
Std Deviation	2.8E-09	4.3E-09	3.7E-09	4.4E-09	4.4E-09	2.5E-09	5.4E-09

Measurements

Iozh<DQ[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	-3.7E-09	-11.0E-09	-2.4E-09	-1.2E-09	-4.9E-09	-1.2E-09
87_OUT_REF	0.0E+00	-1.2E-09	-2.4E-09	-1.2E-09	-4.9E-09	-7.3E-09	-4.9E-09
OFF samples							
81	-3.7E-09	-6.1E-09	-4.9E-09	0.0E+00	-6.1E-09	0.0E+00	-1.2E-09
82	-4.9E-09	-3.7E-09	-9.8E-09	1.2E-09	-4.9E-09	1.2E-09	-3.7E-09
83	-3.7E-09	-8.5E-09	-4.9E-09	-2.4E-09	1.2E-09	-7.3E-09	-4.9E-09
84	-1.2E-09	-4.9E-09	-2.4E-09	2.4E-09	6.1E-09	2.4E-09	0.0E+00
85	-2.4E-09	-1.2E-09	-11.0E-09	-1.2E-09	-7.3E-09	0.0E+00	-6.1E-09
Statistics							
Min	-4.9E-09	-8.5E-09	-11.0E-09	-2.4E-09	-7.3E-09	-7.3E-09	-6.1E-09
Max	-1.2E-09	-1.2E-09	-2.4E-09	2.4E-09	6.1E-09	2.4E-09	0.0E+00
Average	-3.2E-09	-4.9E-09	-6.6E-09	0.0E+00	-2.2E-09	-732.4E-12	-3.2E-09
Std Deviation	1.4E-09	2.7E-09	3.6E-09	1.9E-09	5.7E-09	3.8E-09	2.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-25.6E-09	-25.6E-09	-20.8E-09	-20.8E-09	-22.0E-09	-17.1E-09
87_OUT_REF	-23.2E-09	-23.2E-09	-15.9E-09	-24.4E-09	-25.6E-09	-25.6E-09	-18.3E-09
ON samples							
71	-22.0E-09	-20.8E-09	-15.9E-09	-14.6E-09	-20.8E-09	-15.9E-09	-20.8E-09
72	-23.2E-09	-18.3E-09	-9.8E-09	-18.3E-09	-22.0E-09	-23.2E-09	-24.4E-09
73	-19.5E-09	-17.1E-09	-18.3E-09	-19.5E-09	-20.8E-09	-19.5E-09	-17.1E-09
74	-19.5E-09	-24.4E-09	-13.4E-09	-29.3E-09	-14.6E-09	-19.5E-09	-15.9E-09
75	-13.4E-09	-17.1E-09	-13.4E-09	-17.1E-09	-19.5E-09	-18.3E-09	-24.4E-09
76	-24.4E-09	-26.9E-09	-29.3E-09	-12.2E-09	-26.9E-09	-12.2E-09	-25.6E-09
77	-17.1E-09	-20.8E-09	-17.1E-09	-14.6E-09	-25.6E-09	-19.5E-09	-28.1E-09
78	-22.0E-09	-25.6E-09	-17.1E-09	-23.2E-09	-26.9E-09	-18.3E-09	-22.0E-09
79	-20.8E-09	-25.6E-09	-14.6E-09	-22.0E-09	-24.4E-09	-13.4E-09	-19.5E-09
80	-19.5E-09	-20.8E-09	-18.3E-09	-19.5E-09	-22.0E-09	-19.5E-09	-13.4E-09
Statistics							
Min	-24.4E-09	-26.9E-09	-29.3E-09	-29.3E-09	-26.9E-09	-23.2E-09	-28.1E-09
Max	-13.4E-09	-17.1E-09	-9.8E-09	-12.2E-09	-14.6E-09	-12.2E-09	-13.4E-09
Average	-20.1E-09	-21.7E-09	-16.7E-09	-19.0E-09	-22.3E-09	-17.9E-09	-21.1E-09
Std Deviation	3.2E-09	3.7E-09	5.1E-09	5.0E-09	3.8E-09	3.3E-09	4.7E-09

Measurements

Iil</CAS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-25.6E-09	-25.6E-09	-20.8E-09	-20.8E-09	-22.0E-09	-17.1E-09
87_OUT_REF	-23.2E-09	-23.2E-09	-15.9E-09	-24.4E-09	-25.6E-09	-25.6E-09	-18.3E-09
OFF samples							
81	-18.3E-09	-18.3E-09	-14.6E-09	-19.5E-09	-28.1E-09	-17.1E-09	-19.5E-09
82	-18.3E-09	-14.6E-09	-13.4E-09	-26.9E-09	-24.4E-09	-24.4E-09	-25.6E-09
83	-12.2E-09	-18.3E-09	-17.1E-09	-13.4E-09	-18.3E-09	-15.9E-09	-17.1E-09
84	-15.9E-09	-23.2E-09	-23.2E-09	-22.0E-09	-17.1E-09	-28.1E-09	-15.9E-09
85	-19.5E-09	-14.6E-09	-12.2E-09	-19.5E-09	-17.1E-09	-24.4E-09	-13.4E-09
Statistics							
Min	-19.5E-09	-23.2E-09	-23.2E-09	-26.9E-09	-28.1E-09	-28.1E-09	-25.6E-09
Max	-12.2E-09	-14.6E-09	-12.2E-09	-13.4E-09	-17.1E-09	-15.9E-09	-13.4E-09
Average	-16.8E-09	-17.8E-09	-16.1E-09	-20.3E-09	-21.0E-09	-22.0E-09	-18.3E-09
Std Deviation	2.9E-09	3.5E-09	4.4E-09	4.9E-09	5.0E-09	5.3E-09	4.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-11.0E-09	-12.2E-09	-9.8E-09	-7.3E-09	-12.2E-09	-6.1E-09
87_OUT_REF	-13.4E-09	-4.9E-09	-4.9E-09	-7.3E-09	-9.8E-09	-6.1E-09	-13.4E-09
ON samples							
71	-9.8E-09	-6.1E-09	-3.7E-09	-8.5E-09	-7.3E-09	-11.0E-09	-9.8E-09
72	-4.9E-09	-12.2E-09	-12.2E-09	-6.1E-09	-12.2E-09	-7.3E-09	-4.9E-09
73	-9.8E-09	-3.7E-09	-11.0E-09	-12.2E-09	-8.5E-09	-11.0E-09	-6.1E-09
74	-11.0E-09	-8.5E-09	-9.8E-09	-7.3E-09	-12.2E-09	-12.2E-09	-14.6E-09
75	-8.5E-09	-4.9E-09	-11.0E-09	-12.2E-09	-4.9E-09	-13.4E-09	-12.2E-09
76	-6.1E-09	-14.6E-09	-6.1E-09	-7.3E-09	-7.3E-09	-13.4E-09	-6.1E-09
77	-2.4E-09	-15.9E-09	-11.0E-09	-6.1E-09	-17.1E-09	-12.2E-09	-11.0E-09
78	-11.0E-09	-8.5E-09	-4.9E-09	-8.5E-09	-12.2E-09	-14.6E-09	-11.0E-09
79	-6.1E-09	-14.6E-09	-11.0E-09	-9.8E-09	-15.9E-09	-14.6E-09	-4.9E-09
80	-8.5E-09	-8.5E-09	-12.2E-09	-8.5E-09	-9.8E-09	-8.5E-09	-7.3E-09
Statistics							
Min	-11.0E-09	-15.9E-09	-12.2E-09	-12.2E-09	-17.1E-09	-14.6E-09	-14.6E-09
Max	-2.4E-09	-3.7E-09	-3.7E-09	-6.1E-09	-4.9E-09	-7.3E-09	-4.9E-09
Average	-7.8E-09	-9.8E-09	-9.3E-09	-8.7E-09	-10.7E-09	-11.8E-09	-8.8E-09
Std Deviation	2.8E-09	4.3E-09	3.2E-09	2.2E-09	3.9E-09	2.4E-09	3.4E-09

Measurements

Iil</CS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-11.0E-09	-12.2E-09	-9.8E-09	-7.3E-09	-12.2E-09	-6.1E-09
87_OUT_REF	-13.4E-09	-4.9E-09	-4.9E-09	-7.3E-09	-9.8E-09	-6.1E-09	-13.4E-09
OFF samples							
81	-8.5E-09	-4.9E-09	-12.2E-09	-7.3E-09	-17.1E-09	-8.5E-09	-11.0E-09
82	-4.9E-09	-15.9E-09	-4.9E-09	-9.8E-09	-8.5E-09	-8.5E-09	-8.5E-09
83	-8.5E-09	-7.3E-09	-4.9E-09	-13.4E-09	-9.8E-09	-4.9E-09	-13.4E-09
84	-13.4E-09	-3.7E-09	-7.3E-09	-7.3E-09	-7.3E-09	-8.5E-09	-9.8E-09
85	-6.1E-09	-12.2E-09	-9.8E-09	-7.3E-09	-18.3E-09	-9.8E-09	-6.1E-09
Statistics							
Min	-13.4E-09	-15.9E-09	-12.2E-09	-13.4E-09	-18.3E-09	-9.8E-09	-13.4E-09
Max	-4.9E-09	-3.7E-09	-4.9E-09	-7.3E-09	-7.3E-09	-4.9E-09	-6.1E-09
Average	-8.3E-09	-8.8E-09	-7.8E-09	-9.0E-09	-12.2E-09	-8.1E-09	-9.8E-09
Std Deviation	3.3E-09	5.1E-09	3.2E-09	2.7E-09	5.1E-09	1.9E-09	2.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-3.7E-09	-12.2E-09	-6.1E-09	-2.4E-09	-12.2E-09	1.2E-09
87_OUT_REF	-12.2E-09	-12.2E-09	1.2E-09	-12.2E-09	-2.4E-09	-3.7E-09	-3.7E-09
ON samples							
71	-7.3E-09	-3.7E-09	-7.3E-09	-3.7E-09	-12.2E-09	-3.7E-09	3.7E-09
72	-11.0E-09	-3.7E-09	-2.4E-09	-11.0E-09	-3.7E-09	-2.4E-09	-8.5E-09
73	-14.6E-09	-9.8E-09	-1.2E-09	-14.6E-09	4.9E-09	-4.9E-09	-8.5E-09
74	-4.9E-09	-7.3E-09	-4.9E-09	-9.8E-09	-6.1E-09	-4.9E-09	-4.9E-09
75	-13.4E-09	-8.5E-09	-6.1E-09	-4.9E-09	-6.1E-09	-2.4E-09	-9.8E-09
76	-8.5E-09	-13.4E-09	-1.2E-09	-7.3E-09	-7.3E-09	-9.8E-09	-6.1E-09
77	-2.4E-09	-3.7E-09	-9.8E-09	-9.8E-09	-13.4E-09	-12.2E-09	0.0E+00
78	-13.4E-09	-3.7E-09	-8.5E-09	-2.4E-09	-3.7E-09	-11.0E-09	-6.1E-09
79	-4.9E-09	-4.9E-09	-6.1E-09	-7.3E-09	-9.8E-09	-8.5E-09	-1.2E-09
80	-8.5E-09	-11.0E-09	-4.9E-09	-4.9E-09	-6.1E-09	-11.0E-09	-7.3E-09
Statistics							
Min	-14.6E-09	-13.4E-09	-9.8E-09	-14.6E-09	-13.4E-09	-12.2E-09	-9.8E-09
Max	-2.4E-09	-3.7E-09	-1.2E-09	-2.4E-09	4.9E-09	-2.4E-09	3.7E-09
Average	-8.9E-09	-7.0E-09	-5.2E-09	-7.6E-09	-6.3E-09	-7.1E-09	-4.9E-09
Std Deviation	4.2E-09	3.6E-09	2.9E-09	3.8E-09	5.1E-09	3.8E-09	4.3E-09

Measurements

Iil</RAS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-3.7E-09	-12.2E-09	-6.1E-09	-2.4E-09	-12.2E-09	1.2E-09
87_OUT_REF	-12.2E-09	-12.2E-09	1.2E-09	-12.2E-09	-2.4E-09	-3.7E-09	-3.7E-09
OFF samples							
81	-9.8E-09	0.0E+00	-3.7E-09	-7.3E-09	-1.2E-09	-13.4E-09	-2.4E-09
82	-1.2E-09	-2.4E-09	-7.3E-09	1.2E-09	2.4E-09	-8.5E-09	2.4E-09
83	-6.1E-09	-8.5E-09	2.4E-09	-8.5E-09	-3.7E-09	-3.7E-09	-9.8E-09
84	-2.4E-09	-3.7E-09	-9.8E-09	-4.9E-09	-12.2E-09	-4.9E-09	-9.8E-09
85	-9.8E-09	-13.4E-09	-6.1E-09	-8.5E-09	-2.4E-09	-8.5E-09	-8.5E-09
Statistics							
Min	-9.8E-09	-13.4E-09	-9.8E-09	-8.5E-09	-12.2E-09	-13.4E-09	-9.8E-09
Max	-1.2E-09	0.0E+00	2.4E-09	1.2E-09	2.4E-09	-3.7E-09	2.4E-09
Average	-5.9E-09	-5.6E-09	-4.9E-09	-5.6E-09	-3.4E-09	-7.8E-09	-5.6E-09
Std Deviation	4.0E-09	5.4E-09	4.6E-09	4.1E-09	5.4E-09	3.8E-09	5.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	1.7E-09	173.3E-12	-5.9E-09	-2.1E-09	-2.9E-09	-2.1E-09
87_OUT_REF	-2.1E-09	-589.6E-12	-589.6E-12	-3.6E-09	936.3E-12	1.7E-09	-589.6E-12
ON samples							
71	-589.6E-12	-3.6E-09	-2.9E-09	-3.6E-09	-3.6E-09	173.3E-12	-2.1E-09
72	-2.9E-09	-2.9E-09	-1.4E-09	3.2E-09	1.7E-09	-5.9E-09	1.7E-09
73	-2.9E-09	-2.9E-09	-5.9E-09	-2.9E-09	-2.1E-09	-589.6E-12	-2.1E-09
74	173.3E-12	2.5E-09	-3.6E-09	-1.4E-09	-589.6E-12	936.3E-12	-2.1E-09
75	173.3E-12	2.5E-09	-3.6E-09	-4.4E-09	-3.6E-09	-4.4E-09	-589.6E-12
76	173.3E-12	-5.2E-09	-1.4E-09	-4.4E-09	-1.4E-09	-4.4E-09	4.0E-09
77	-3.6E-09	-9.0E-09	-1.4E-09	-2.9E-09	-5.2E-09	-5.2E-09	1.7E-09
78	-5.2E-09	-5.9E-09	-3.6E-09	3.2E-09	-2.9E-09	-2.1E-09	-4.4E-09
79	173.3E-12	-2.9E-09	173.3E-12	-1.4E-09	173.3E-12	-4.4E-09	1.7E-09
80	1.7E-09	-1.4E-09	-3.6E-09	-589.6E-12	-589.6E-12	-9.0E-09	173.3E-12
Statistics							
Min	-5.2E-09	-9.0E-09	-5.9E-09	-4.4E-09	-5.2E-09	-9.0E-09	-4.4E-09
Max	1.7E-09	2.5E-09	173.3E-12	3.2E-09	1.7E-09	936.3E-12	4.0E-09
Average	-1.3E-09	-2.9E-09	-2.7E-09	-1.5E-09	-1.8E-09	-3.5E-09	-208.1E-12
Std Deviation	2.2E-09	3.5E-09	1.8E-09	2.8E-09	2.1E-09	3.1E-09	2.5E-09

Measurements

Iil</RESET>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	1.7E-09	173.3E-12	-5.9E-09	-2.1E-09	-2.9E-09	-2.1E-09
87_OUT_REF	-2.1E-09	-589.6E-12	-589.6E-12	-3.6E-09	936.3E-12	1.7E-09	-589.6E-12
OFF samples							
81	-2.1E-09	-589.6E-12	-1.4E-09	-2.1E-09	-5.2E-09	-6.7E-09	-589.6E-12
82	-2.9E-09	-1.4E-09	-5.9E-09	173.3E-12	-2.1E-09	2.5E-09	-2.1E-09
83	173.3E-12	-2.9E-09	-3.6E-09	-1.4E-09	-589.6E-12	936.3E-12	-1.4E-09
84	-5.2E-09	2.5E-09	-2.9E-09	-2.1E-09	-2.9E-09	-1.4E-09	-4.4E-09
85	173.3E-12	-2.9E-09	-2.1E-09	173.3E-12	-4.4E-09	-2.1E-09	1.7E-09
Statistics							
Min	-5.2E-09	-2.9E-09	-5.9E-09	-2.1E-09	-5.2E-09	-6.7E-09	-4.4E-09
Max	173.3E-12	2.5E-09	-1.4E-09	173.3E-12	-589.6E-12	2.5E-09	1.7E-09
Average	-2.0E-09	-1.0E-09	-3.2E-09	-1.0E-09	-3.0E-09	-1.4E-09	-1.4E-09
Std Deviation	2.3E-09	2.2E-09	1.8E-09	1.2E-09	1.8E-09	3.5E-09	2.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-13.4E-09	-12.2E-09	-17.1E-09	-13.4E-09	-13.4E-09	-17.1E-09	-14.6E-09
87_OUT_REF	-11.0E-09	-9.8E-09	-17.1E-09	-17.1E-09	-14.6E-09	-15.9E-09	-14.6E-09
ON samples							
71	-15.9E-09	-19.5E-09	-19.5E-09	-17.1E-09	-17.1E-09	-13.4E-09	-8.5E-09
72	-12.2E-09	-9.8E-09	-9.8E-09	-20.8E-09	-23.2E-09	-14.6E-09	-12.2E-09
73	-17.1E-09	-18.3E-09	-9.8E-09	-19.5E-09	-19.5E-09	-9.8E-09	-12.2E-09
74	-18.3E-09	-15.9E-09	-15.9E-09	-13.4E-09	-14.6E-09	-14.6E-09	-14.6E-09
75	-13.4E-09	-14.6E-09	-18.3E-09	-15.9E-09	-17.1E-09	-15.9E-09	-18.3E-09
76	-15.9E-09	-12.2E-09	-12.2E-09	-12.2E-09	-12.2E-09	-17.1E-09	-17.1E-09
77	-14.6E-09	-17.1E-09	-12.2E-09	-14.6E-09	-19.5E-09	-14.6E-09	-9.8E-09
78	-20.8E-09	-20.8E-09	-17.1E-09	-19.5E-09	-19.5E-09	-14.6E-09	-13.4E-09
79	-12.2E-09	-22.0E-09	-11.0E-09	-14.6E-09	-12.2E-09	-14.6E-09	-18.3E-09
80	-17.1E-09	-17.1E-09	-15.9E-09	-15.9E-09	-14.6E-09	-18.3E-09	-14.6E-09
Statistics							
Min	-20.8E-09	-22.0E-09	-19.5E-09	-20.8E-09	-23.2E-09	-18.3E-09	-18.3E-09
Max	-12.2E-09	-9.8E-09	-9.8E-09	-12.2E-09	-12.2E-09	-9.8E-09	-8.5E-09
Average	-15.7E-09	-16.7E-09	-14.2E-09	-16.4E-09	-17.0E-09	-14.8E-09	-13.9E-09
Std Deviation	2.7E-09	3.8E-09	3.6E-09	2.8E-09	3.6E-09	2.3E-09	3.4E-09

Measurements

Iil</WE>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-13.4E-09	-12.2E-09	-17.1E-09	-13.4E-09	-13.4E-09	-17.1E-09	-14.6E-09
87_OUT_REF	-11.0E-09	-9.8E-09	-17.1E-09	-17.1E-09	-14.6E-09	-15.9E-09	-14.6E-09
OFF samples							
81	-17.1E-09	-14.6E-09	-20.8E-09	-13.4E-09	-20.8E-09	-9.8E-09	-19.5E-09
82	-18.3E-09	-12.2E-09	-15.9E-09	-18.3E-09	-12.2E-09	-18.3E-09	-12.2E-09
83	-9.8E-09	-13.4E-09	-13.4E-09	-15.9E-09	-11.0E-09	-20.8E-09	-20.8E-09
84	-13.4E-09	-12.2E-09	-19.5E-09	-15.9E-09	-20.8E-09	-15.9E-09	-17.1E-09
85	-8.5E-09	-11.0E-09	-14.6E-09	-17.1E-09	-15.9E-09	-14.6E-09	-18.3E-09
Statistics							
Min	-18.3E-09	-14.6E-09	-20.8E-09	-18.3E-09	-20.8E-09	-20.8E-09	-20.8E-09
Max	-8.5E-09	-11.0E-09	-13.4E-09	-13.4E-09	-11.0E-09	-9.8E-09	-12.2E-09
Average	-13.4E-09	-12.7E-09	-16.8E-09	-16.1E-09	-16.1E-09	-15.9E-09	-17.6E-09
Std Deviation	4.3E-09	1.4E-09	3.2E-09	1.8E-09	4.6E-09	4.1E-09	3.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.4E-09	-6.7E-09	173.3E-12	-1.4E-09	173.3E-12	-6.7E-09	1.7E-09
87_OUT_REF	-1.4E-09	173.3E-12	173.3E-12	-5.9E-09	-6.7E-09	-3.6E-09	-2.1E-09
ON samples							
71	-1.4E-09	-8.2E-09	-3.6E-09	1.7E-09	-589.6E-12	-2.9E-09	-5.9E-09
72	-1.4E-09	-2.9E-09	-3.6E-09	-3.6E-09	-8.2E-09	-3.6E-09	-4.4E-09
73	3.2E-09	-3.6E-09	-589.6E-12	-2.9E-09	-589.6E-12	-589.6E-12	-2.1E-09
74	-1.4E-09	-589.6E-12	-5.2E-09	936.3E-12	-2.9E-09	-1.4E-09	-5.9E-09
75	-1.4E-09	-1.4E-09	-1.4E-09	-1.4E-09	-5.2E-09	-2.9E-09	-2.9E-09
76	3.2E-09	-1.4E-09	-589.6E-12	-3.6E-09	-6.7E-09	936.3E-12	2.5E-09
77	-4.4E-09	-5.2E-09	-5.2E-09	173.3E-12	-3.6E-09	-589.6E-12	-4.4E-09
78	-589.6E-12	-1.4E-09	-2.1E-09	3.2E-09	-1.4E-09	-2.1E-09	-4.4E-09
79	1.7E-09	-3.6E-09	-2.9E-09	-6.7E-09	-2.9E-09	-3.6E-09	173.3E-12
80	-2.9E-09	-4.4E-09	-5.2E-09	936.3E-12	-5.9E-09	936.3E-12	936.3E-12
Statistics							
Min	-4.4E-09	-8.2E-09	-5.2E-09	-6.7E-09	-8.2E-09	-3.6E-09	-5.9E-09
Max	3.2E-09	-589.6E-12	-589.6E-12	3.2E-09	-589.6E-12	936.3E-12	2.5E-09
Average	-513.3E-12	-3.3E-09	-3.0E-09	-1.1E-09	-3.8E-09	-1.6E-09	-2.6E-09
Std Deviation	2.5E-09	2.3E-09	1.8E-09	3.1E-09	2.6E-09	1.7E-09	2.9E-09

Measurements

Iil<ADD[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.4E-09	-6.7E-09	173.3E-12	-1.4E-09	173.3E-12	-6.7E-09	1.7E-09
87_OUT_REF	-1.4E-09	173.3E-12	173.3E-12	-5.9E-09	-6.7E-09	-3.6E-09	-2.1E-09
OFF samples							
81	-3.6E-09	-3.6E-09	-4.4E-09	-1.4E-09	2.5E-09	-2.1E-09	-8.2E-09
82	-5.2E-09	-6.7E-09	-1.4E-09	-2.1E-09	-5.2E-09	-5.9E-09	-7.5E-09
83	936.3E-12	-2.1E-09	-2.9E-09	173.3E-12	-1.4E-09	2.5E-09	-5.9E-09
84	-5.9E-09	-2.9E-09	-5.9E-09	-5.9E-09	-2.9E-09	-6.7E-09	-5.9E-09
85	-589.6E-12	-589.6E-12	-589.6E-12	-1.4E-09	-8.2E-09	-4.4E-09	-2.9E-09
Statistics							
Min	-5.9E-09	-6.7E-09	-5.9E-09	-5.9E-09	-8.2E-09	-6.7E-09	-8.2E-09
Max	936.3E-12	-589.6E-12	-589.6E-12	173.3E-12	2.5E-09	2.5E-09	-2.9E-09
Average	-2.9E-09	-3.2E-09	-3.0E-09	-2.1E-09	-3.0E-09	-3.3E-09	-6.1E-09
Std Deviation	3.0E-09	2.3E-09	2.2E-09	2.3E-09	4.0E-09	3.7E-09	2.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-3.6E-09	-5.9E-09	-5.2E-09	-9.7E-09	-5.2E-09	-8.2E-09
87_OUT_REF	-3.6E-09	-3.6E-09	-4.4E-09	-5.9E-09	-7.5E-09	-5.9E-09	-6.7E-09
ON samples							
71	-5.2E-09	-7.5E-09	-7.5E-09	-9.7E-09	173.3E-12	-4.4E-09	-2.1E-09
72	-5.2E-09	-8.2E-09	-5.2E-09	-1.4E-09	-5.9E-09	-6.7E-09	-5.2E-09
73	-3.6E-09	-11.3E-09	-9.7E-09	-8.2E-09	-2.9E-09	-5.9E-09	-589.6E-12
74	-5.2E-09	-1.4E-09	-5.2E-09	-1.4E-09	-1.4E-09	-589.6E-12	-6.7E-09
75	-3.6E-09	-4.4E-09	-2.1E-09	-3.6E-09	-5.9E-09	936.3E-12	-589.6E-12
76	-3.6E-09	-589.6E-12	-9.0E-09	-6.7E-09	-5.9E-09	2.5E-09	-9.7E-09
77	-8.2E-09	-3.6E-09	-6.7E-09	-8.2E-09	-5.9E-09	1.7E-09	-2.9E-09
78	-8.2E-09	-2.9E-09	-3.6E-09	-5.9E-09	-6.7E-09	936.3E-12	173.3E-12
79	-8.2E-09	-6.7E-09	-589.6E-12	-5.9E-09	-9.7E-09	-3.6E-09	-8.2E-09
80	-4.4E-09	-1.4E-09	-7.5E-09	-4.4E-09	-3.6E-09	-2.9E-09	-8.2E-09
Statistics							
Min	-8.2E-09	-11.3E-09	-9.7E-09	-9.7E-09	-9.7E-09	-6.7E-09	-9.7E-09
Max	-3.6E-09	-589.6E-12	-589.6E-12	-1.4E-09	173.3E-12	2.5E-09	173.3E-12
Average	-5.5E-09	-4.8E-09	-5.7E-09	-5.5E-09	-4.8E-09	-1.8E-09	-4.4E-09
Std Deviation	1.9E-09	3.5E-09	2.9E-09	2.9E-09	2.9E-09	3.3E-09	3.7E-09

Measurements

Iil<ADD[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-3.6E-09	-5.9E-09	-5.2E-09	-9.7E-09	-5.2E-09	-8.2E-09
87_OUT_REF	-3.6E-09	-3.6E-09	-4.4E-09	-5.9E-09	-7.5E-09	-5.9E-09	-6.7E-09
OFF samples							
81	-6.7E-09	-3.6E-09	-3.6E-09	-7.5E-09	173.3E-12	-8.2E-09	-6.7E-09
82	-5.2E-09	-6.7E-09	-3.6E-09	-4.4E-09	-4.4E-09	-4.4E-09	-6.7E-09
83	-3.6E-09	-7.5E-09	-6.7E-09	-5.2E-09	-2.9E-09	-5.9E-09	-6.7E-09
84	-2.9E-09	-6.7E-09	-10.5E-09	-2.1E-09	-3.6E-09	1.7E-09	-3.6E-09
85	-4.4E-09	-2.1E-09	-5.9E-09	-4.4E-09	-2.1E-09	-2.1E-09	-5.2E-09
Statistics							
Min	-6.7E-09	-7.5E-09	-10.5E-09	-7.5E-09	-4.4E-09	-8.2E-09	-6.7E-09
Max	-2.9E-09	-2.1E-09	-3.6E-09	-2.1E-09	173.3E-12	1.7E-09	-3.6E-09
Average	-4.6E-09	-5.3E-09	-6.1E-09	-4.7E-09	-2.6E-09	-3.8E-09	-5.8E-09
Std Deviation	1.5E-09	2.3E-09	2.8E-09	1.9E-09	1.8E-09	3.8E-09	1.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-9.0E-09	-6.7E-09	-7.5E-09	-5.9E-09	-10.5E-09	-4.4E-09
87_OUT_REF	-15.8E-09	-5.2E-09	-9.0E-09	-8.2E-09	-7.5E-09	-6.7E-09	-10.5E-09
ON samples							
71	-9.0E-09	-6.7E-09	-9.0E-09	-3.6E-09	-12.8E-09	-12.8E-09	-3.6E-09
72	-5.2E-09	-3.6E-09	-8.2E-09	-7.5E-09	-7.5E-09	-2.1E-09	-2.1E-09
73	-9.7E-09	-7.5E-09	-5.2E-09	-3.6E-09	-9.0E-09	-8.2E-09	-6.7E-09
74	-3.6E-09	-11.3E-09	-5.9E-09	-5.2E-09	-2.9E-09	-6.7E-09	-9.7E-09
75	-4.4E-09	-5.2E-09	-9.0E-09	-5.2E-09	-13.6E-09	-7.5E-09	-7.5E-09
76	-5.9E-09	-3.6E-09	-8.2E-09	-2.9E-09	-6.7E-09	-3.6E-09	-6.7E-09
77	-2.9E-09	-6.7E-09	-11.3E-09	-12.0E-09	-11.3E-09	-9.7E-09	-5.2E-09
78	-9.7E-09	936.3E-12	-8.2E-09	-9.0E-09	-13.6E-09	-6.7E-09	-2.9E-09
79	-5.2E-09	-10.5E-09	-6.7E-09	-7.5E-09	-5.2E-09	-10.5E-09	-7.5E-09
80	-6.7E-09	-7.5E-09	-9.7E-09	-6.7E-09	-13.6E-09	-3.6E-09	-6.7E-09
Statistics							
Min	-9.7E-09	-11.3E-09	-11.3E-09	-12.0E-09	-13.6E-09	-12.8E-09	-9.7E-09
Max	-2.9E-09	936.3E-12	-5.2E-09	-2.9E-09	-2.9E-09	-2.1E-09	-2.1E-09
Average	-6.2E-09	-6.2E-09	-8.1E-09	-6.3E-09	-9.6E-09	-7.2E-09	-5.9E-09
Std Deviation	2.5E-09	3.5E-09	1.8E-09	2.8E-09	3.9E-09	3.4E-09	2.4E-09

Measurements

Iil<ADD[10]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-9.0E-09	-6.7E-09	-7.5E-09	-5.9E-09	-10.5E-09	-4.4E-09
87_OUT_REF	-15.8E-09	-5.2E-09	-9.0E-09	-8.2E-09	-7.5E-09	-6.7E-09	-10.5E-09
OFF samples							
81	-6.7E-09	-7.5E-09	-8.2E-09	-6.7E-09	-9.0E-09	-4.4E-09	-5.2E-09
82	-6.7E-09	-6.7E-09	-2.1E-09	-6.7E-09	-2.9E-09	936.3E-12	-5.2E-09
83	-8.2E-09	-9.0E-09	-5.9E-09	-9.0E-09	-7.5E-09	-6.7E-09	-6.7E-09
84	-7.5E-09	-9.7E-09	-9.7E-09	-2.1E-09	-4.4E-09	-5.9E-09	-9.0E-09
85	-9.0E-09	-4.4E-09	-5.9E-09	-9.7E-09	-9.7E-09	-5.9E-09	-6.7E-09
Statistics							
Min	-9.0E-09	-9.7E-09	-9.7E-09	-9.7E-09	-9.7E-09	-6.7E-09	-9.0E-09
Max	-6.7E-09	-4.4E-09	-2.1E-09	-2.1E-09	-2.9E-09	936.3E-12	-5.2E-09
Average	-7.6E-09	-7.5E-09	-6.4E-09	-6.8E-09	-6.7E-09	-4.4E-09	-6.5E-09
Std Deviation	994.7E-12	2.1E-09	2.9E-09	3.0E-09	3.0E-09	3.1E-09	1.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	173.3E-12	1.7E-09	-589.6E-12	-4.4E-09	-589.6E-12	-5.9E-09	-5.2E-09
87_OUT_REF	-1.4E-09	-5.2E-09	-1.4E-09	-3.6E-09	-2.1E-09	-3.6E-09	1.7E-09
ON samples							
71	-3.6E-09	-4.4E-09	173.3E-12	-589.6E-12	-2.9E-09	-5.2E-09	-2.9E-09
72	-4.4E-09	-4.4E-09	-3.6E-09	-2.1E-09	-4.4E-09	-2.1E-09	-2.9E-09
73	-589.6E-12	-5.2E-09	1.7E-09	-3.6E-09	936.3E-12	173.3E-12	-4.4E-09
74	3.2E-09	-1.4E-09	-589.6E-12	936.3E-12	-3.6E-09	-589.6E-12	-2.1E-09
75	-589.6E-12	936.3E-12	-2.9E-09	-3.6E-09	-2.9E-09	-2.9E-09	-10.5E-09
76	-5.2E-09	-5.2E-09	-5.2E-09	-1.4E-09	-2.1E-09	-2.1E-09	1.7E-09
77	-2.9E-09	-1.4E-09	-2.1E-09	-3.6E-09	173.3E-12	-8.2E-09	-2.9E-09
78	936.3E-12	-2.1E-09	-4.4E-09	-2.9E-09	-589.6E-12	173.3E-12	-589.6E-12
79	-4.4E-09	-1.4E-09	-589.6E-12	-3.6E-09	3.2E-09	1.7E-09	1.7E-09
80	-3.6E-09	-2.1E-09	-3.6E-09	-2.9E-09	-5.2E-09	173.3E-12	-6.7E-09
Statistics							
Min	-5.2E-09	-5.2E-09	-5.2E-09	-3.6E-09	-5.2E-09	-8.2E-09	-10.5E-09
Max	3.2E-09	936.3E-12	1.7E-09	936.3E-12	3.2E-09	1.7E-09	1.7E-09
Average	-2.1E-09	-2.6E-09	-2.1E-09	-2.3E-09	-1.7E-09	-1.9E-09	-3.0E-09
Std Deviation	2.7E-09	2.0E-09	2.2E-09	1.6E-09	2.6E-09	3.0E-09	3.7E-09

Measurements

Iil<ADD[11]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	173.3E-12	1.7E-09	-589.6E-12	-4.4E-09	-589.6E-12	-5.9E-09	-5.2E-09
87_OUT_REF	-1.4E-09	-5.2E-09	-1.4E-09	-3.6E-09	-2.1E-09	-3.6E-09	1.7E-09
OFF samples							
81	173.3E-12	-2.1E-09	-1.4E-09	1.7E-09	-589.6E-12	-2.1E-09	-3.6E-09
82	173.3E-12	-3.6E-09	-1.4E-09	-2.9E-09	-3.6E-09	-2.1E-09	-5.9E-09
83	173.3E-12	-6.7E-09	-3.6E-09	-2.1E-09	-4.4E-09	4.0E-09	-5.2E-09
84	3.2E-09	-2.1E-09	-5.9E-09	3.2E-09	-3.6E-09	-2.9E-09	-589.6E-12
85	173.3E-12	-7.5E-09	-1.4E-09	-5.2E-09	-4.4E-09	-1.4E-09	-3.6E-09
Statistics							
Min	173.3E-12	-7.5E-09	-5.9E-09	-5.2E-09	-4.4E-09	-2.9E-09	-5.9E-09
Max	3.2E-09	-2.1E-09	-1.4E-09	3.2E-09	-589.6E-12	4.0E-09	-589.6E-12
Average	783.7E-12	-4.4E-09	-2.7E-09	-1.0E-09	-3.3E-09	-894.8E-12	-3.8E-09
Std Deviation	1.4E-09	2.5E-09	2.0E-09	3.4E-09	1.6E-09	2.8E-09	2.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.2E-09	-6.7E-09	-2.1E-09	-1.4E-09	-8.2E-09	-5.2E-09	-5.9E-09
87_OUT_REF	-5.2E-09	-3.6E-09	-5.2E-09	-5.2E-09	-3.6E-09	-589.6E-12	-5.9E-09
ON samples							
71	173.3E-12	-8.2E-09	-1.4E-09	-2.1E-09	-2.1E-09	-2.9E-09	-6.7E-09
72	-4.4E-09	-4.4E-09	-6.7E-09	-5.9E-09	-2.9E-09	-6.7E-09	-5.9E-09
73	-8.2E-09	-4.4E-09	-4.4E-09	-2.9E-09	-8.2E-09	-5.2E-09	-5.2E-09
74	-5.2E-09	-1.4E-09	-7.5E-09	-5.9E-09	-2.9E-09	-6.7E-09	-8.2E-09
75	173.3E-12	-5.9E-09	-4.4E-09	-9.7E-09	-2.1E-09	-3.6E-09	-5.2E-09
76	-3.6E-09	-2.1E-09	-5.2E-09	-589.6E-12	-5.9E-09	-2.9E-09	-5.2E-09
77	-4.4E-09	-3.6E-09	-2.9E-09	-4.4E-09	7.0E-09	-2.1E-09	-589.6E-12
78	-5.2E-09	-4.4E-09	-3.6E-09	-5.2E-09	-7.5E-09	173.3E-12	-5.2E-09
79	-6.7E-09	-5.9E-09	-4.4E-09	-6.7E-09	-3.6E-09	-4.4E-09	-5.9E-09
80	-4.4E-09	-3.6E-09	173.3E-12	-7.5E-09	-2.1E-09	-9.0E-09	-2.1E-09
Statistics							
Min	-8.2E-09	-8.2E-09	-7.5E-09	-9.7E-09	-8.2E-09	-9.0E-09	-8.2E-09
Max	173.3E-12	-1.4E-09	173.3E-12	-589.6E-12	7.0E-09	173.3E-12	-589.6E-12
Average	-4.2E-09	-4.4E-09	-4.0E-09	-5.1E-09	-3.0E-09	-4.3E-09	-5.0E-09
Std Deviation	2.6E-09	2.0E-09	2.3E-09	2.7E-09	4.2E-09	2.7E-09	2.2E-09

Measurements

Iil<ADD[12]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.2E-09	-6.7E-09	-2.1E-09	-1.4E-09	-8.2E-09	-5.2E-09	-5.9E-09
87_OUT_REF	-5.2E-09	-3.6E-09	-5.2E-09	-5.2E-09	-3.6E-09	-589.6E-12	-5.9E-09
OFF samples							
81	-4.4E-09	-2.1E-09	-8.2E-09	-3.6E-09	-3.6E-09	-5.2E-09	936.3E-12
82	-7.5E-09	-1.4E-09	-4.4E-09	-3.6E-09	-5.9E-09	-3.6E-09	-5.2E-09
83	-10.5E-09	173.3E-12	-7.5E-09	-7.5E-09	-589.6E-12	-1.4E-09	-8.2E-09
84	-5.9E-09	-6.7E-09	-3.6E-09	-5.2E-09	-5.9E-09	-5.9E-09	-3.6E-09
85	-4.4E-09	-7.5E-09	-2.1E-09	-5.2E-09	-4.4E-09	-589.6E-12	-589.6E-12
Statistics							
Min	-10.5E-09	-7.5E-09	-8.2E-09	-7.5E-09	-5.9E-09	-5.9E-09	-8.2E-09
Max	-4.4E-09	173.3E-12	-2.1E-09	-3.6E-09	-589.6E-12	-589.6E-12	936.3E-12
Average	-6.5E-09	-3.5E-09	-5.2E-09	-5.0E-09	-4.1E-09	-3.3E-09	-3.3E-09
Std Deviation	2.6E-09	3.4E-09	2.6E-09	1.6E-09	2.2E-09	2.3E-09	3.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-6.7E-09	-9.7E-09	-6.7E-09	-10.5E-09	-8.2E-09	-15.1E-09
87_OUT_REF	-5.2E-09	-6.7E-09	-13.6E-09	-11.3E-09	-9.0E-09	-12.0E-09	-9.0E-09
ON samples							
71	-6.7E-09	-11.3E-09	-9.0E-09	-11.3E-09	-7.5E-09	-10.5E-09	-8.2E-09
72	-7.5E-09	-14.3E-09	-10.5E-09	-9.7E-09	-9.7E-09	-3.6E-09	-15.1E-09
73	-5.9E-09	-13.6E-09	-12.0E-09	-5.2E-09	-9.0E-09	-12.0E-09	-12.8E-09
74	-10.5E-09	-5.9E-09	-9.0E-09	-6.7E-09	-9.0E-09	-12.8E-09	-12.0E-09
75	-11.3E-09	-13.6E-09	-9.0E-09	-3.6E-09	-8.2E-09	-8.2E-09	-11.3E-09
76	-5.9E-09	-9.7E-09	-7.5E-09	-5.2E-09	-7.5E-09	-9.0E-09	-6.7E-09
77	-9.7E-09	-9.0E-09	-5.2E-09	-6.7E-09	-7.5E-09	-6.7E-09	-8.2E-09
78	-10.5E-09	-9.0E-09	-12.0E-09	-9.0E-09	-12.8E-09	-5.2E-09	-12.0E-09
79	-5.9E-09	-8.2E-09	-8.2E-09	-10.5E-09	-4.4E-09	-12.0E-09	-6.7E-09
80	-6.7E-09	-8.2E-09	-6.7E-09	-9.7E-09	-10.5E-09	-11.3E-09	-8.2E-09
Statistics							
Min	-11.3E-09	-14.3E-09	-12.0E-09	-11.3E-09	-12.8E-09	-12.8E-09	-15.1E-09
Max	-5.9E-09	-5.9E-09	-5.2E-09	-3.6E-09	-4.4E-09	-3.6E-09	-6.7E-09
Average	-8.1E-09	-10.3E-09	-8.9E-09	-7.8E-09	-8.6E-09	-9.1E-09	-10.1E-09
Std Deviation	2.2E-09	2.8E-09	2.2E-09	2.6E-09	2.2E-09	3.2E-09	2.9E-09

Measurements

Iil<ADD[13]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-6.7E-09	-9.7E-09	-6.7E-09	-10.5E-09	-8.2E-09	-15.1E-09
87_OUT_REF	-5.2E-09	-6.7E-09	-13.6E-09	-11.3E-09	-9.0E-09	-12.0E-09	-9.0E-09
OFF samples							
81	-12.0E-09	-9.0E-09	-14.3E-09	-7.5E-09	-12.0E-09	-10.5E-09	-12.8E-09
82	-7.5E-09	-10.5E-09	-8.2E-09	-10.5E-09	-9.7E-09	-9.7E-09	-9.0E-09
83	-9.0E-09	-5.9E-09	-7.5E-09	-9.7E-09	-15.8E-09	-5.9E-09	-9.0E-09
84	-12.0E-09	-7.5E-09	-8.2E-09	-5.2E-09	-16.6E-09	-10.5E-09	-10.5E-09
85	-9.0E-09	-11.3E-09	-15.8E-09	-9.0E-09	-6.7E-09	-11.3E-09	-10.5E-09
Statistics							
Min	-12.0E-09	-11.3E-09	-15.8E-09	-10.5E-09	-16.6E-09	-11.3E-09	-12.8E-09
Max	-7.5E-09	-5.9E-09	-7.5E-09	-5.2E-09	-6.7E-09	-5.9E-09	-9.0E-09
Average	-9.9E-09	-8.8E-09	-10.8E-09	-8.4E-09	-12.2E-09	-9.6E-09	-10.4E-09
Std Deviation	2.0E-09	2.2E-09	3.9E-09	2.1E-09	4.2E-09	2.1E-09	1.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-5.9E-09	-9.7E-09	-6.7E-09	-5.2E-09	-9.7E-09	-5.9E-09
87_OUT_REF	-9.0E-09	-3.6E-09	-5.2E-09	-7.5E-09	-7.5E-09	-5.2E-09	1.7E-09
ON samples							
71	-7.5E-09	-2.9E-09	936.3E-12	-6.7E-09	-11.3E-09	-5.9E-09	-6.7E-09
72	-7.5E-09	-1.4E-09	-5.9E-09	-5.9E-09	-2.9E-09	-4.4E-09	-8.2E-09
73	-9.7E-09	-8.2E-09	-3.6E-09	-7.5E-09	-10.5E-09	173.3E-12	-9.7E-09
74	-4.4E-09	-3.6E-09	-8.2E-09	-5.2E-09	-8.2E-09	-5.2E-09	-12.0E-09
75	-11.3E-09	-5.2E-09	-3.6E-09	-8.2E-09	-1.4E-09	-4.4E-09	-10.5E-09
76	-10.5E-09	-5.2E-09	-5.9E-09	-9.0E-09	-1.4E-09	-7.5E-09	-5.9E-09
77	-9.7E-09	-9.0E-09	-5.2E-09	-6.7E-09	-2.1E-09	-5.2E-09	-5.9E-09
78	-3.6E-09	-3.6E-09	-5.2E-09	-6.7E-09	-3.6E-09	-8.2E-09	-1.4E-09
79	-8.2E-09	-5.2E-09	-2.9E-09	-9.0E-09	-8.2E-09	-7.5E-09	-9.7E-09
80	-5.9E-09	-7.5E-09	-4.4E-09	-5.9E-09	-6.7E-09	-4.4E-09	-3.6E-09
Statistics							
Min	-11.3E-09	-9.0E-09	-8.2E-09	-9.0E-09	-11.3E-09	-8.2E-09	-12.0E-09
Max	-3.6E-09	-1.4E-09	936.3E-12	-5.2E-09	-1.4E-09	173.3E-12	-1.4E-09
Average	-7.8E-09	-5.2E-09	-4.4E-09	-7.1E-09	-5.6E-09	-5.2E-09	-7.4E-09
Std Deviation	2.6E-09	2.4E-09	2.4E-09	1.3E-09	3.8E-09	2.4E-09	3.3E-09

Measurements

Iil<ADD[14]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-5.9E-09	-9.7E-09	-6.7E-09	-5.2E-09	-9.7E-09	-5.9E-09
87_OUT_REF	-9.0E-09	-3.6E-09	-5.2E-09	-7.5E-09	-7.5E-09	-5.2E-09	1.7E-09
OFF samples							
81	-1.4E-09	173.3E-12	-5.9E-09	-8.2E-09	-4.4E-09	-6.7E-09	-5.2E-09
82	-5.2E-09	-7.5E-09	-3.6E-09	-5.2E-09	-12.0E-09	-5.9E-09	-9.0E-09
83	-6.7E-09	-5.9E-09	-10.5E-09	-8.2E-09	-8.2E-09	-2.9E-09	-2.1E-09
84	-5.2E-09	-3.6E-09	-5.9E-09	-5.2E-09	-5.9E-09	-9.0E-09	-6.7E-09
85	-3.6E-09	-5.2E-09	-5.9E-09	-10.5E-09	-5.2E-09	-5.2E-09	-7.5E-09
Statistics							
Min	-6.7E-09	-7.5E-09	-10.5E-09	-10.5E-09	-12.0E-09	-9.0E-09	-9.0E-09
Max	-1.4E-09	173.3E-12	-3.6E-09	-5.2E-09	-4.4E-09	-2.9E-09	-2.1E-09
Average	-4.4E-09	-4.4E-09	-6.4E-09	-7.5E-09	-7.2E-09	-5.9E-09	-6.1E-09
Std Deviation	2.0E-09	2.9E-09	2.5E-09	2.3E-09	3.1E-09	2.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.0E-09	-7.5E-09	-12.8E-09	-10.5E-09	-10.5E-09	-10.5E-09	-18.1E-09
87_OUT_REF	-12.8E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-14.3E-09	-12.8E-09
ON samples							
71	-13.6E-09	-15.1E-09	-14.3E-09	-8.2E-09	-14.3E-09	-9.7E-09	-15.1E-09
72	-11.3E-09	-12.0E-09	-10.5E-09	-9.0E-09	-9.0E-09	-15.1E-09	-15.8E-09
73	-12.8E-09	-12.8E-09	-7.5E-09	-12.8E-09	-8.2E-09	-10.5E-09	-15.1E-09
74	-9.0E-09	-9.7E-09	-13.6E-09	-13.6E-09	-12.0E-09	-12.0E-09	-18.9E-09
75	-7.5E-09	-12.8E-09	-11.3E-09	-16.6E-09	-8.2E-09	-8.2E-09	-18.9E-09
76	-11.3E-09	-8.2E-09	-12.8E-09	-12.0E-09	-12.0E-09	-9.0E-09	-18.9E-09
77	-13.6E-09	-11.3E-09	-11.3E-09	-9.7E-09	-11.3E-09	-14.3E-09	-15.8E-09
78	-13.6E-09	-10.5E-09	-9.7E-09	-9.7E-09	-14.3E-09	-12.0E-09	-15.8E-09
79	-10.5E-09	-12.8E-09	-14.3E-09	-9.7E-09	-12.0E-09	-7.5E-09	-15.1E-09
80	-15.8E-09	-12.8E-09	-16.6E-09	-9.7E-09	-14.3E-09	-12.8E-09	-14.3E-09
Statistics							
Min	-15.8E-09	-15.1E-09	-16.6E-09	-16.6E-09	-14.3E-09	-15.1E-09	-18.9E-09
Max	-7.5E-09	-8.2E-09	-7.5E-09	-8.2E-09	-8.2E-09	-7.5E-09	-14.3E-09
Average	-11.9E-09	-11.8E-09	-12.2E-09	-11.1E-09	-11.6E-09	-11.1E-09	-16.4E-09
Std Deviation	2.5E-09	1.9E-09	2.7E-09	2.6E-09	2.4E-09	2.6E-09	1.8E-09

Measurements

Iil<ADD[15]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.0E-09	-7.5E-09	-12.8E-09	-10.5E-09	-10.5E-09	-10.5E-09	-18.1E-09
87_OUT_REF	-12.8E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-14.3E-09	-12.8E-09
OFF samples							
81	-13.6E-09	-12.8E-09	-9.7E-09	-7.5E-09	-10.5E-09	-10.5E-09	-15.8E-09
82	-13.6E-09	-12.8E-09	-11.3E-09	-12.0E-09	-9.0E-09	-9.0E-09	-15.1E-09
83	-9.7E-09	-15.8E-09	-12.0E-09	-9.7E-09	-12.0E-09	-12.0E-09	-15.1E-09
84	-15.1E-09	-10.5E-09	-13.6E-09	-12.8E-09	-11.3E-09	-7.5E-09	-14.3E-09
85	-9.0E-09	-15.1E-09	-10.5E-09	-9.0E-09	-14.3E-09	-12.8E-09	-18.9E-09
Statistics							
Min	-15.1E-09	-15.8E-09	-13.6E-09	-12.8E-09	-14.3E-09	-12.8E-09	-18.9E-09
Max	-9.0E-09	-10.5E-09	-9.7E-09	-7.5E-09	-9.0E-09	-7.5E-09	-14.3E-09
Average	-12.2E-09	-13.4E-09	-11.4E-09	-10.2E-09	-11.4E-09	-10.4E-09	-15.8E-09
Std Deviation	2.7E-09	2.1E-09	1.5E-09	2.2E-09	2.0E-09	2.2E-09	1.8E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.9E-09	-7.5E-09	-5.9E-09	-2.9E-09	-6.7E-09	-6.7E-09	-2.9E-09
87_OUT_REF	-7.5E-09	-4.4E-09	-5.9E-09	-5.2E-09	-9.0E-09	-5.2E-09	-5.2E-09
ON samples							
71	-4.4E-09	-5.2E-09	-6.7E-09	-9.7E-09	-8.2E-09	-5.9E-09	-4.4E-09
72	-5.9E-09	-3.6E-09	-5.2E-09	-4.4E-09	-9.0E-09	-8.2E-09	-6.7E-09
73	-6.7E-09	-6.7E-09	-5.9E-09	-3.6E-09	-8.2E-09	-8.2E-09	-11.3E-09
74	-6.7E-09	-6.7E-09	-7.5E-09	-7.5E-09	-8.2E-09	-5.9E-09	-12.0E-09
75	-3.6E-09	-2.1E-09	-8.2E-09	-5.2E-09	-5.2E-09	-5.9E-09	-12.0E-09
76	-11.3E-09	-9.0E-09	-7.5E-09	-5.2E-09	-5.9E-09	-11.3E-09	-6.7E-09
77	-6.7E-09	-7.5E-09	-6.7E-09	-1.4E-09	-7.5E-09	-7.5E-09	-6.7E-09
78	-4.4E-09	-7.5E-09	-8.2E-09	-7.5E-09	-10.5E-09	-6.7E-09	-12.8E-09
79	-13.6E-09	-9.7E-09	-5.2E-09	-8.2E-09	-9.7E-09	-7.5E-09	-6.7E-09
80	-4.4E-09	-3.6E-09	-3.6E-09	-6.7E-09	-10.5E-09	-10.5E-09	-5.9E-09
Statistics							
Min	-13.6E-09	-9.7E-09	-8.2E-09	-9.7E-09	-10.5E-09	-11.3E-09	-12.8E-09
Max	-3.6E-09	-2.1E-09	-3.6E-09	-1.4E-09	-5.2E-09	-5.9E-09	-4.4E-09
Average	-6.8E-09	-6.2E-09	-6.5E-09	-5.9E-09	-8.3E-09	-7.8E-09	-8.5E-09
Std Deviation	3.2E-09	2.5E-09	1.5E-09	2.5E-09	1.8E-09	1.9E-09	3.1E-09

Measurements

Iil<ADD[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.9E-09	-7.5E-09	-5.9E-09	-2.9E-09	-6.7E-09	-6.7E-09	-2.9E-09
87_OUT_REF	-7.5E-09	-4.4E-09	-5.9E-09	-5.2E-09	-9.0E-09	-5.2E-09	-5.2E-09
OFF samples							
81	-2.9E-09	-6.7E-09	-5.2E-09	-6.7E-09	-6.7E-09	-4.4E-09	-12.0E-09
82	-7.5E-09	-4.4E-09	-5.9E-09	-5.9E-09	-8.2E-09	-6.7E-09	-10.5E-09
83	-5.9E-09	-8.2E-09	-4.4E-09	-5.2E-09	-5.2E-09	-2.9E-09	-3.6E-09
84	-6.7E-09	-5.2E-09	-9.0E-09	-2.1E-09	-5.9E-09	-12.0E-09	-6.7E-09
85	-9.0E-09	-9.7E-09	-6.7E-09	-3.6E-09	-4.4E-09	-9.0E-09	-9.0E-09
Statistics							
Min	-9.0E-09	-9.7E-09	-9.0E-09	-6.7E-09	-8.2E-09	-12.0E-09	-12.0E-09
Max	-2.9E-09	-4.4E-09	-4.4E-09	-2.1E-09	-4.4E-09	-2.9E-09	-3.6E-09
Average	-6.4E-09	-6.8E-09	-6.2E-09	-4.7E-09	-6.1E-09	-7.0E-09	-8.4E-09
Std Deviation	2.3E-09	2.2E-09	1.8E-09	1.8E-09	1.5E-09	3.6E-09	3.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.3E-09	-11.3E-09	-4.4E-09	-6.7E-09	-3.6E-09	-6.7E-09	-6.7E-09
87_OUT_REF	-8.2E-09	-12.0E-09	-9.7E-09	-6.7E-09	-9.7E-09	-13.6E-09	-2.1E-09
ON samples							
71	-9.7E-09	-9.7E-09	-9.7E-09	-9.0E-09	-5.9E-09	-7.5E-09	-7.5E-09
72	-6.7E-09	-6.7E-09	-7.5E-09	-9.7E-09	-9.7E-09	-7.5E-09	-5.9E-09
73	-8.2E-09	-7.5E-09	-9.0E-09	-15.1E-09	-5.9E-09	-11.3E-09	-8.2E-09
74	-9.7E-09	-4.4E-09	-5.9E-09	-12.0E-09	-5.2E-09	-4.4E-09	-6.7E-09
75	-9.0E-09	-5.9E-09	-9.0E-09	-9.7E-09	-9.7E-09	-7.5E-09	-8.2E-09
76	-8.2E-09	-7.5E-09	-7.5E-09	-10.5E-09	-8.2E-09	-7.5E-09	-7.5E-09
77	-8.2E-09	-9.7E-09	-12.8E-09	-11.3E-09	-5.2E-09	-6.7E-09	-9.7E-09
78	-9.0E-09	-14.3E-09	-9.0E-09	-7.5E-09	-5.9E-09	-5.9E-09	-6.7E-09
79	-5.9E-09	-10.5E-09	-9.0E-09	-11.3E-09	-1.4E-09	-9.0E-09	-9.0E-09
80	-6.7E-09	-8.2E-09	-9.7E-09	-10.5E-09	-7.5E-09	-6.7E-09	-5.9E-09
Statistics							
Min	-9.7E-09	-14.3E-09	-12.8E-09	-15.1E-09	-9.7E-09	-11.3E-09	-9.7E-09
Max	-5.9E-09	-4.4E-09	-5.9E-09	-7.5E-09	-1.4E-09	-4.4E-09	-5.9E-09
Average	-8.1E-09	-8.4E-09	-8.9E-09	-10.7E-09	-6.5E-09	-7.4E-09	-7.5E-09
Std Deviation	1.3E-09	2.8E-09	1.8E-09	2.0E-09	2.5E-09	1.8E-09	1.3E-09

Measurements

Iil<ADD[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.3E-09	-11.3E-09	-4.4E-09	-6.7E-09	-3.6E-09	-6.7E-09	-6.7E-09
87_OUT_REF	-8.2E-09	-12.0E-09	-9.7E-09	-6.7E-09	-9.7E-09	-13.6E-09	-2.1E-09
OFF samples							
81	-8.2E-09	-13.6E-09	-6.7E-09	-12.0E-09	-5.9E-09	-9.0E-09	-9.7E-09
82	-8.2E-09	-5.2E-09	-11.3E-09	-8.2E-09	-6.7E-09	-7.5E-09	-6.7E-09
83	-11.3E-09	-9.0E-09	-9.0E-09	-5.2E-09	-6.7E-09	-8.2E-09	-11.3E-09
84	-11.3E-09	-11.3E-09	-1.4E-09	-9.0E-09	-11.3E-09	-5.2E-09	173.3E-12
85	-6.7E-09	-8.2E-09	-6.7E-09	-9.0E-09	-2.9E-09	-7.5E-09	-10.5E-09
Statistics							
Min	-11.3E-09	-13.6E-09	-11.3E-09	-12.0E-09	-11.3E-09	-9.0E-09	-11.3E-09
Max	-6.7E-09	-5.2E-09	-1.4E-09	-5.2E-09	-2.9E-09	-5.2E-09	173.3E-12
Average	-9.1E-09	-9.4E-09	-7.0E-09	-8.7E-09	-6.7E-09	-7.5E-09	-7.6E-09
Std Deviation	2.0E-09	3.2E-09	3.7E-09	2.4E-09	3.0E-09	1.4E-09	4.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-16.6E-09	-15.1E-09	-14.3E-09	-13.6E-09	-18.9E-09	-15.1E-09	-18.9E-09
87_OUT_REF	-12.8E-09	-18.1E-09	-18.9E-09	-15.8E-09	-24.2E-09	-13.6E-09	-16.6E-09
ON samples							
71	-18.9E-09	-16.6E-09	-20.4E-09	-15.8E-09	-17.4E-09	-12.8E-09	-12.0E-09
72	-15.8E-09	-16.6E-09	-15.1E-09	-12.0E-09	-14.3E-09	-11.3E-09	-12.8E-09
73	-12.0E-09	-20.4E-09	-16.6E-09	-15.8E-09	-20.4E-09	-15.8E-09	-18.9E-09
74	-15.8E-09	-19.7E-09	-18.1E-09	-17.4E-09	-18.9E-09	-14.3E-09	-17.4E-09
75	-13.6E-09	-14.3E-09	-12.0E-09	-16.6E-09	-22.0E-09	-17.4E-09	-18.1E-09
76	-17.4E-09	-18.9E-09	-17.4E-09	-13.6E-09	-15.8E-09	-17.4E-09	-19.7E-09
77	-15.8E-09	-13.6E-09	-14.3E-09	-15.1E-09	-22.0E-09	-14.3E-09	-17.4E-09
78	-15.8E-09	-18.1E-09	-10.5E-09	-15.1E-09	-15.8E-09	-17.4E-09	-15.1E-09
79	-15.8E-09	-14.3E-09	-18.9E-09	-12.0E-09	-16.6E-09	-17.4E-09	-18.1E-09
80	-16.6E-09	-14.3E-09	-12.0E-09	-12.0E-09	-18.9E-09	-14.3E-09	-18.1E-09
Statistics							
Min	-18.9E-09	-20.4E-09	-20.4E-09	-17.4E-09	-22.0E-09	-17.4E-09	-19.7E-09
Max	-12.0E-09	-13.6E-09	-10.5E-09	-12.0E-09	-14.3E-09	-11.3E-09	-12.0E-09
Average	-15.8E-09	-16.7E-09	-15.5E-09	-14.6E-09	-18.2E-09	-15.2E-09	-16.8E-09
Std Deviation	1.9E-09	2.5E-09	3.3E-09	2.0E-09	2.7E-09	2.2E-09	2.6E-09

Measurements

Iil<ADD[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-16.6E-09	-15.1E-09	-14.3E-09	-13.6E-09	-18.9E-09	-15.1E-09	-18.9E-09
87_OUT_REF	-12.8E-09	-18.1E-09	-18.9E-09	-15.8E-09	-24.2E-09	-13.6E-09	-16.6E-09
OFF samples							
81	-20.4E-09	-11.3E-09	-16.6E-09	-19.7E-09	-18.1E-09	-15.1E-09	-15.8E-09
82	-15.1E-09	-14.3E-09	-19.7E-09	-15.1E-09	-16.6E-09	-12.8E-09	-15.8E-09
83	-18.9E-09	-15.1E-09	-13.6E-09	-12.8E-09	-19.7E-09	-15.1E-09	-14.3E-09
84	-18.9E-09	-20.4E-09	-14.3E-09	-15.8E-09	-22.0E-09	-18.1E-09	-18.1E-09
85	-17.4E-09	-13.6E-09	-15.1E-09	-12.8E-09	-22.7E-09	-15.1E-09	-17.4E-09
Statistics							
Min	-20.4E-09	-20.4E-09	-19.7E-09	-19.7E-09	-22.7E-09	-18.1E-09	-18.1E-09
Max	-15.1E-09	-11.3E-09	-13.6E-09	-12.8E-09	-16.6E-09	-12.8E-09	-14.3E-09
Average	-18.1E-09	-14.9E-09	-15.8E-09	-15.2E-09	-19.8E-09	-15.2E-09	-16.3E-09
Std Deviation	2.0E-09	3.4E-09	2.4E-09	2.8E-09	2.6E-09	1.9E-09	1.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.0E-09	-12.8E-09	-9.7E-09	-14.3E-09	-9.0E-09	-9.0E-09	-6.7E-09
87_OUT_REF	-12.0E-09	-15.8E-09	-15.8E-09	-12.0E-09	-10.5E-09	-15.1E-09	-9.0E-09
ON samples							
71	-13.6E-09	-15.8E-09	-12.8E-09	-12.8E-09	-9.7E-09	-9.7E-09	-11.3E-09
72	-10.5E-09	-11.3E-09	-11.3E-09	-11.3E-09	-11.3E-09	-9.7E-09	-9.0E-09
73	-15.1E-09	-5.9E-09	-10.5E-09	-15.1E-09	-16.6E-09	-9.0E-09	-8.2E-09
74	-12.0E-09	-11.3E-09	-12.0E-09	-11.3E-09	-15.8E-09	-7.5E-09	-13.6E-09
75	-12.8E-09	-13.6E-09	-13.6E-09	-12.0E-09	-12.8E-09	-9.0E-09	-15.8E-09
76	-14.3E-09	-11.3E-09	-10.5E-09	-8.2E-09	-12.8E-09	-12.8E-09	-11.3E-09
77	-8.2E-09	-9.7E-09	-12.0E-09	-12.0E-09	-9.0E-09	-9.0E-09	-15.8E-09
78	-12.0E-09	-12.8E-09	-15.8E-09	-16.6E-09	-11.3E-09	-10.5E-09	-12.0E-09
79	-11.3E-09	-15.1E-09	-10.5E-09	-13.6E-09	-10.5E-09	-6.7E-09	-8.2E-09
80	-12.8E-09	-10.5E-09	-12.8E-09	-10.5E-09	-14.3E-09	-13.6E-09	-7.5E-09
Statistics							
Min	-15.1E-09	-15.8E-09	-15.8E-09	-16.6E-09	-16.6E-09	-13.6E-09	-15.8E-09
Max	-8.2E-09	-5.9E-09	-10.5E-09	-8.2E-09	-9.0E-09	-6.7E-09	-7.5E-09
Average	-12.3E-09	-11.7E-09	-12.2E-09	-12.3E-09	-12.4E-09	-9.7E-09	-11.3E-09
Std Deviation	2.0E-09	2.8E-09	1.7E-09	2.4E-09	2.5E-09	2.1E-09	3.1E-09

Measurements

Iil<ADD[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.0E-09	-12.8E-09	-9.7E-09	-14.3E-09	-9.0E-09	-9.0E-09	-6.7E-09
87_OUT_REF	-12.0E-09	-15.8E-09	-15.8E-09	-12.0E-09	-10.5E-09	-15.1E-09	-9.0E-09
OFF samples							
81	-8.2E-09	-7.5E-09	-15.1E-09	-13.6E-09	-7.5E-09	-6.7E-09	-9.0E-09
82	-10.5E-09	-11.3E-09	-11.3E-09	-13.6E-09	-6.7E-09	-13.6E-09	-14.3E-09
83	-12.0E-09	-6.7E-09	-12.8E-09	-8.2E-09	-11.3E-09	-8.2E-09	-11.3E-09
84	-13.6E-09	-12.8E-09	-12.0E-09	-12.0E-09	-12.8E-09	-12.8E-09	-12.8E-09
85	-11.3E-09	-12.8E-09	-14.3E-09	-13.6E-09	-5.9E-09	-14.3E-09	-3.6E-09
Statistics							
Min	-13.6E-09	-12.8E-09	-15.1E-09	-13.6E-09	-12.8E-09	-14.3E-09	-14.3E-09
Max	-8.2E-09	-6.7E-09	-11.3E-09	-8.2E-09	-5.9E-09	-6.7E-09	-3.6E-09
Average	-11.1E-09	-10.2E-09	-13.1E-09	-12.2E-09	-8.8E-09	-11.1E-09	-10.2E-09
Std Deviation	2.0E-09	2.9E-09	1.6E-09	2.3E-09	3.0E-09	3.4E-09	4.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-2.1E-09	-4.4E-09	-4.4E-09	-2.9E-09	-1.4E-09	-1.4E-09
87_OUT_REF	-589.6E-12	1.7E-09	-589.6E-12	-1.4E-09	-5.2E-09	-589.6E-12	-589.6E-12
ON samples							
71	936.3E-12	1.7E-09	-2.9E-09	-2.9E-09	-7.5E-09	1.7E-09	173.3E-12
72	2.5E-09	936.3E-12	173.3E-12	-2.9E-09	-2.9E-09	-2.9E-09	5.5E-09
73	-5.9E-09	-2.9E-09	-2.1E-09	-2.1E-09	3.2E-09	-2.9E-09	-4.4E-09
74	936.3E-12	-4.4E-09	173.3E-12	-2.9E-09	-3.6E-09	-6.7E-09	4.0E-09
75	-2.9E-09	1.7E-09	2.5E-09	-2.1E-09	-1.4E-09	3.2E-09	173.3E-12
76	-2.1E-09	-589.6E-12	-4.4E-09	-3.6E-09	-7.5E-09	-2.9E-09	173.3E-12
77	936.3E-12	-5.9E-09	-6.7E-09	173.3E-12	936.3E-12	-3.6E-09	1.7E-09
78	-2.9E-09	-589.6E-12	-2.9E-09	-2.1E-09	-4.4E-09	-2.9E-09	173.3E-12
79	173.3E-12	-3.6E-09	-2.1E-09	-4.4E-09	936.3E-12	936.3E-12	-2.9E-09
80	-3.6E-09	-589.6E-12	173.3E-12	2.5E-09	6.3E-09	173.3E-12	6.3E-09
Statistics							
Min	-5.9E-09	-5.9E-09	-6.7E-09	-4.4E-09	-7.5E-09	-6.7E-09	-4.4E-09
Max	2.5E-09	1.7E-09	2.5E-09	2.5E-09	6.3E-09	3.2E-09	6.3E-09
Average	-1.2E-09	-1.4E-09	-1.8E-09	-2.0E-09	-1.6E-09	-1.6E-09	1.1E-09
Std Deviation	2.7E-09	2.7E-09	2.6E-09	2.0E-09	4.5E-09	3.0E-09	3.4E-09

Measurements

Iil<ADD[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-2.1E-09	-4.4E-09	-4.4E-09	-2.9E-09	-1.4E-09	-1.4E-09
87_OUT_REF	-589.6E-12	1.7E-09	-589.6E-12	-1.4E-09	-5.2E-09	-589.6E-12	-589.6E-12
OFF samples							
81	-3.6E-09	-2.1E-09	-5.9E-09	-2.9E-09	936.3E-12	-2.9E-09	-2.1E-09
82	-1.4E-09	-2.9E-09	-4.4E-09	-3.6E-09	-1.4E-09	-3.6E-09	-2.1E-09
83	-4.4E-09	-1.4E-09	-4.4E-09	-3.6E-09	-1.4E-09	-2.9E-09	-2.9E-09
84	-3.6E-09	-3.6E-09	-7.5E-09	936.3E-12	-5.2E-09	173.3E-12	-589.6E-12
85	-589.6E-12	-1.4E-09	-2.1E-09	-2.9E-09	-2.1E-09	-2.9E-09	-6.7E-09
Statistics							
Min	-4.4E-09	-3.6E-09	-7.5E-09	-3.6E-09	-5.2E-09	-3.6E-09	-6.7E-09
Max	-589.6E-12	-1.4E-09	-2.1E-09	936.3E-12	936.3E-12	173.3E-12	-589.6E-12
Average	-2.7E-09	-2.3E-09	-4.9E-09	-2.4E-09	-1.8E-09	-2.4E-09	-2.9E-09
Std Deviation	1.7E-09	994.8E-12	2.0E-09	1.9E-09	2.2E-09	1.5E-09	2.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-589.6E-12	-589.6E-12	-3.6E-09	-5.2E-09	-2.1E-09	173.3E-12
87_OUT_REF	-589.6E-12	-5.9E-09	-3.6E-09	-3.6E-09	-5.2E-09	-9.7E-09	-2.1E-09
ON samples							
71	-3.6E-09	936.3E-12	-2.9E-09	-4.4E-09	-589.6E-12	-2.9E-09	-5.9E-09
72	-5.9E-09	-1.4E-09	-5.9E-09	-8.2E-09	-4.4E-09	-3.6E-09	-589.6E-12
73	-5.2E-09	-4.4E-09	173.3E-12	-5.2E-09	-2.9E-09	-1.4E-09	-5.9E-09
74	-5.9E-09	-5.9E-09	-3.6E-09	-2.9E-09	-4.4E-09	-5.2E-09	-5.9E-09
75	-3.6E-09	936.3E-12	-5.2E-09	-8.2E-09	936.3E-12	-5.2E-09	-9.0E-09
76	-5.9E-09	-8.2E-09	-2.9E-09	-4.4E-09	-589.6E-12	-6.7E-09	-5.9E-09
77	-4.4E-09	-3.6E-09	-4.4E-09	-5.9E-09	1.7E-09	-2.1E-09	-2.9E-09
78	-9.7E-09	-1.4E-09	-2.9E-09	-6.7E-09	-589.6E-12	936.3E-12	-3.6E-09
79	-3.6E-09	-6.7E-09	-5.9E-09	-4.4E-09	-5.2E-09	936.3E-12	-2.9E-09
80	-6.7E-09	-2.9E-09	-4.4E-09	173.3E-12	-2.1E-09	173.3E-12	-9.0E-09
Statistics							
Min	-9.7E-09	-8.2E-09	-5.9E-09	-8.2E-09	-5.2E-09	-6.7E-09	-9.0E-09
Max	-3.6E-09	936.3E-12	173.3E-12	173.3E-12	1.7E-09	936.3E-12	-589.6E-12
Average	-5.5E-09	-3.3E-09	-3.8E-09	-5.0E-09	-1.8E-09	-2.5E-09	-5.2E-09
Std Deviation	1.9E-09	3.1E-09	1.8E-09	2.5E-09	2.4E-09	2.7E-09	2.7E-09

Measurements

Iil<ADD[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-589.6E-12	-589.6E-12	-3.6E-09	-5.2E-09	-2.1E-09	173.3E-12
87_OUT_REF	-589.6E-12	-5.9E-09	-3.6E-09	-3.6E-09	-5.2E-09	-9.7E-09	-2.1E-09
OFF samples							
81	-3.6E-09	936.3E-12	-2.1E-09	-6.7E-09	-2.1E-09	-2.9E-09	-2.9E-09
82	-5.2E-09	-2.1E-09	-6.7E-09	-1.4E-09	-5.9E-09	-5.9E-09	-3.6E-09
83	-1.4E-09	3.2E-09	-3.6E-09	-3.6E-09	-7.5E-09	-5.2E-09	-5.9E-09
84	-1.4E-09	-2.1E-09	-4.4E-09	-7.5E-09	-3.6E-09	-2.9E-09	-4.4E-09
85	-4.4E-09	-589.6E-12	-589.6E-12	-3.6E-09	-8.2E-09	-2.1E-09	-2.1E-09
Statistics							
Min	-5.2E-09	-2.1E-09	-6.7E-09	-7.5E-09	-8.2E-09	-5.9E-09	-5.9E-09
Max	-1.4E-09	3.2E-09	-589.6E-12	-1.4E-09	-2.1E-09	-2.1E-09	-2.1E-09
Average	-3.2E-09	-131.8E-12	-3.5E-09	-4.6E-09	-5.5E-09	-3.8E-09	-3.8E-09
Std Deviation	1.8E-09	2.3E-09	2.3E-09	2.5E-09	2.6E-09	1.7E-09	1.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.8E-09	-2.1E-09	173.3E-12	2.5E-09	4.8E-09	-589.6E-12	936.3E-12
87_OUT_REF	-1.4E-09	173.3E-12	1.7E-09	936.3E-12	2.5E-09	173.3E-12	-589.6E-12
ON samples							
71	-1.4E-09	4.8E-09	173.3E-12	-2.9E-09	936.3E-12	-1.4E-09	-2.1E-09
72	2.5E-09	173.3E-12	3.2E-09	2.5E-09	-3.6E-09	-3.6E-09	173.3E-12
73	-2.9E-09	-2.1E-09	-1.4E-09	-589.6E-12	-4.4E-09	-2.1E-09	-5.9E-09
74	173.3E-12	936.3E-12	4.8E-09	2.5E-09	173.3E-12	-589.6E-12	-589.6E-12
75	936.3E-12	173.3E-12	4.0E-09	-589.6E-12	-2.1E-09	4.0E-09	-1.4E-09
76	-589.6E-12	1.7E-09	1.7E-09	-589.6E-12	936.3E-12	1.7E-09	1.7E-09
77	173.3E-12	2.5E-09	2.5E-09	-589.6E-12	1.7E-09	-5.9E-09	-2.1E-09
78	-589.6E-12	936.3E-12	-2.9E-09	173.3E-12	936.3E-12	-2.9E-09	-2.9E-09
79	-2.1E-09	4.8E-09	-1.4E-09	-2.1E-09	173.3E-12	7.0E-09	936.3E-12
80	173.3E-12	-1.4E-09	1.7E-09	5.5E-09	-4.4E-09	-2.9E-09	-589.6E-12
Statistics							
Min	-2.9E-09	-2.1E-09	-2.9E-09	-2.9E-09	-4.4E-09	-5.9E-09	-5.9E-09
Max	2.5E-09	4.8E-09	4.8E-09	5.5E-09	1.7E-09	7.0E-09	1.7E-09
Average	-360.7E-12	1.2E-09	1.2E-09	325.9E-12	-971.1E-12	-665.9E-12	-1.3E-09
Std Deviation	1.5E-09	2.3E-09	2.5E-09	2.5E-09	2.4E-09	3.9E-09	2.2E-09

Measurements

Iil<ADD[8]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	4.8E-09	-2.1E-09	173.3E-12	2.5E-09	4.8E-09	-589.6E-12	936.3E-12
87_OUT_REF	-1.4E-09	173.3E-12	1.7E-09	936.3E-12	2.5E-09	173.3E-12	-589.6E-12
OFF samples							
81	-589.6E-12	2.5E-09	-589.6E-12	-2.9E-09	-1.4E-09	936.3E-12	-1.4E-09
82	4.8E-09	2.5E-09	-2.9E-09	1.7E-09	-2.9E-09	-589.6E-12	-589.6E-12
83	173.3E-12	3.2E-09	-589.6E-12	2.5E-09	936.3E-12	-1.4E-09	-1.4E-09
84	-2.9E-09	1.7E-09	-589.6E-12	3.2E-09	-2.1E-09	-589.6E-12	4.8E-09
85	9.3E-09	173.3E-12	1.7E-09	173.3E-12	3.2E-09	-2.1E-09	1.7E-09
Statistics							
Min	-2.9E-09	173.3E-12	-2.9E-09	-2.9E-09	-2.9E-09	-2.1E-09	-1.4E-09
Max	9.3E-09	3.2E-09	1.7E-09	3.2E-09	3.2E-09	936.3E-12	4.8E-09
Average	2.2E-09	2.0E-09	-589.6E-12	936.3E-12	-437.0E-12	-742.2E-12	631.1E-12
Std Deviation	4.9E-09	1.2E-09	1.6E-09	2.4E-09	2.5E-09	1.1E-09	2.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.7E-09	-4.4E-09	5.5E-09	936.3E-12	-1.4E-09	3.2E-09	936.3E-12
87_OUT_REF	936.3E-12	3.2E-09	3.2E-09	-5.2E-09	-4.4E-09	-589.6E-12	-5.2E-09
ON samples							
71	-1.4E-09	936.3E-12	-2.1E-09	-5.2E-09	-589.6E-12	-2.9E-09	1.7E-09
72	3.2E-09	-589.6E-12	-589.6E-12	173.3E-12	-1.4E-09	-1.4E-09	936.3E-12
73	2.5E-09	-5.2E-09	-589.6E-12	936.3E-12	-2.9E-09	-3.6E-09	936.3E-12
74	-2.1E-09	-2.1E-09	-4.4E-09	-4.4E-09	173.3E-12	2.5E-09	-4.4E-09
75	-1.4E-09	-2.1E-09	-1.4E-09	2.5E-09	1.7E-09	936.3E-12	2.5E-09
76	-5.2E-09	-589.6E-12	1.7E-09	2.5E-09	3.2E-09	-589.6E-12	-4.4E-09
77	-2.1E-09	-1.4E-09	173.3E-12	-2.9E-09	2.5E-09	5.5E-09	2.5E-09
78	-2.1E-09	-4.4E-09	936.3E-12	3.2E-09	173.3E-12	-3.6E-09	-1.4E-09
79	-4.4E-09	173.3E-12	173.3E-12	-2.9E-09	-3.6E-09	3.2E-09	-5.2E-09
80	-1.4E-09	-2.1E-09	2.5E-09	-2.1E-09	-5.2E-09	-2.1E-09	3.2E-09
Statistics							
Min	-5.2E-09	-5.2E-09	-4.4E-09	-5.2E-09	-5.2E-09	-3.6E-09	-5.2E-09
Max	3.2E-09	936.3E-12	2.5E-09	3.2E-09	3.2E-09	5.5E-09	3.2E-09
Average	-1.4E-09	-1.7E-09	-360.7E-12	-818.5E-12	-589.6E-12	-208.1E-12	-360.7E-12
Std Deviation	2.6E-09	1.9E-09	2.0E-09	3.1E-09	2.7E-09	3.1E-09	3.2E-09

Measurements

Iil<ADD[9]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.7E-09	-4.4E-09	5.5E-09	936.3E-12	-1.4E-09	3.2E-09	936.3E-12
87_OUT_REF	936.3E-12	3.2E-09	3.2E-09	-5.2E-09	-4.4E-09	-589.6E-12	-5.2E-09
OFF samples							
81	2.5E-09	-589.6E-12	2.5E-09	173.3E-12	6.3E-09	936.3E-12	-1.4E-09
82	-2.9E-09	3.2E-09	2.5E-09	-4.4E-09	173.3E-12	-3.6E-09	173.3E-12
83	173.3E-12	2.5E-09	5.5E-09	-2.1E-09	936.3E-12	-4.4E-09	-589.6E-12
84	-1.4E-09	5.5E-09	-3.6E-09	-2.1E-09	-2.1E-09	-1.4E-09	936.3E-12
85	173.3E-12	-1.4E-09	-2.9E-09	-6.7E-09	1.7E-09	936.3E-12	-2.1E-09
Statistics							
Min	-2.9E-09	-1.4E-09	-3.6E-09	-6.7E-09	-2.1E-09	-4.4E-09	-2.1E-09
Max	2.5E-09	5.5E-09	5.5E-09	173.3E-12	6.3E-09	936.3E-12	936.3E-12
Average	-284.4E-12	1.9E-09	783.7E-12	-3.0E-09	1.4E-09	-1.5E-09	-589.6E-12
Std Deviation	2.0E-09	2.8E-09	3.9E-09	2.6E-09	3.1E-09	2.5E-09	1.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	-7.5E-09	-5.9E-09	-4.4E-09	-4.4E-09	-12.0E-09	-5.9E-09
87_OUT_REF	-9.0E-09	-5.2E-09	-7.5E-09	-1.4E-09	-5.2E-09	-6.7E-09	-7.5E-09
ON samples							
71	-2.9E-09	-2.9E-09	-6.7E-09	-5.2E-09	-5.9E-09	-2.9E-09	-5.9E-09
72	-4.4E-09	-1.4E-09	-8.2E-09	-589.6E-12	-8.2E-09	-5.2E-09	-7.5E-09
73	-6.7E-09	-7.5E-09	-6.7E-09	-8.2E-09	-5.9E-09	-6.7E-09	-1.4E-09
74	-2.9E-09	-3.6E-09	-5.9E-09	-5.2E-09	-7.5E-09	-9.0E-09	-8.2E-09
75	-1.4E-09	936.3E-12	-3.6E-09	-4.4E-09	-11.3E-09	-589.6E-12	-4.4E-09
76	-5.9E-09	-8.2E-09	3.2E-09	-7.5E-09	-5.2E-09	-1.4E-09	-5.9E-09
77	-4.4E-09	-4.4E-09	-3.6E-09	-2.9E-09	-10.5E-09	-4.4E-09	-11.3E-09
78	-4.4E-09	-5.2E-09	-2.9E-09	-8.2E-09	-5.9E-09	-6.7E-09	-7.5E-09
79	-589.6E-12	-5.2E-09	-3.6E-09	-3.6E-09	-6.7E-09	-5.2E-09	-2.1E-09
80	-3.6E-09	-7.5E-09	-7.5E-09	-8.2E-09	-6.7E-09	-7.5E-09	-5.9E-09
Statistics							
Min	-6.7E-09	-8.2E-09	-8.2E-09	-8.2E-09	-11.3E-09	-9.0E-09	-11.3E-09
Max	-589.6E-12	936.3E-12	3.2E-09	-589.6E-12	-5.2E-09	-589.6E-12	-1.4E-09
Average	-3.7E-09	-4.5E-09	-4.6E-09	-5.4E-09	-7.4E-09	-4.9E-09	-6.0E-09
Std Deviation	1.9E-09	2.9E-09	3.3E-09	2.6E-09	2.0E-09	2.7E-09	2.9E-09

Measurements

Iil<BANK[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	-7.5E-09	-5.9E-09	-4.4E-09	-4.4E-09	-12.0E-09	-5.9E-09
87_OUT_REF	-9.0E-09	-5.2E-09	-7.5E-09	-1.4E-09	-5.2E-09	-6.7E-09	-7.5E-09
OFF samples							
81	-4.4E-09	-3.6E-09	-6.7E-09	-3.6E-09	-9.0E-09	-2.1E-09	-4.4E-09
82	-2.9E-09	-5.9E-09	-2.1E-09	-1.4E-09	-8.2E-09	-8.2E-09	-7.5E-09
83	-4.4E-09	-2.1E-09	-8.2E-09	-8.2E-09	-8.2E-09	-1.4E-09	-8.2E-09
84	-3.6E-09	-7.5E-09	-3.6E-09	-5.2E-09	-9.0E-09	-5.9E-09	-6.7E-09
85	-7.5E-09	-2.9E-09	-4.4E-09	-4.4E-09	-8.2E-09	-10.5E-09	-6.7E-09
Statistics							
Min	-7.5E-09	-7.5E-09	-8.2E-09	-8.2E-09	-9.0E-09	-10.5E-09	-8.2E-09
Max	-2.9E-09	-2.1E-09	-2.1E-09	-1.4E-09	-8.2E-09	-1.4E-09	-4.4E-09
Average	-4.6E-09	-4.4E-09	-5.0E-09	-4.6E-09	-8.5E-09	-5.6E-09	-6.7E-09
Std Deviation	1.7E-09	2.2E-09	2.4E-09	2.5E-09	417.9E-12	3.9E-09	1.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-10.5E-09	-11.3E-09	-13.6E-09	-10.5E-09	-15.1E-09	-9.0E-09	-8.2E-09
87_OUT_REF	-11.3E-09	-9.7E-09	-12.8E-09	-12.8E-09	-8.2E-09	-9.0E-09	-13.6E-09
ON samples							
71	-12.0E-09	-13.6E-09	-7.5E-09	-9.0E-09	-9.7E-09	-9.7E-09	-11.3E-09
72	-6.7E-09	-13.6E-09	-8.2E-09	-9.7E-09	-6.7E-09	-12.0E-09	-9.0E-09
73	-9.7E-09	-11.3E-09	-10.5E-09	-15.1E-09	-9.7E-09	-12.0E-09	-9.0E-09
74	-9.0E-09	-10.5E-09	-6.7E-09	-6.7E-09	-11.3E-09	-9.7E-09	-13.6E-09
75	-15.1E-09	-12.0E-09	-10.5E-09	-9.0E-09	-9.0E-09	-12.0E-09	-7.5E-09
76	-12.8E-09	-15.1E-09	-11.3E-09	-10.5E-09	-7.5E-09	-12.8E-09	-9.7E-09
77	-11.3E-09	-11.3E-09	-5.9E-09	-11.3E-09	-8.2E-09	-13.6E-09	-11.3E-09
78	-8.2E-09	-12.0E-09	-8.2E-09	-9.7E-09	-11.3E-09	-8.2E-09	-9.7E-09
79	-8.2E-09	-9.0E-09	-12.8E-09	-12.8E-09	-12.8E-09	-12.0E-09	-12.0E-09
80	-12.8E-09	-13.6E-09	-6.7E-09	-12.8E-09	-8.2E-09	-12.0E-09	-9.7E-09
Statistics							
Min	-15.1E-09	-15.1E-09	-12.8E-09	-15.1E-09	-12.8E-09	-13.6E-09	-13.6E-09
Max	-6.7E-09	-9.0E-09	-5.9E-09	-6.7E-09	-6.7E-09	-8.2E-09	-7.5E-09
Average	-10.6E-09	-12.2E-09	-8.8E-09	-10.7E-09	-9.4E-09	-11.4E-09	-10.3E-09
Std Deviation	2.6E-09	1.8E-09	2.3E-09	2.4E-09	1.9E-09	1.6E-09	1.8E-09

Measurements

Iil<BANK[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-10.5E-09	-11.3E-09	-13.6E-09	-10.5E-09	-15.1E-09	-9.0E-09	-8.2E-09
87_OUT_REF	-11.3E-09	-9.7E-09	-12.8E-09	-12.8E-09	-8.2E-09	-9.0E-09	-13.6E-09
OFF samples							
81	-9.0E-09	-11.3E-09	-14.3E-09	-6.7E-09	-7.5E-09	-12.0E-09	-12.8E-09
82	-8.2E-09	-11.3E-09	-13.6E-09	-8.2E-09	-13.6E-09	-10.5E-09	-9.0E-09
83	-9.0E-09	-13.6E-09	-14.3E-09	-9.7E-09	-9.7E-09	-11.3E-09	-10.5E-09
84	-9.7E-09	-9.7E-09	-12.8E-09	-11.3E-09	-12.8E-09	-10.5E-09	-14.3E-09
85	-8.2E-09	-8.2E-09	-8.2E-09	-15.8E-09	-9.7E-09	-9.7E-09	-10.5E-09
Statistics							
Min	-9.7E-09	-13.6E-09	-14.3E-09	-15.8E-09	-13.6E-09	-12.0E-09	-14.3E-09
Max	-8.2E-09	-8.2E-09	-8.2E-09	-6.7E-09	-7.5E-09	-9.7E-09	-9.0E-09
Average	-8.8E-09	-10.8E-09	-12.6E-09	-10.4E-09	-10.7E-09	-10.8E-09	-11.4E-09
Std Deviation	638.3E-12	2.0E-09	2.6E-09	3.5E-09	2.5E-09	870.0E-12	2.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.8E-09	-8.2E-09	-9.0E-09	-12.0E-09	-9.7E-09	-9.7E-09	-9.7E-09
87_OUT_REF	-12.0E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-10.5E-09	-12.0E-09
ON samples							
71	-11.3E-09	-12.8E-09	-12.8E-09	-10.5E-09	-10.5E-09	-12.0E-09	-5.9E-09
72	-14.3E-09	-13.6E-09	-12.0E-09	-11.3E-09	-10.5E-09	-12.0E-09	-11.3E-09
73	-12.0E-09	-9.0E-09	-11.3E-09	-8.2E-09	-10.5E-09	-13.6E-09	-12.8E-09
74	-11.3E-09	-7.5E-09	-9.7E-09	-10.5E-09	-10.5E-09	-10.5E-09	-9.0E-09
75	-9.7E-09	-9.0E-09	-15.8E-09	-8.2E-09	-16.6E-09	-13.6E-09	-9.0E-09
76	-13.6E-09	-13.6E-09	-14.3E-09	-9.7E-09	-10.5E-09	-11.3E-09	-13.6E-09
77	-15.1E-09	-13.6E-09	-5.2E-09	-9.0E-09	-5.2E-09	-10.5E-09	-12.0E-09
78	-11.3E-09	-11.3E-09	-8.2E-09	-10.5E-09	-12.8E-09	-12.8E-09	-11.3E-09
79	-15.1E-09	-10.5E-09	-11.3E-09	-7.5E-09	-10.5E-09	-5.2E-09	-8.2E-09
80	-10.5E-09	-12.0E-09	-9.7E-09	-12.0E-09	-7.5E-09	-12.8E-09	-7.5E-09
Statistics							
Min	-15.1E-09	-13.6E-09	-15.8E-09	-12.0E-09	-16.6E-09	-13.6E-09	-13.6E-09
Max	-9.7E-09	-7.5E-09	-5.2E-09	-7.5E-09	-5.2E-09	-5.2E-09	-5.9E-09
Average	-12.4E-09	-11.3E-09	-11.0E-09	-9.7E-09	-10.5E-09	-11.4E-09	-10.1E-09
Std Deviation	1.9E-09	2.2E-09	3.1E-09	1.5E-09	3.0E-09	2.5E-09	2.5E-09

Measurements

Iil<BANK[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.8E-09	-8.2E-09	-9.0E-09	-12.0E-09	-9.7E-09	-9.7E-09	-9.7E-09
87_OUT_REF	-12.0E-09	-12.8E-09	-9.7E-09	-12.0E-09	-12.0E-09	-10.5E-09	-12.0E-09
OFF samples							
81	-12.0E-09	-12.8E-09	-7.5E-09	-7.5E-09	-10.5E-09	-8.2E-09	-9.7E-09
82	-11.3E-09	-13.6E-09	-12.8E-09	-9.7E-09	-12.8E-09	-10.5E-09	-7.5E-09
83	-12.0E-09	-10.5E-09	-12.8E-09	-8.2E-09	-14.3E-09	-10.5E-09	-9.7E-09
84	-12.0E-09	-9.0E-09	-12.8E-09	-9.0E-09	-7.5E-09	-6.7E-09	-7.5E-09
85	-12.0E-09	-8.2E-09	-13.6E-09	-7.5E-09	-9.0E-09	-12.8E-09	-15.8E-09
Statistics							
Min	-12.0E-09	-13.6E-09	-13.6E-09	-9.7E-09	-14.3E-09	-12.8E-09	-15.8E-09
Max	-11.3E-09	-8.2E-09	-7.5E-09	-7.5E-09	-7.5E-09	-6.7E-09	-7.5E-09
Average	-11.9E-09	-10.8E-09	-11.9E-09	-8.4E-09	-10.8E-09	-9.7E-09	-10.1E-09
Std Deviation	341.2E-12	2.3E-09	2.5E-09	994.7E-12	2.8E-09	2.4E-09	3.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-37.8E-09	-48.8E-09	-45.2E-09	-42.7E-09	-43.9E-09	-31.7E-09	-42.7E-09
87_OUT_REF	-35.4E-09	-36.6E-09	-36.6E-09	-37.8E-09	-37.8E-09	-42.7E-09	-46.4E-09
ON samples							
71	-45.2E-09	-41.5E-09	-46.4E-09	-31.7E-09	-40.3E-09	-37.8E-09	-41.5E-09
72	-39.1E-09	-40.3E-09	-47.6E-09	-36.6E-09	-50.0E-09	-34.2E-09	-40.3E-09
73	-36.6E-09	-35.4E-09	-36.6E-09	-47.6E-09	-36.6E-09	-39.1E-09	-41.5E-09
74	-37.8E-09	-45.2E-09	-45.2E-09	-45.2E-09	-29.3E-09	-37.8E-09	-39.1E-09
75	-40.3E-09	-35.4E-09	-35.4E-09	-37.8E-09	-46.4E-09	-42.7E-09	-43.9E-09
76	-41.5E-09	-46.4E-09	-39.1E-09	-43.9E-09	-52.5E-09	-37.8E-09	-43.9E-09
77	-39.1E-09	-43.9E-09	-37.8E-09	-35.4E-09	-45.2E-09	-48.8E-09	-42.7E-09
78	-46.4E-09	-34.2E-09	-39.1E-09	-47.6E-09	-35.4E-09	-39.1E-09	-47.6E-09
79	-40.3E-09	-35.4E-09	-47.6E-09	-41.5E-09	-40.3E-09	-39.1E-09	-41.5E-09
80	-36.6E-09	-41.5E-09	-36.6E-09	-34.2E-09	-43.9E-09	-41.5E-09	-40.3E-09
Statistics							
Min	-46.4E-09	-46.4E-09	-47.6E-09	-47.6E-09	-52.5E-09	-48.8E-09	-47.6E-09
Max	-36.6E-09	-34.2E-09	-35.4E-09	-31.7E-09	-29.3E-09	-34.2E-09	-39.1E-09
Average	-40.3E-09	-39.9E-09	-41.1E-09	-40.2E-09	-42.0E-09	-39.8E-09	-42.2E-09
Std Deviation	3.3E-09	4.5E-09	5.0E-09	5.8E-09	7.1E-09	3.9E-09	2.5E-09

Measurements

Iil<CK/>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-37.8E-09	-48.8E-09	-45.2E-09	-42.7E-09	-43.9E-09	-31.7E-09	-42.7E-09
87_OUT_REF	-35.4E-09	-36.6E-09	-36.6E-09	-37.8E-09	-37.8E-09	-42.7E-09	-46.4E-09
OFF samples							
81	-50.0E-09	-45.2E-09	-39.1E-09	-45.2E-09	-45.2E-09	-53.7E-09	-41.5E-09
82	-40.3E-09	-43.9E-09	-34.2E-09	-35.4E-09	-47.6E-09	-42.7E-09	-45.2E-09
83	-42.7E-09	-43.9E-09	-45.2E-09	-36.6E-09	-39.1E-09	-42.7E-09	-39.1E-09
84	-45.2E-09	-41.5E-09	-51.3E-09	-33.0E-09	-39.1E-09	-40.3E-09	-42.7E-09
85	-34.2E-09	-42.7E-09	-46.4E-09	-42.7E-09	-39.1E-09	-35.4E-09	-40.3E-09
Statistics							
Min	-50.0E-09	-45.2E-09	-51.3E-09	-45.2E-09	-47.6E-09	-53.7E-09	-45.2E-09
Max	-34.2E-09	-41.5E-09	-34.2E-09	-33.0E-09	-39.1E-09	-35.4E-09	-39.1E-09
Average	-42.5E-09	-43.5E-09	-43.2E-09	-38.6E-09	-42.0E-09	-43.0E-09	-41.7E-09
Std Deviation	5.9E-09	1.4E-09	6.7E-09	5.2E-09	4.1E-09	6.7E-09	2.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-40.3E-09	-39.1E-09	-41.5E-09	-35.4E-09	-36.6E-09	-39.1E-09	-40.3E-09
87_OUT_REF	-43.9E-09	-47.6E-09	-43.9E-09	-41.5E-09	-41.5E-09	-43.9E-09	-37.8E-09
ON samples							
71	-35.4E-09	-48.8E-09	-39.1E-09	-42.7E-09	-37.8E-09	-37.8E-09	-46.4E-09
72	-42.7E-09	-33.0E-09	-42.7E-09	-39.1E-09	-41.5E-09	-31.7E-09	-42.7E-09
73	-39.1E-09	-42.7E-09	-46.4E-09	-41.5E-09	-42.7E-09	-31.7E-09	-39.1E-09
74	-35.4E-09	-33.0E-09	-41.5E-09	-36.6E-09	-33.0E-09	-31.7E-09	-40.3E-09
75	-45.2E-09	-36.6E-09	-31.7E-09	-41.5E-09	-41.5E-09	-45.2E-09	-46.4E-09
76	-41.5E-09	-37.8E-09	-39.1E-09	-43.9E-09	-40.3E-09	-33.0E-09	-36.6E-09
77	-36.6E-09	-35.4E-09	-39.1E-09	-42.7E-09	-39.1E-09	-42.7E-09	-42.7E-09
78	-46.4E-09	-35.4E-09	-41.5E-09	-37.8E-09	-39.1E-09	-48.8E-09	-39.1E-09
79	-43.9E-09	-36.6E-09	-36.6E-09	-39.1E-09	-36.6E-09	-34.2E-09	-36.6E-09
80	-34.2E-09	-31.7E-09	-43.9E-09	-43.9E-09	-42.7E-09	-33.0E-09	-43.9E-09
Statistics							
Min	-46.4E-09	-48.8E-09	-46.4E-09	-43.9E-09	-42.7E-09	-48.8E-09	-46.4E-09
Max	-34.2E-09	-31.7E-09	-31.7E-09	-36.6E-09	-33.0E-09	-31.7E-09	-36.6E-09
Average	-40.0E-09	-37.1E-09	-40.2E-09	-40.9E-09	-39.4E-09	-37.0E-09	-41.4E-09
Std Deviation	4.5E-09	5.2E-09	4.1E-09	2.6E-09	3.0E-09	6.4E-09	3.6E-09

Measurements

Iil<CK>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-40.3E-09	-39.1E-09	-41.5E-09	-35.4E-09	-36.6E-09	-39.1E-09	-40.3E-09
87_OUT_REF	-43.9E-09	-47.6E-09	-43.9E-09	-41.5E-09	-41.5E-09	-43.9E-09	-37.8E-09
OFF samples							
81	-33.0E-09	-31.7E-09	-36.6E-09	-37.8E-09	-37.8E-09	-42.7E-09	-46.4E-09
82	-42.7E-09	-40.3E-09	-35.4E-09	-40.3E-09	-47.6E-09	-33.0E-09	-37.8E-09
83	-42.7E-09	-35.4E-09	-40.3E-09	-45.2E-09	-34.2E-09	-31.7E-09	-42.7E-09
84	-42.7E-09	-37.8E-09	-42.7E-09	-40.3E-09	-40.3E-09	-46.4E-09	-43.9E-09
85	-31.7E-09	-41.5E-09	-42.7E-09	-37.8E-09	-30.5E-09	-33.0E-09	-41.5E-09
Statistics							
Min	-42.7E-09	-41.5E-09	-42.7E-09	-45.2E-09	-47.6E-09	-46.4E-09	-46.4E-09
Max	-31.7E-09	-31.7E-09	-35.4E-09	-37.8E-09	-30.5E-09	-31.7E-09	-37.8E-09
Average	-38.6E-09	-37.4E-09	-39.6E-09	-40.3E-09	-38.1E-09	-37.4E-09	-42.5E-09
Std Deviation	5.7E-09	3.9E-09	3.4E-09	3.0E-09	6.5E-09	6.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.8E-09	-11.0E-09	-6.1E-09	-12.2E-09	-13.4E-09	-13.4E-09	-9.8E-09
87_OUT_REF	-7.3E-09	-14.6E-09	-7.3E-09	-15.9E-09	-7.3E-09	-7.3E-09	-13.4E-09
ON samples							
71	-12.2E-09	-12.2E-09	-2.4E-09	-17.1E-09	-12.2E-09	-11.0E-09	-19.5E-09
72	-2.4E-09	-6.1E-09	-6.1E-09	-1.2E-09	-18.3E-09	-8.5E-09	-18.3E-09
73	-8.5E-09	-6.1E-09	-4.9E-09	-4.9E-09	-13.4E-09	-11.0E-09	-9.8E-09
74	-4.9E-09	-4.9E-09	-6.1E-09	-11.0E-09	-9.8E-09	-13.4E-09	-14.6E-09
75	-7.3E-09	-6.1E-09	-9.8E-09	-6.1E-09	-14.6E-09	-4.9E-09	-9.8E-09
76	-11.0E-09	-14.6E-09	-12.2E-09	-9.8E-09	-12.2E-09	-7.3E-09	-7.3E-09
77	-13.4E-09	-6.1E-09	-11.0E-09	-8.5E-09	-20.8E-09	-18.3E-09	-11.0E-09
78	-11.0E-09	-18.3E-09	-13.4E-09	-15.9E-09	-9.8E-09	-8.5E-09	-14.6E-09
79	-11.0E-09	-15.9E-09	-8.5E-09	-8.5E-09	-13.4E-09	-6.1E-09	-14.6E-09
80	-7.3E-09	-13.4E-09	-11.0E-09	-4.9E-09	-19.5E-09	-9.8E-09	-9.8E-09
Statistics							
Min	-13.4E-09	-18.3E-09	-13.4E-09	-17.1E-09	-20.8E-09	-18.3E-09	-19.5E-09
Max	-2.4E-09	-4.9E-09	-2.4E-09	-1.2E-09	-9.8E-09	-4.9E-09	-7.3E-09
Average	-8.9E-09	-10.4E-09	-8.5E-09	-8.8E-09	-14.4E-09	-9.9E-09	-12.9E-09
Std Deviation	3.5E-09	5.0E-09	3.5E-09	4.9E-09	3.9E-09	3.9E-09	4.0E-09

Measurements

Iil<CKE>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-9.8E-09	-11.0E-09	-6.1E-09	-12.2E-09	-13.4E-09	-13.4E-09	-9.8E-09
87_OUT_REF	-7.3E-09	-14.6E-09	-7.3E-09	-15.9E-09	-7.3E-09	-7.3E-09	-13.4E-09
OFF samples							
81	-15.9E-09	-4.9E-09	-15.9E-09	-9.8E-09	-19.5E-09	-13.4E-09	-14.6E-09
82	-8.5E-09	-9.8E-09	-2.4E-09	-6.1E-09	-12.2E-09	-6.1E-09	-11.0E-09
83	-8.5E-09	-1.2E-09	-12.2E-09	-9.8E-09	-9.8E-09	-14.6E-09	-6.1E-09
84	-12.2E-09	-15.9E-09	-17.1E-09	0.0E+00	-19.5E-09	-17.1E-09	0.0E+00
85	-1.2E-09	-12.2E-09	-11.0E-09	-1.2E-09	-2.4E-09	-6.1E-09	-11.0E-09
Statistics							
Min	-15.9E-09	-15.9E-09	-17.1E-09	-9.8E-09	-19.5E-09	-17.1E-09	-14.6E-09
Max	-1.2E-09	-1.2E-09	-2.4E-09	0.0E+00	-2.4E-09	-6.1E-09	0.0E+00
Average	-9.3E-09	-8.8E-09	-11.7E-09	-5.4E-09	-12.7E-09	-11.5E-09	-8.5E-09
Std Deviation	5.4E-09	5.8E-09	5.8E-09	4.6E-09	7.2E-09	5.1E-09	5.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-40.3E-09	-33.0E-09	-40.3E-09	-33.0E-09	-33.0E-09	-34.2E-09
87_OUT_REF	-40.3E-09	-40.3E-09	-34.2E-09	-36.6E-09	-42.7E-09	-36.6E-09	-30.5E-09
ON samples							
71	-37.8E-09	-34.2E-09	-39.1E-09	-41.5E-09	-35.4E-09	-43.9E-09	-35.4E-09
72	-34.2E-09	-34.2E-09	-41.5E-09	-45.2E-09	-31.7E-09	-29.3E-09	-46.4E-09
73	-42.7E-09	-40.3E-09	-35.4E-09	-43.9E-09	-30.5E-09	-37.8E-09	-34.2E-09
74	-39.1E-09	-35.4E-09	-34.2E-09	-45.2E-09	-46.4E-09	-40.3E-09	-34.2E-09
75	-29.3E-09	-40.3E-09	-40.3E-09	-40.3E-09	-42.7E-09	-35.4E-09	-43.9E-09
76	-35.4E-09	-43.9E-09	-30.5E-09	-39.1E-09	-40.3E-09	-40.3E-09	-36.6E-09
77	-30.5E-09	-41.5E-09	-41.5E-09	-37.8E-09	-36.6E-09	-39.1E-09	-37.8E-09
78	-37.8E-09	-41.5E-09	-37.8E-09	-34.2E-09	-39.1E-09	-40.3E-09	-40.3E-09
79	-39.1E-09	-45.2E-09	-31.7E-09	-45.2E-09	-41.5E-09	-35.4E-09	-34.2E-09
80	-39.1E-09	-39.1E-09	-35.4E-09	-41.5E-09	-42.7E-09	-36.6E-09	-37.8E-09
Statistics							
Min	-42.7E-09	-45.2E-09	-41.5E-09	-45.2E-09	-46.4E-09	-43.9E-09	-46.4E-09
Max	-29.3E-09	-34.2E-09	-30.5E-09	-34.2E-09	-30.5E-09	-29.3E-09	-34.2E-09
Average	-36.5E-09	-39.6E-09	-36.7E-09	-41.4E-09	-38.7E-09	-37.8E-09	-38.1E-09
Std Deviation	4.2E-09	3.9E-09	3.9E-09	3.7E-09	5.1E-09	4.0E-09	4.3E-09

Measurements

Iil<DM>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-40.3E-09	-33.0E-09	-40.3E-09	-33.0E-09	-33.0E-09	-34.2E-09
87_OUT_REF	-40.3E-09	-40.3E-09	-34.2E-09	-36.6E-09	-42.7E-09	-36.6E-09	-30.5E-09
OFF samples							
81	-37.8E-09	-41.5E-09	-42.7E-09	-40.3E-09	-40.3E-09	-40.3E-09	-37.8E-09
82	-37.8E-09	-39.1E-09	-41.5E-09	-41.5E-09	-30.5E-09	-33.0E-09	-31.7E-09
83	-42.7E-09	-35.4E-09	-42.7E-09	-43.9E-09	-41.5E-09	-40.3E-09	-42.7E-09
84	-41.5E-09	-35.4E-09	-34.2E-09	-41.5E-09	-39.1E-09	-45.2E-09	-34.2E-09
85	-39.1E-09	-39.1E-09	-45.2E-09	-36.6E-09	-33.0E-09	-34.2E-09	-36.6E-09
Statistics							
Min	-42.7E-09	-41.5E-09	-45.2E-09	-43.9E-09	-41.5E-09	-45.2E-09	-42.7E-09
Max	-37.8E-09	-35.4E-09	-34.2E-09	-36.6E-09	-30.5E-09	-33.0E-09	-31.7E-09
Average	-39.8E-09	-38.1E-09	-41.3E-09	-40.8E-09	-36.9E-09	-38.6E-09	-36.6E-09
Std Deviation	2.2E-09	2.6E-09	4.2E-09	2.7E-09	4.8E-09	5.0E-09	4.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-30.5E-09	-34.2E-09	-35.4E-09	-35.4E-09	-35.4E-09	-36.6E-09	-34.2E-09
87_OUT_REF	-35.4E-09	-37.8E-09	-31.7E-09	-36.6E-09	-36.6E-09	-33.0E-09	-36.6E-09
ON samples							
71	-34.2E-09	-34.2E-09	-37.8E-09	-35.4E-09	-34.2E-09	-31.7E-09	-37.8E-09
72	-30.5E-09	-31.7E-09	-35.4E-09	-35.4E-09	-31.7E-09	-34.2E-09	-30.5E-09
73	-35.4E-09	-33.0E-09	-37.8E-09	-36.6E-09	-33.0E-09	-35.4E-09	-33.0E-09
74	-34.2E-09	-31.7E-09	-35.4E-09	-30.5E-09	-36.6E-09	-33.0E-09	-35.4E-09
75	-31.7E-09	-35.4E-09	-35.4E-09	-35.4E-09	-31.7E-09	-31.7E-09	-35.4E-09
76	-35.4E-09	-35.4E-09	-35.4E-09	-33.0E-09	-37.8E-09	-33.0E-09	-37.8E-09
77	-36.6E-09	-40.3E-09	-30.5E-09	-36.6E-09	-31.7E-09	-30.5E-09	-39.1E-09
78	-31.7E-09	-34.2E-09	-31.7E-09	-34.2E-09	-33.0E-09	-33.0E-09	-36.6E-09
79	-37.8E-09	-29.3E-09	-34.2E-09	-35.4E-09	-35.4E-09	-39.1E-09	-30.5E-09
80	-31.7E-09	-31.7E-09	-35.4E-09	-31.7E-09	-35.4E-09	-34.2E-09	-39.1E-09
Statistics							
Min	-37.8E-09	-40.3E-09	-37.8E-09	-36.6E-09	-37.8E-09	-39.1E-09	-39.1E-09
Max	-30.5E-09	-29.3E-09	-30.5E-09	-30.5E-09	-31.7E-09	-30.5E-09	-30.5E-09
Average	-33.9E-09	-33.7E-09	-34.9E-09	-34.4E-09	-34.1E-09	-33.6E-09	-35.5E-09
Std Deviation	2.4E-09	3.0E-09	2.3E-09	2.1E-09	2.2E-09	2.4E-09	3.2E-09

Measurements

Iil<DQ[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-30.5E-09	-34.2E-09	-35.4E-09	-35.4E-09	-35.4E-09	-36.6E-09	-34.2E-09
87_OUT_REF	-35.4E-09	-37.8E-09	-31.7E-09	-36.6E-09	-36.6E-09	-33.0E-09	-36.6E-09
OFF samples							
81	-34.2E-09	-31.7E-09	-36.6E-09	-34.2E-09	-36.6E-09	-33.0E-09	-33.0E-09
82	-28.1E-09	-31.7E-09	-34.2E-09	-31.7E-09	-40.3E-09	-39.1E-09	-36.6E-09
83	-36.6E-09	-37.8E-09	-33.0E-09	-36.6E-09	-33.0E-09	-35.4E-09	-29.3E-09
84	-35.4E-09	-39.1E-09	-36.6E-09	-36.6E-09	-33.0E-09	-34.2E-09	-34.2E-09
85	-34.2E-09	-36.6E-09	-31.7E-09	-34.2E-09	-28.1E-09	-33.0E-09	-36.6E-09
Statistics							
Min	-36.6E-09	-39.1E-09	-36.6E-09	-36.6E-09	-40.3E-09	-39.1E-09	-36.6E-09
Max	-28.1E-09	-31.7E-09	-31.7E-09	-31.7E-09	-28.1E-09	-33.0E-09	-29.3E-09
Average	-33.7E-09	-35.4E-09	-34.4E-09	-34.7E-09	-34.2E-09	-34.9E-09	-33.9E-09
Std Deviation	3.3E-09	3.5E-09	2.2E-09	2.0E-09	4.6E-09	2.5E-09	3.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-13.4E-09	-12.2E-09	-8.5E-09	-7.3E-09	-7.3E-09	-6.1E-09
87_OUT_REF	-11.0E-09	-4.9E-09	-6.1E-09	-8.5E-09	-9.8E-09	-9.8E-09	-11.0E-09
ON samples							
71	-9.8E-09	-6.1E-09	-12.2E-09	-11.0E-09	-11.0E-09	-13.4E-09	-11.0E-09
72	-14.6E-09	-8.5E-09	-12.2E-09	-7.3E-09	-4.9E-09	-9.8E-09	-9.8E-09
73	-9.8E-09	-8.5E-09	-4.9E-09	-11.0E-09	-6.1E-09	-9.8E-09	-12.2E-09
74	-4.9E-09	-15.9E-09	-9.8E-09	-4.9E-09	-9.8E-09	-11.0E-09	-11.0E-09
75	-13.4E-09	-7.3E-09	-9.8E-09	-9.8E-09	-13.4E-09	-15.9E-09	-8.5E-09
76	-11.0E-09	-9.8E-09	-4.9E-09	-9.8E-09	-11.0E-09	-7.3E-09	-6.1E-09
77	-11.0E-09	-6.1E-09	-8.5E-09	-7.3E-09	-9.8E-09	-12.2E-09	-13.4E-09
78	-11.0E-09	-9.8E-09	-8.5E-09	-14.6E-09	-9.8E-09	-7.3E-09	-6.1E-09
79	-12.2E-09	-13.4E-09	-9.8E-09	-8.5E-09	-13.4E-09	-8.5E-09	-11.0E-09
80	-12.2E-09	-11.0E-09	-9.8E-09	-7.3E-09	-4.9E-09	-8.5E-09	-6.1E-09
Statistics							
Min	-14.6E-09	-15.9E-09	-12.2E-09	-14.6E-09	-13.4E-09	-15.9E-09	-13.4E-09
Max	-4.9E-09	-6.1E-09	-4.9E-09	-4.9E-09	-4.9E-09	-7.3E-09	-6.1E-09
Average	-11.0E-09	-9.6E-09	-9.0E-09	-9.2E-09	-9.4E-09	-10.4E-09	-9.5E-09
Std Deviation	2.6E-09	3.1E-09	2.5E-09	2.7E-09	3.2E-09	2.8E-09	2.7E-09

Measurements

Iil<DQ[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-8.5E-09	-13.4E-09	-12.2E-09	-8.5E-09	-7.3E-09	-7.3E-09	-6.1E-09
87_OUT_REF	-11.0E-09	-4.9E-09	-6.1E-09	-8.5E-09	-9.8E-09	-9.8E-09	-11.0E-09
OFF samples							
81	-11.0E-09	-13.4E-09	-9.8E-09	-6.1E-09	-6.1E-09	-13.4E-09	-14.6E-09
82	-6.1E-09	-11.0E-09	-17.1E-09	-8.5E-09	-4.9E-09	-11.0E-09	-14.6E-09
83	-12.2E-09	-12.2E-09	-14.6E-09	-8.5E-09	-13.4E-09	-12.2E-09	-13.4E-09
84	-12.2E-09	-9.8E-09	-8.5E-09	-13.4E-09	-9.8E-09	-13.4E-09	-11.0E-09
85	-11.0E-09	-13.4E-09	-12.2E-09	-11.0E-09	-18.3E-09	-11.0E-09	-14.6E-09
Statistics							
Min	-12.2E-09	-13.4E-09	-17.1E-09	-13.4E-09	-18.3E-09	-13.4E-09	-14.6E-09
Max	-6.1E-09	-9.8E-09	-8.5E-09	-6.1E-09	-4.9E-09	-11.0E-09	-11.0E-09
Average	-10.5E-09	-12.0E-09	-12.5E-09	-9.5E-09	-10.5E-09	-12.2E-09	-13.7E-09
Std Deviation	2.5E-09	1.6E-09	3.5E-09	2.8E-09	5.5E-09	1.2E-09	1.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-28.1E-09	-25.6E-09	-22.0E-09	-25.6E-09	-24.4E-09	-23.2E-09	-29.3E-09
87_OUT_REF	-18.3E-09	-30.5E-09	-29.3E-09	-20.8E-09	-31.7E-09	-30.5E-09	-29.3E-09
ON samples							
71	-31.7E-09	-25.6E-09	-31.7E-09	-24.4E-09	-28.1E-09	-24.4E-09	-25.6E-09
72	-28.1E-09	-26.9E-09	-23.2E-09	-24.4E-09	-33.0E-09	-26.9E-09	-30.5E-09
73	-20.8E-09	-26.9E-09	-33.0E-09	-23.2E-09	-31.7E-09	-30.5E-09	-25.6E-09
74	-24.4E-09	-24.4E-09	-28.1E-09	-20.8E-09	-30.5E-09	-24.4E-09	-30.5E-09
75	-26.9E-09	-22.0E-09	-31.7E-09	-24.4E-09	-29.3E-09	-29.3E-09	-33.0E-09
76	-26.9E-09	-29.3E-09	-26.9E-09	-25.6E-09	-23.2E-09	-25.6E-09	-30.5E-09
77	-25.6E-09	-22.0E-09	-30.5E-09	-22.0E-09	-30.5E-09	-26.9E-09	-29.3E-09
78	-29.3E-09	-28.1E-09	-26.9E-09	-26.9E-09	-23.2E-09	-31.7E-09	-29.3E-09
79	-29.3E-09	-26.9E-09	-31.7E-09	-24.4E-09	-29.3E-09	-26.9E-09	-26.9E-09
80	-23.2E-09	-24.4E-09	-30.5E-09	-24.4E-09	-33.0E-09	-36.6E-09	-22.0E-09
Statistics							
Min	-31.7E-09	-29.3E-09	-33.0E-09	-26.9E-09	-33.0E-09	-36.6E-09	-33.0E-09
Max	-20.8E-09	-22.0E-09	-23.2E-09	-20.8E-09	-23.2E-09	-24.4E-09	-22.0E-09
Average	-26.6E-09	-25.6E-09	-29.4E-09	-24.0E-09	-29.2E-09	-28.3E-09	-28.3E-09
Std Deviation	3.2E-09	2.4E-09	3.1E-09	1.7E-09	3.5E-09	3.8E-09	3.2E-09

Measurements

Iil<DQ[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-28.1E-09	-25.6E-09	-22.0E-09	-25.6E-09	-24.4E-09	-23.2E-09	-29.3E-09
87_OUT_REF	-18.3E-09	-30.5E-09	-29.3E-09	-20.8E-09	-31.7E-09	-30.5E-09	-29.3E-09
OFF samples							
81	-23.2E-09	-24.4E-09	-28.1E-09	-26.9E-09	-34.2E-09	-31.7E-09	-26.9E-09
82	-29.3E-09	-31.7E-09	-29.3E-09	-28.1E-09	-28.1E-09	-30.5E-09	-28.1E-09
83	-23.2E-09	-25.6E-09	-30.5E-09	-23.2E-09	-26.9E-09	-28.1E-09	-29.3E-09
84	-23.2E-09	-28.1E-09	-28.1E-09	-24.4E-09	-25.6E-09	-29.3E-09	-26.9E-09
85	-26.9E-09	-25.6E-09	-23.2E-09	-25.6E-09	-30.5E-09	-25.6E-09	-26.9E-09
Statistics							
Min	-29.3E-09	-31.7E-09	-30.5E-09	-28.1E-09	-34.2E-09	-31.7E-09	-29.3E-09
Max	-23.2E-09	-24.4E-09	-23.2E-09	-23.2E-09	-25.6E-09	-25.6E-09	-26.9E-09
Average	-25.1E-09	-27.1E-09	-27.8E-09	-25.6E-09	-29.1E-09	-29.1E-09	-27.6E-09
Std Deviation	2.8E-09	2.9E-09	2.8E-09	1.9E-09	3.4E-09	2.3E-09	1.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-36.6E-09	-31.7E-09	-34.2E-09	-36.6E-09	-35.4E-09	-33.0E-09
87_OUT_REF	-36.6E-09	-33.0E-09	-28.1E-09	-33.0E-09	-31.7E-09	-31.7E-09	-29.3E-09
ON samples							
71	-36.6E-09	-30.5E-09	-34.2E-09	-41.5E-09	-35.4E-09	-35.4E-09	-29.3E-09
72	-31.7E-09	-33.0E-09	-34.2E-09	-37.8E-09	-35.4E-09	-33.0E-09	-30.5E-09
73	-35.4E-09	-34.2E-09	-39.1E-09	-36.6E-09	-36.6E-09	-28.1E-09	-35.4E-09
74	-37.8E-09	-37.8E-09	-34.2E-09	-34.2E-09	-35.4E-09	-29.3E-09	-34.2E-09
75	-35.4E-09	-39.1E-09	-37.8E-09	-37.8E-09	-34.2E-09	-34.2E-09	-33.0E-09
76	-31.7E-09	-37.8E-09	-34.2E-09	-37.8E-09	-33.0E-09	-30.5E-09	-31.7E-09
77	-30.5E-09	-28.1E-09	-33.0E-09	-39.1E-09	-35.4E-09	-30.5E-09	-33.0E-09
78	-40.3E-09	-36.6E-09	-37.8E-09	-39.1E-09	-33.0E-09	-35.4E-09	-37.8E-09
79	-31.7E-09	-31.7E-09	-37.8E-09	-33.0E-09	-33.0E-09	-34.2E-09	-35.4E-09
80	-36.6E-09	-35.4E-09	-39.1E-09	-33.0E-09	-33.0E-09	-30.5E-09	-31.7E-09
Statistics							
Min	-40.3E-09	-39.1E-09	-39.1E-09	-41.5E-09	-36.6E-09	-35.4E-09	-37.8E-09
Max	-30.5E-09	-28.1E-09	-33.0E-09	-33.0E-09	-33.0E-09	-28.1E-09	-29.3E-09
Average	-34.8E-09	-34.4E-09	-36.1E-09	-37.0E-09	-34.4E-09	-32.1E-09	-33.2E-09
Std Deviation	3.2E-09	3.6E-09	2.4E-09	2.8E-09	1.4E-09	2.6E-09	2.6E-09

Measurements

Iil<DQ[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-34.2E-09	-36.6E-09	-31.7E-09	-34.2E-09	-36.6E-09	-35.4E-09	-33.0E-09
87_OUT_REF	-36.6E-09	-33.0E-09	-28.1E-09	-33.0E-09	-31.7E-09	-31.7E-09	-29.3E-09
OFF samples							
81	-28.1E-09	-39.1E-09	-39.1E-09	-34.2E-09	-31.7E-09	-29.3E-09	-34.2E-09
82	-37.8E-09	-33.0E-09	-36.6E-09	-30.5E-09	-33.0E-09	-29.3E-09	-33.0E-09
83	-31.7E-09	-35.4E-09	-30.5E-09	-41.5E-09	-30.5E-09	-31.7E-09	-34.2E-09
84	-35.4E-09	-36.6E-09	-34.2E-09	-40.3E-09	-34.2E-09	-30.5E-09	-30.5E-09
85	-37.8E-09	-30.5E-09	-40.3E-09	-37.8E-09	-33.0E-09	-29.3E-09	-30.5E-09
Statistics							
Min	-37.8E-09	-39.1E-09	-40.3E-09	-41.5E-09	-34.2E-09	-31.7E-09	-34.2E-09
Max	-28.1E-09	-30.5E-09	-30.5E-09	-30.5E-09	-30.5E-09	-29.3E-09	-30.5E-09
Average	-34.2E-09	-34.9E-09	-36.1E-09	-36.9E-09	-32.5E-09	-30.0E-09	-32.5E-09
Std Deviation	4.2E-09	3.3E-09	3.9E-09	4.5E-09	1.4E-09	1.1E-09	1.9E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-31.7E-09	-31.7E-09	-23.2E-09	-30.5E-09	-31.7E-09	-30.5E-09	-29.3E-09
87_OUT_REF	-29.3E-09	-30.5E-09	-24.4E-09	-33.0E-09	-29.3E-09	-28.1E-09	-31.7E-09
ON samples							
71	-25.6E-09	-34.2E-09	-26.9E-09	-30.5E-09	-24.4E-09	-29.3E-09	-25.6E-09
72	-26.9E-09	-29.3E-09	-30.5E-09	-35.4E-09	-26.9E-09	-24.4E-09	-29.3E-09
73	-33.0E-09	-30.5E-09	-31.7E-09	-26.9E-09	-22.0E-09	-30.5E-09	-25.6E-09
74	-26.9E-09	-30.5E-09	-33.0E-09	-26.9E-09	-33.0E-09	-29.3E-09	-25.6E-09
75	-28.1E-09	-29.3E-09	-30.5E-09	-33.0E-09	-30.5E-09	-33.0E-09	-24.4E-09
76	-29.3E-09	-34.2E-09	-30.5E-09	-31.7E-09	-24.4E-09	-29.3E-09	-30.5E-09
77	-28.1E-09	-28.1E-09	-29.3E-09	-30.5E-09	-26.9E-09	-25.6E-09	-30.5E-09
78	-26.9E-09	-24.4E-09	-28.1E-09	-25.6E-09	-29.3E-09	-26.9E-09	-24.4E-09
79	-30.5E-09	-30.5E-09	-26.9E-09	-29.3E-09	-29.3E-09	-25.6E-09	-29.3E-09
80	-33.0E-09	-30.5E-09	-31.7E-09	-31.7E-09	-28.1E-09	-29.3E-09	-23.2E-09
Statistics							
Min	-33.0E-09	-34.2E-09	-33.0E-09	-35.4E-09	-33.0E-09	-33.0E-09	-30.5E-09
Max	-25.6E-09	-24.4E-09	-26.9E-09	-25.6E-09	-22.0E-09	-24.4E-09	-23.2E-09
Average	-28.8E-09	-30.2E-09	-29.9E-09	-30.2E-09	-27.5E-09	-28.3E-09	-26.9E-09
Std Deviation	2.6E-09	2.8E-09	2.1E-09	3.0E-09	3.3E-09	2.6E-09	2.8E-09

Measurements

Iil<DQ[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-31.7E-09	-31.7E-09	-23.2E-09	-30.5E-09	-31.7E-09	-30.5E-09	-29.3E-09
87_OUT_REF	-29.3E-09	-30.5E-09	-24.4E-09	-33.0E-09	-29.3E-09	-28.1E-09	-31.7E-09
OFF samples							
81	-25.6E-09	-31.7E-09	-30.5E-09	-31.7E-09	-30.5E-09	-23.2E-09	-30.5E-09
82	-28.1E-09	-30.5E-09	-31.7E-09	-28.1E-09	-33.0E-09	-28.1E-09	-28.1E-09
83	-24.4E-09	-34.2E-09	-25.6E-09	-30.5E-09	-29.3E-09	-29.3E-09	-22.0E-09
84	-28.1E-09	-30.5E-09	-31.7E-09	-28.1E-09	-30.5E-09	-24.4E-09	-29.3E-09
85	-26.9E-09	-29.3E-09	-25.6E-09	-28.1E-09	-29.3E-09	-24.4E-09	-25.6E-09
Statistics							
Min	-28.1E-09	-34.2E-09	-31.7E-09	-31.7E-09	-33.0E-09	-29.3E-09	-30.5E-09
Max	-24.4E-09	-29.3E-09	-25.6E-09	-28.1E-09	-29.3E-09	-23.2E-09	-22.0E-09
Average	-26.6E-09	-31.3E-09	-29.1E-09	-29.3E-09	-30.5E-09	-25.9E-09	-27.1E-09
Std Deviation	1.6E-09	1.9E-09	3.2E-09	1.7E-09	1.5E-09	2.6E-09	3.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-29.3E-09	-24.4E-09	-25.6E-09	-23.2E-09	-25.6E-09	-30.5E-09
87_OUT_REF	-26.9E-09	-25.6E-09	-25.6E-09	-19.5E-09	-24.4E-09	-26.9E-09	-25.6E-09
ON samples							
71	-26.9E-09	-29.3E-09	-19.5E-09	-24.4E-09	-29.3E-09	-18.3E-09	-24.4E-09
72	-24.4E-09	-20.8E-09	-23.2E-09	-20.8E-09	-29.3E-09	-25.6E-09	-24.4E-09
73	-25.6E-09	-18.3E-09	-23.2E-09	-17.1E-09	-29.3E-09	-25.6E-09	-28.1E-09
74	-23.2E-09	-29.3E-09	-26.9E-09	-25.6E-09	-24.4E-09	-25.6E-09	-29.3E-09
75	-24.4E-09	-25.6E-09	-24.4E-09	-19.5E-09	-25.6E-09	-26.9E-09	-26.9E-09
76	-23.2E-09	-26.9E-09	-24.4E-09	-28.1E-09	-23.2E-09	-25.6E-09	-22.0E-09
77	-18.3E-09	-23.2E-09	-23.2E-09	-24.4E-09	-23.2E-09	-20.8E-09	-24.4E-09
78	-23.2E-09	-22.0E-09	-24.4E-09	-28.1E-09	-31.7E-09	-25.6E-09	-20.8E-09
79	-26.9E-09	-23.2E-09	-23.2E-09	-24.4E-09	-24.4E-09	-25.6E-09	-19.5E-09
80	-17.1E-09	-25.6E-09	-24.4E-09	-22.0E-09	-28.1E-09	-26.9E-09	-20.8E-09
Statistics							
Min	-26.9E-09	-29.3E-09	-26.9E-09	-28.1E-09	-31.7E-09	-26.9E-09	-29.3E-09
Max	-17.1E-09	-18.3E-09	-19.5E-09	-17.1E-09	-23.2E-09	-18.3E-09	-19.5E-09
Average	-23.3E-09	-24.4E-09	-23.7E-09	-23.4E-09	-26.9E-09	-24.7E-09	-24.0E-09
Std Deviation	3.3E-09	3.6E-09	1.8E-09	3.6E-09	3.0E-09	2.8E-09	3.3E-09

Measurements

Iil<DQ[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-29.3E-09	-24.4E-09	-25.6E-09	-23.2E-09	-25.6E-09	-30.5E-09
87_OUT_REF	-26.9E-09	-25.6E-09	-25.6E-09	-19.5E-09	-24.4E-09	-26.9E-09	-25.6E-09
OFF samples							
81	-29.3E-09	-24.4E-09	-28.1E-09	-26.9E-09	-25.6E-09	-25.6E-09	-24.4E-09
82	-25.6E-09	-24.4E-09	-25.6E-09	-19.5E-09	-25.6E-09	-24.4E-09	-25.6E-09
83	-24.4E-09	-26.9E-09	-18.3E-09	-24.4E-09	-25.6E-09	-24.4E-09	-24.4E-09
84	-23.2E-09	-20.8E-09	-24.4E-09	-24.4E-09	-29.3E-09	-29.3E-09	-25.6E-09
85	-24.4E-09	-20.8E-09	-25.6E-09	-22.0E-09	-26.9E-09	-29.3E-09	-20.8E-09
Statistics							
Min	-29.3E-09	-26.9E-09	-28.1E-09	-26.9E-09	-29.3E-09	-29.3E-09	-25.6E-09
Max	-23.2E-09	-20.8E-09	-18.3E-09	-19.5E-09	-25.6E-09	-24.4E-09	-20.8E-09
Average	-25.4E-09	-23.4E-09	-24.4E-09	-23.4E-09	-26.6E-09	-26.6E-09	-24.2E-09
Std Deviation	2.3E-09	2.6E-09	3.7E-09	2.8E-09	1.6E-09	2.5E-09	2.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-22.0E-09	-28.1E-09	-26.9E-09	-24.4E-09	-25.6E-09	-26.9E-09	-28.1E-09
87_OUT_REF	-22.0E-09	-26.9E-09	-26.9E-09	-23.2E-09	-24.4E-09	-31.7E-09	-24.4E-09
ON samples							
71	-29.3E-09	-23.2E-09	-23.2E-09	-15.9E-09	-30.5E-09	-26.9E-09	-29.3E-09
72	-25.6E-09	-24.4E-09	-24.4E-09	-18.3E-09	-28.1E-09	-26.9E-09	-25.6E-09
73	-22.0E-09	-24.4E-09	-20.8E-09	-23.2E-09	-23.2E-09	-28.1E-09	-26.9E-09
74	-26.9E-09	-31.7E-09	-23.2E-09	-25.6E-09	-25.6E-09	-20.8E-09	-25.6E-09
75	-29.3E-09	-25.6E-09	-26.9E-09	-22.0E-09	-20.8E-09	-25.6E-09	-25.6E-09
76	-30.5E-09	-20.8E-09	-30.5E-09	-20.8E-09	-29.3E-09	-24.4E-09	-29.3E-09
77	-26.9E-09	-26.9E-09	-23.2E-09	-24.4E-09	-22.0E-09	-24.4E-09	-26.9E-09
78	-29.3E-09	-23.2E-09	-22.0E-09	-23.2E-09	-31.7E-09	-30.5E-09	-28.1E-09
79	-28.1E-09	-29.3E-09	-24.4E-09	-22.0E-09	-25.6E-09	-30.5E-09	-23.2E-09
80	-25.6E-09	-19.5E-09	-19.5E-09	-18.3E-09	-31.7E-09	-20.8E-09	-20.8E-09
Statistics							
Min	-30.5E-09	-31.7E-09	-30.5E-09	-25.6E-09	-31.7E-09	-30.5E-09	-29.3E-09
Max	-22.0E-09	-19.5E-09	-19.5E-09	-15.9E-09	-20.8E-09	-20.8E-09	-20.8E-09
Average	-27.3E-09	-24.9E-09	-23.8E-09	-21.4E-09	-26.9E-09	-25.9E-09	-26.1E-09
Std Deviation	2.5E-09	3.7E-09	3.1E-09	3.1E-09	4.0E-09	3.4E-09	2.6E-09

Measurements

Iil<DQ[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-22.0E-09	-28.1E-09	-26.9E-09	-24.4E-09	-25.6E-09	-26.9E-09	-28.1E-09
87_OUT_REF	-22.0E-09	-26.9E-09	-26.9E-09	-23.2E-09	-24.4E-09	-31.7E-09	-24.4E-09
OFF samples							
81	-23.2E-09	-19.5E-09	-25.6E-09	-20.8E-09	-28.1E-09	-22.0E-09	-26.9E-09
82	-23.2E-09	-28.1E-09	-20.8E-09	-23.2E-09	-25.6E-09	-31.7E-09	-31.7E-09
83	-22.0E-09	-22.0E-09	-25.6E-09	-22.0E-09	-29.3E-09	-26.9E-09	-30.5E-09
84	-25.6E-09	-25.6E-09	-22.0E-09	-19.5E-09	-26.9E-09	-19.5E-09	-28.1E-09
85	-25.6E-09	-24.4E-09	-30.5E-09	-13.4E-09	-28.1E-09	-20.8E-09	-23.2E-09
Statistics							
Min	-25.6E-09	-28.1E-09	-30.5E-09	-23.2E-09	-29.3E-09	-31.7E-09	-31.7E-09
Max	-22.0E-09	-19.5E-09	-20.8E-09	-13.4E-09	-25.6E-09	-19.5E-09	-23.2E-09
Average	-23.9E-09	-23.9E-09	-24.9E-09	-19.8E-09	-27.6E-09	-24.2E-09	-28.1E-09
Std Deviation	1.6E-09	3.3E-09	3.8E-09	3.8E-09	1.4E-09	5.1E-09	3.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-18.3E-09	-20.8E-09	-15.9E-09	-15.9E-09	-19.5E-09	-18.3E-09	-22.0E-09
87_OUT_REF	-13.4E-09	-23.2E-09	-23.2E-09	-17.1E-09	-19.5E-09	-19.5E-09	-18.3E-09
ON samples							
71	-18.3E-09	-12.2E-09	-22.0E-09	-19.5E-09	-19.5E-09	-23.2E-09	-17.1E-09
72	-23.2E-09	-19.5E-09	-22.0E-09	-19.5E-09	-23.2E-09	-18.3E-09	-20.8E-09
73	-19.5E-09	-18.3E-09	-23.2E-09	-15.9E-09	-19.5E-09	-20.8E-09	-18.3E-09
74	-17.1E-09	-22.0E-09	-20.8E-09	-19.5E-09	-22.0E-09	-24.4E-09	-19.5E-09
75	-19.5E-09	-17.1E-09	-24.4E-09	-20.8E-09	-18.3E-09	-22.0E-09	-20.8E-09
76	-20.8E-09	-14.6E-09	-12.2E-09	-18.3E-09	-22.0E-09	-23.2E-09	-23.2E-09
77	-24.4E-09	-14.6E-09	-18.3E-09	-20.8E-09	-26.9E-09	-20.8E-09	-19.5E-09
78	-18.3E-09	-22.0E-09	-23.2E-09	-22.0E-09	-17.1E-09	-18.3E-09	-23.2E-09
79	-19.5E-09	-17.1E-09	-22.0E-09	-17.1E-09	-19.5E-09	-18.3E-09	-17.1E-09
80	-17.1E-09	-19.5E-09	-20.8E-09	-19.5E-09	-15.9E-09	-24.4E-09	-24.4E-09
Statistics							
Min	-24.4E-09	-22.0E-09	-24.4E-09	-22.0E-09	-26.9E-09	-24.4E-09	-24.4E-09
Max	-17.1E-09	-12.2E-09	-12.2E-09	-15.9E-09	-15.9E-09	-18.3E-09	-17.1E-09
Average	-19.8E-09	-17.7E-09	-20.9E-09	-19.3E-09	-20.4E-09	-21.4E-09	-20.4E-09
Std Deviation	2.4E-09	3.2E-09	3.5E-09	1.8E-09	3.2E-09	2.5E-09	2.6E-09

Measurements

Iil<DQ[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-18.3E-09	-20.8E-09	-15.9E-09	-15.9E-09	-19.5E-09	-18.3E-09	-22.0E-09
87_OUT_REF	-13.4E-09	-23.2E-09	-23.2E-09	-17.1E-09	-19.5E-09	-19.5E-09	-18.3E-09
OFF samples							
81	-23.2E-09	-23.2E-09	-19.5E-09	-20.8E-09	-17.1E-09	-19.5E-09	-17.1E-09
82	-17.1E-09	-20.8E-09	-24.4E-09	-18.3E-09	-17.1E-09	-22.0E-09	-24.4E-09
83	-20.8E-09	-17.1E-09	-15.9E-09	-19.5E-09	-12.2E-09	-22.0E-09	-17.1E-09
84	-20.8E-09	-23.2E-09	-19.5E-09	-20.8E-09	-14.6E-09	-20.8E-09	-15.9E-09
85	-19.5E-09	-24.4E-09	-14.6E-09	-25.6E-09	-17.1E-09	-20.8E-09	-20.8E-09
Statistics							
Min	-23.2E-09	-24.4E-09	-24.4E-09	-25.6E-09	-17.1E-09	-22.0E-09	-24.4E-09
Max	-17.1E-09	-17.1E-09	-14.6E-09	-18.3E-09	-12.2E-09	-19.5E-09	-15.9E-09
Average	-20.3E-09	-21.7E-09	-18.8E-09	-21.0E-09	-15.6E-09	-21.0E-09	-19.0E-09
Std Deviation	2.2E-09	2.9E-09	3.8E-09	2.8E-09	2.2E-09	1.0E-09	3.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-19.5E-09	-18.3E-09	-22.0E-09	-17.1E-09	-12.2E-09	-19.5E-09
87_OUT_REF	-12.2E-09	-15.9E-09	-13.4E-09	-20.8E-09	-14.6E-09	-15.9E-09	-17.1E-09
ON samples							
71	-17.1E-09	-17.1E-09	-15.9E-09	-19.5E-09	-18.3E-09	-14.6E-09	-14.6E-09
72	-14.6E-09	-17.1E-09	-17.1E-09	-18.3E-09	-19.5E-09	-14.6E-09	-17.1E-09
73	-19.5E-09	-19.5E-09	-18.3E-09	-13.4E-09	-14.6E-09	-18.3E-09	-15.9E-09
74	-18.3E-09	-18.3E-09	-15.9E-09	-15.9E-09	-18.3E-09	-14.6E-09	-17.1E-09
75	-13.4E-09	-12.2E-09	-14.6E-09	-15.9E-09	-18.3E-09	-14.6E-09	-18.3E-09
76	-15.9E-09	-17.1E-09	-18.3E-09	-17.1E-09	-17.1E-09	-18.3E-09	-18.3E-09
77	-18.3E-09	-14.6E-09	-18.3E-09	-20.8E-09	-19.5E-09	-19.5E-09	-15.9E-09
78	-15.9E-09	-12.2E-09	-12.2E-09	-19.5E-09	-14.6E-09	-14.6E-09	-17.1E-09
79	-13.4E-09	-14.6E-09	-19.5E-09	-20.8E-09	-14.6E-09	-14.6E-09	-15.9E-09
80	-15.9E-09	-14.6E-09	-19.5E-09	-19.5E-09	-11.0E-09	-17.1E-09	-14.6E-09
Statistics							
Min	-19.5E-09	-19.5E-09	-19.5E-09	-20.8E-09	-19.5E-09	-19.5E-09	-18.3E-09
Max	-13.4E-09	-12.2E-09	-12.2E-09	-13.4E-09	-11.0E-09	-14.6E-09	-14.6E-09
Average	-16.2E-09	-15.7E-09	-17.0E-09	-18.1E-09	-16.6E-09	-16.1E-09	-16.5E-09
Std Deviation	2.1E-09	2.5E-09	2.3E-09	2.4E-09	2.8E-09	2.0E-09	1.3E-09

Measurements

Iil<DQS/>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-19.5E-09	-18.3E-09	-22.0E-09	-17.1E-09	-12.2E-09	-19.5E-09
87_OUT_REF	-12.2E-09	-15.9E-09	-13.4E-09	-20.8E-09	-14.6E-09	-15.9E-09	-17.1E-09
OFF samples							
81	-18.3E-09	-13.4E-09	-19.5E-09	-22.0E-09	-13.4E-09	-12.2E-09	-17.1E-09
82	-19.5E-09	-14.6E-09	-14.6E-09	-22.0E-09	-17.1E-09	-17.1E-09	-17.1E-09
83	-13.4E-09	-19.5E-09	-14.6E-09	-18.3E-09	-11.0E-09	-14.6E-09	-22.0E-09
84	-17.1E-09	-19.5E-09	-20.8E-09	-17.1E-09	-17.1E-09	-17.1E-09	-14.6E-09
85	-11.0E-09	-12.2E-09	-19.5E-09	-20.8E-09	-14.6E-09	-13.4E-09	-18.3E-09
Statistics							
Min	-19.5E-09	-19.5E-09	-20.8E-09	-22.0E-09	-17.1E-09	-17.1E-09	-22.0E-09
Max	-11.0E-09	-12.2E-09	-14.6E-09	-17.1E-09	-11.0E-09	-12.2E-09	-14.6E-09
Average	-15.9E-09	-15.9E-09	-17.8E-09	-20.0E-09	-14.6E-09	-14.9E-09	-17.8E-09
Std Deviation	3.6E-09	3.5E-09	2.9E-09	2.2E-09	2.6E-09	2.2E-09	2.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-18.3E-09	-20.8E-09	-25.6E-09	-20.8E-09	-15.9E-09	-15.9E-09
87_OUT_REF	-23.2E-09	-18.3E-09	-15.9E-09	-23.2E-09	-17.1E-09	-20.8E-09	-20.8E-09
ON samples							
71	-20.8E-09	-19.5E-09	-17.1E-09	-20.8E-09	-18.3E-09	-18.3E-09	-15.9E-09
72	-19.5E-09	-17.1E-09	-19.5E-09	-25.6E-09	-20.8E-09	-20.8E-09	-20.8E-09
73	-26.9E-09	-24.4E-09	-17.1E-09	-24.4E-09	-22.0E-09	-19.5E-09	-17.1E-09
74	-19.5E-09	-20.8E-09	-22.0E-09	-22.0E-09	-22.0E-09	-15.9E-09	-19.5E-09
75	-23.2E-09	-20.8E-09	-19.5E-09	-20.8E-09	-17.1E-09	-17.1E-09	-20.8E-09
76	-24.4E-09	-19.5E-09	-23.2E-09	-20.8E-09	-19.5E-09	-19.5E-09	-19.5E-09
77	-17.1E-09	-22.0E-09	-18.3E-09	-24.4E-09	-22.0E-09	-22.0E-09	-17.1E-09
78	-18.3E-09	-20.8E-09	-19.5E-09	-22.0E-09	-15.9E-09	-15.9E-09	-20.8E-09
79	-24.4E-09	-18.3E-09	-24.4E-09	-22.0E-09	-24.4E-09	-20.8E-09	-23.2E-09
80	-18.3E-09	-22.0E-09	-18.3E-09	-23.2E-09	-17.1E-09	-22.0E-09	-20.8E-09
Statistics							
Min	-26.9E-09	-24.4E-09	-24.4E-09	-25.6E-09	-24.4E-09	-22.0E-09	-23.2E-09
Max	-17.1E-09	-17.1E-09	-17.1E-09	-20.8E-09	-15.9E-09	-15.9E-09	-15.9E-09
Average	-21.2E-09	-20.5E-09	-19.9E-09	-22.6E-09	-19.9E-09	-19.2E-09	-19.5E-09
Std Deviation	3.3E-09	2.1E-09	2.5E-09	1.8E-09	2.8E-09	2.3E-09	2.2E-09

Measurements

Iil<DQS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-20.8E-09	-18.3E-09	-20.8E-09	-25.6E-09	-20.8E-09	-15.9E-09	-15.9E-09
87_OUT_REF	-23.2E-09	-18.3E-09	-15.9E-09	-23.2E-09	-17.1E-09	-20.8E-09	-20.8E-09
OFF samples							
81	-23.2E-09	-22.0E-09	-18.3E-09	-22.0E-09	-18.3E-09	-19.5E-09	-23.2E-09
82	-19.5E-09	-19.5E-09	-20.8E-09	-20.8E-09	-18.3E-09	-15.9E-09	-18.3E-09
83	-18.3E-09	-22.0E-09	-24.4E-09	-26.9E-09	-19.5E-09	-20.8E-09	-18.3E-09
84	-22.0E-09	-24.4E-09	-23.2E-09	-20.8E-09	-19.5E-09	-19.5E-09	-18.3E-09
85	-20.8E-09	-17.1E-09	-23.2E-09	-18.3E-09	-19.5E-09	-18.3E-09	-15.9E-09
Statistics							
Min	-23.2E-09	-24.4E-09	-24.4E-09	-26.9E-09	-19.5E-09	-20.8E-09	-23.2E-09
Max	-18.3E-09	-17.1E-09	-18.3E-09	-18.3E-09	-18.3E-09	-15.9E-09	-15.9E-09
Average	-20.8E-09	-21.0E-09	-22.0E-09	-21.7E-09	-19.0E-09	-18.8E-09	-18.8E-09
Std Deviation	1.9E-09	2.8E-09	2.4E-09	3.2E-09	668.2E-12	1.9E-09	2.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.1E-09	-1.4E-09	-2.9E-09	-4.4E-09	-9.0E-09	-2.9E-09	-4.4E-09
87_OUT_REF	-5.9E-09	173.3E-12	-589.6E-12	-5.9E-09	-5.9E-09	-1.4E-09	-6.7E-09
ON samples							
71	-3.6E-09	-4.4E-09	-8.2E-09	-6.7E-09	-7.5E-09	-6.7E-09	-2.9E-09
72	-2.9E-09	-10.5E-09	-2.9E-09	-5.2E-09	-5.2E-09	-3.6E-09	-2.9E-09
73	-5.2E-09	-2.1E-09	-5.2E-09	-4.4E-09	-2.9E-09	-7.5E-09	-9.0E-09
74	-2.1E-09	-2.1E-09	-8.2E-09	-1.4E-09	-8.2E-09	-9.0E-09	-6.7E-09
75	173.3E-12	-6.7E-09	-6.7E-09	-2.9E-09	-9.0E-09	-5.9E-09	-2.9E-09
76	-589.6E-12	-6.7E-09	-3.6E-09	-589.6E-12	-2.9E-09	-7.5E-09	-10.5E-09
77	-9.0E-09	-5.9E-09	-9.7E-09	-5.9E-09	-2.1E-09	-7.5E-09	-5.2E-09
78	-9.7E-09	-4.4E-09	-2.9E-09	-3.6E-09	-8.2E-09	-9.7E-09	-2.9E-09
79	-4.4E-09	-4.4E-09	-8.2E-09	-5.2E-09	-5.9E-09	-2.1E-09	-589.6E-12
80	-5.9E-09	-3.6E-09	-5.2E-09	-5.2E-09	-6.7E-09	-3.6E-09	-5.2E-09
Statistics							
Min	-9.7E-09	-10.5E-09	-9.7E-09	-6.7E-09	-9.0E-09	-9.7E-09	-10.5E-09
Max	173.3E-12	-2.1E-09	-2.9E-09	-589.6E-12	-2.1E-09	-2.1E-09	-589.6E-12
Average	-4.3E-09	-5.1E-09	-6.1E-09	-4.1E-09	-5.9E-09	-6.3E-09	-4.9E-09
Std Deviation	3.3E-09	2.5E-09	2.5E-09	2.0E-09	2.5E-09	2.5E-09	3.1E-09

Measurements

Iil<ODT>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.1E-09	-1.4E-09	-2.9E-09	-4.4E-09	-9.0E-09	-2.9E-09	-4.4E-09
87_OUT_REF	-5.9E-09	173.3E-12	-589.6E-12	-5.9E-09	-5.9E-09	-1.4E-09	-6.7E-09
OFF samples							
81	-5.2E-09	-3.6E-09	-5.9E-09	-5.2E-09	-3.6E-09	-2.9E-09	-5.2E-09
82	-6.7E-09	-4.4E-09	-6.7E-09	-5.2E-09	-6.7E-09	-589.6E-12	-5.2E-09
83	-10.5E-09	-7.5E-09	-3.6E-09	-2.1E-09	-10.5E-09	-3.6E-09	-3.6E-09
84	-5.9E-09	-4.4E-09	-1.4E-09	173.3E-12	-2.9E-09	-4.4E-09	-3.6E-09
85	-8.2E-09	-589.6E-12	-6.7E-09	-3.6E-09	-589.6E-12	-5.2E-09	-4.4E-09
Statistics							
Min	-10.5E-09	-7.5E-09	-6.7E-09	-5.2E-09	-10.5E-09	-5.2E-09	-5.2E-09
Max	-5.2E-09	-589.6E-12	-1.4E-09	173.3E-12	-589.6E-12	-589.6E-12	-3.6E-09
Average	-7.3E-09	-4.1E-09	-4.9E-09	-3.2E-09	-4.9E-09	-3.3E-09	-4.4E-09
Std Deviation	2.1E-09	2.4E-09	2.3E-09	2.3E-09	3.8E-09	1.8E-09	762.9E-12

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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-23.2E-09	-24.4E-09	-19.5E-09	-23.2E-09	-20.8E-09	-17.1E-09
87_OUT_REF	-26.9E-09	-28.1E-09	-18.3E-09	-19.5E-09	-20.8E-09	-19.5E-09	-29.3E-09
ON samples							
71	-25.6E-09	-20.8E-09	-22.0E-09	-24.4E-09	-23.2E-09	-20.8E-09	-26.9E-09
72	-18.3E-09	-25.6E-09	-20.8E-09	-20.8E-09	-24.4E-09	-24.4E-09	-20.8E-09
73	-25.6E-09	-26.9E-09	-23.2E-09	-15.9E-09	-28.1E-09	-29.3E-09	-34.2E-09
74	-25.6E-09	-15.9E-09	-23.2E-09	-23.2E-09	-25.6E-09	-23.2E-09	-19.5E-09
75	-22.0E-09	-29.3E-09	-23.2E-09	-26.9E-09	-30.5E-09	-18.3E-09	-23.2E-09
76	-22.0E-09	-20.8E-09	-17.1E-09	-24.4E-09	-20.8E-09	-28.1E-09	-29.3E-09
77	-24.4E-09	-22.0E-09	-17.1E-09	-25.6E-09	-24.4E-09	-29.3E-09	-19.5E-09
78	-19.5E-09	-29.3E-09	-13.4E-09	-24.4E-09	-29.3E-09	-25.6E-09	-20.8E-09
79	-18.3E-09	-30.5E-09	-20.8E-09	-29.3E-09	-29.3E-09	-29.3E-09	-25.6E-09
80	-17.1E-09	-29.3E-09	-23.2E-09	-17.1E-09	-23.2E-09	-28.1E-09	-26.9E-09
Statistics							
Min	-25.6E-09	-30.5E-09	-23.2E-09	-29.3E-09	-30.5E-09	-29.3E-09	-34.2E-09
Max	-17.1E-09	-15.9E-09	-13.4E-09	-15.9E-09	-20.8E-09	-18.3E-09	-19.5E-09
Average	-21.9E-09	-25.0E-09	-20.4E-09	-23.2E-09	-25.9E-09	-25.6E-09	-24.7E-09
Std Deviation	3.4E-09	4.9E-09	3.4E-09	4.2E-09	3.2E-09	3.9E-09	4.8E-09

Measurements

Iih</CAS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-23.2E-09	-24.4E-09	-19.5E-09	-23.2E-09	-20.8E-09	-17.1E-09
87_OUT_REF	-26.9E-09	-28.1E-09	-18.3E-09	-19.5E-09	-20.8E-09	-19.5E-09	-29.3E-09
OFF samples							
81	-28.1E-09	-14.6E-09	-30.5E-09	-25.6E-09	-23.2E-09	-24.4E-09	-28.1E-09
82	-28.1E-09	-22.0E-09	-26.9E-09	-20.8E-09	-23.2E-09	-28.1E-09	-26.9E-09
83	-24.4E-09	-23.2E-09	-26.9E-09	-18.3E-09	-25.6E-09	-30.5E-09	-24.4E-09
84	-23.2E-09	-23.2E-09	-26.9E-09	-20.8E-09	-23.2E-09	-20.8E-09	-25.6E-09
85	-19.5E-09	-28.1E-09	-17.1E-09	-29.3E-09	-23.2E-09	-19.5E-09	-29.3E-09
Statistics							
Min	-28.1E-09	-28.1E-09	-30.5E-09	-29.3E-09	-25.6E-09	-30.5E-09	-29.3E-09
Max	-19.5E-09	-14.6E-09	-17.1E-09	-18.3E-09	-23.2E-09	-19.5E-09	-24.4E-09
Average	-24.7E-09	-22.2E-09	-25.6E-09	-22.9E-09	-23.7E-09	-24.7E-09	-26.9E-09
Std Deviation	3.6E-09	4.8E-09	5.0E-09	4.4E-09	1.1E-09	4.7E-09	1.9E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-6.1E-09	-9.8E-09	-4.9E-09	-6.1E-09	-13.4E-09	-11.0E-09
87_OUT_REF	-14.6E-09	-12.2E-09	-14.6E-09	-8.5E-09	-13.4E-09	-17.1E-09	-13.4E-09
ON samples							
71	-12.2E-09	-6.1E-09	-7.3E-09	-14.6E-09	-12.2E-09	-12.2E-09	-6.1E-09
72	-4.9E-09	-9.8E-09	-7.3E-09	-4.9E-09	-18.3E-09	-14.6E-09	-17.1E-09
73	-7.3E-09	-8.5E-09	-6.1E-09	-4.9E-09	-14.6E-09	-7.3E-09	-6.1E-09
74	-8.5E-09	-13.4E-09	-8.5E-09	-4.9E-09	-7.3E-09	-14.6E-09	-12.2E-09
75	-8.5E-09	-2.4E-09	-8.5E-09	-9.8E-09	-15.9E-09	-14.6E-09	-8.5E-09
76	-9.8E-09	-8.5E-09	-15.9E-09	-9.8E-09	-8.5E-09	-11.0E-09	-2.4E-09
77	-2.4E-09	-4.9E-09	-9.8E-09	-14.6E-09	-14.6E-09	-17.1E-09	-3.7E-09
78	-8.5E-09	-8.5E-09	-12.2E-09	-7.3E-09	-8.5E-09	-9.8E-09	-11.0E-09
79	-12.2E-09	-12.2E-09	-8.5E-09	-8.5E-09	-12.2E-09	-7.3E-09	-9.8E-09
80	-6.1E-09	-12.2E-09	-11.0E-09	-7.3E-09	-12.2E-09	-15.9E-09	-8.5E-09
Statistics							
Min	-12.2E-09	-13.4E-09	-15.9E-09	-14.6E-09	-18.3E-09	-17.1E-09	-17.1E-09
Max	-2.4E-09	-2.4E-09	-6.1E-09	-4.9E-09	-7.3E-09	-7.3E-09	-2.4E-09
Average	-8.1E-09	-8.7E-09	-9.5E-09	-8.7E-09	-12.5E-09	-12.5E-09	-8.5E-09
Std Deviation	3.1E-09	3.5E-09	2.9E-09	3.7E-09	3.5E-09	3.5E-09	4.3E-09

Measurements

Iih</CS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-6.1E-09	-9.8E-09	-4.9E-09	-6.1E-09	-13.4E-09	-11.0E-09
87_OUT_REF	-14.6E-09	-12.2E-09	-14.6E-09	-8.5E-09	-13.4E-09	-17.1E-09	-13.4E-09
OFF samples							
81	-15.9E-09	-15.9E-09	-7.3E-09	-12.2E-09	-14.6E-09	-9.8E-09	-7.3E-09
82	-13.4E-09	-15.9E-09	-11.0E-09	-9.8E-09	-11.0E-09	-12.2E-09	-15.9E-09
83	-7.3E-09	-12.2E-09	-8.5E-09	-7.3E-09	-8.5E-09	-8.5E-09	-7.3E-09
84	-12.2E-09	-11.0E-09	-7.3E-09	-7.3E-09	-8.5E-09	-12.2E-09	-14.6E-09
85	-8.5E-09	-6.1E-09	-7.3E-09	-6.1E-09	-13.4E-09	-11.0E-09	-3.7E-09
Statistics							
Min	-15.9E-09	-15.9E-09	-11.0E-09	-12.2E-09	-14.6E-09	-12.2E-09	-15.9E-09
Max	-7.3E-09	-6.1E-09	-7.3E-09	-6.1E-09	-8.5E-09	-8.5E-09	-3.7E-09
Average	-11.5E-09	-12.2E-09	-8.3E-09	-8.5E-09	-11.2E-09	-10.7E-09	-9.8E-09
Std Deviation	3.5E-09	4.0E-09	1.6E-09	2.4E-09	2.8E-09	1.6E-09	5.3E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-23.2E-09	-15.9E-09	-18.3E-09	-14.6E-09	-25.6E-09	-20.8E-09	-17.1E-09
87_OUT_REF	-11.0E-09	-22.0E-09	-17.1E-09	-13.4E-09	-12.2E-09	-20.8E-09	-15.9E-09
ON samples							
71	-18.3E-09	-15.9E-09	-11.0E-09	-9.8E-09	-13.4E-09	-23.2E-09	-9.8E-09
72	-18.3E-09	-22.0E-09	-9.8E-09	-20.8E-09	-20.8E-09	-12.2E-09	-18.3E-09
73	-17.1E-09	-15.9E-09	-18.3E-09	-15.9E-09	-13.4E-09	-11.0E-09	-19.5E-09
74	-18.3E-09	-22.0E-09	-22.0E-09	-18.3E-09	-19.5E-09	-23.2E-09	-19.5E-09
75	-23.2E-09	-14.6E-09	-18.3E-09	-12.2E-09	-12.2E-09	-9.8E-09	-17.1E-09
76	-20.8E-09	-15.9E-09	-14.6E-09	-15.9E-09	-13.4E-09	-17.1E-09	-18.3E-09
77	-15.9E-09	-12.2E-09	-19.5E-09	-12.2E-09	-19.5E-09	-13.4E-09	-12.2E-09
78	-20.8E-09	-20.8E-09	-15.9E-09	-14.6E-09	-12.2E-09	-15.9E-09	-22.0E-09
79	-19.5E-09	-24.4E-09	-19.5E-09	-24.4E-09	-24.4E-09	-15.9E-09	-24.4E-09
80	-22.0E-09	-23.2E-09	-12.2E-09	-22.0E-09	-19.5E-09	-11.0E-09	-18.3E-09
Statistics							
Min	-23.2E-09	-24.4E-09	-22.0E-09	-24.4E-09	-24.4E-09	-23.2E-09	-24.4E-09
Max	-15.9E-09	-12.2E-09	-9.8E-09	-9.8E-09	-12.2E-09	-9.8E-09	-9.8E-09
Average	-19.4E-09	-18.7E-09	-16.1E-09	-16.6E-09	-16.8E-09	-15.3E-09	-17.9E-09
Std Deviation	2.3E-09	4.2E-09	4.1E-09	4.7E-09	4.4E-09	4.8E-09	4.3E-09

Measurements

Iih</RAS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-23.2E-09	-15.9E-09	-18.3E-09	-14.6E-09	-25.6E-09	-20.8E-09	-17.1E-09
87_OUT_REF	-11.0E-09	-22.0E-09	-17.1E-09	-13.4E-09	-12.2E-09	-20.8E-09	-15.9E-09
OFF samples							
81	-18.3E-09	-13.4E-09	-17.1E-09	-14.6E-09	-22.0E-09	-22.0E-09	-9.8E-09
82	-13.4E-09	-13.4E-09	-14.6E-09	-25.6E-09	-13.4E-09	-13.4E-09	-19.5E-09
83	-12.2E-09	-12.2E-09	-19.5E-09	-19.5E-09	-19.5E-09	-20.8E-09	-17.1E-09
84	-17.1E-09	-11.0E-09	-20.8E-09	-14.6E-09	-8.5E-09	-14.6E-09	-17.1E-09
85	-19.5E-09	-15.9E-09	-20.8E-09	-11.0E-09	-18.3E-09	-14.6E-09	-19.5E-09
Statistics							
Min	-19.5E-09	-15.9E-09	-20.8E-09	-25.6E-09	-22.0E-09	-22.0E-09	-19.5E-09
Max	-12.2E-09	-11.0E-09	-14.6E-09	-11.0E-09	-8.5E-09	-13.4E-09	-9.8E-09
Average	-16.1E-09	-13.2E-09	-18.6E-09	-17.1E-09	-16.4E-09	-17.1E-09	-16.6E-09
Std Deviation	3.2E-09	1.8E-09	2.6E-09	5.7E-09	5.4E-09	4.0E-09	4.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	3.2E-09	173.3E-12	936.3E-12	-2.9E-09	7.0E-09	3.2E-09	-5.2E-09
87_OUT_REF	-589.6E-12	173.3E-12	1.7E-09	3.2E-09	3.2E-09	1.7E-09	173.3E-12
ON samples							
71	936.3E-12	-2.1E-09	-5.9E-09	173.3E-12	4.0E-09	-2.9E-09	173.3E-12
72	2.5E-09	-2.1E-09	-589.6E-12	2.5E-09	4.0E-09	-589.6E-12	-2.1E-09
73	4.0E-09	173.3E-12	-1.4E-09	3.2E-09	3.2E-09	-2.1E-09	5.5E-09
74	-589.6E-12	936.3E-12	-1.4E-09	2.5E-09	1.7E-09	2.5E-09	2.5E-09
75	173.3E-12	1.7E-09	-589.6E-12	2.5E-09	173.3E-12	936.3E-12	1.7E-09
76	1.7E-09	173.3E-12	1.7E-09	-2.1E-09	936.3E-12	1.7E-09	-589.6E-12
77	-2.1E-09	173.3E-12	173.3E-12	2.5E-09	1.7E-09	4.8E-09	4.0E-09
78	2.5E-09	936.3E-12	-589.6E-12	4.0E-09	936.3E-12	4.8E-09	-589.6E-12
79	3.2E-09	936.3E-12	-2.9E-09	173.3E-12	7.8E-09	4.0E-09	-589.6E-12
80	2.5E-09	5.5E-09	-2.1E-09	2.5E-09	3.2E-09	-2.1E-09	3.2E-09
Statistics							
Min	-2.1E-09	-2.1E-09	-5.9E-09	-2.1E-09	173.3E-12	-2.9E-09	-2.1E-09
Max	4.0E-09	5.5E-09	1.7E-09	4.0E-09	7.8E-09	4.8E-09	5.5E-09
Average	1.5E-09	631.1E-12	-1.4E-09	1.8E-09	2.8E-09	1.1E-09	1.3E-09
Std Deviation	1.9E-09	2.1E-09	2.0E-09	1.8E-09	2.2E-09	2.9E-09	2.4E-09

Measurements

Iih</RESET>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	3.2E-09	173.3E-12	936.3E-12	-2.9E-09	7.0E-09	3.2E-09	-5.2E-09
87_OUT_REF	-589.6E-12	173.3E-12	1.7E-09	3.2E-09	3.2E-09	1.7E-09	173.3E-12
OFF samples							
81	-589.6E-12	4.8E-09	936.3E-12	173.3E-12	1.7E-09	-589.6E-12	-2.1E-09
82	173.3E-12	-3.6E-09	1.7E-09	936.3E-12	2.5E-09	-4.4E-09	-2.1E-09
83	-2.1E-09	-589.6E-12	-2.1E-09	-589.6E-12	3.2E-09	-2.9E-09	936.3E-12
84	1.7E-09	2.5E-09	-589.6E-12	5.5E-09	-589.6E-12	3.2E-09	5.5E-09
85	936.3E-12	4.0E-09	936.3E-12	936.3E-12	2.5E-09	-589.6E-12	-589.6E-12
Statistics							
Min	-2.1E-09	-3.6E-09	-2.1E-09	-589.6E-12	-589.6E-12	-4.4E-09	-2.1E-09
Max	1.7E-09	4.8E-09	1.7E-09	5.5E-09	3.2E-09	3.2E-09	5.5E-09
Average	20.7E-12	1.4E-09	173.3E-12	1.4E-09	1.9E-09	-1.0E-09	325.9E-12
Std Deviation	1.5E-09	3.5E-09	1.5E-09	2.4E-09	1.5E-09	2.9E-09	3.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-6.1E-09	-8.5E-09
87_OUT_REF	-7.3E-09	-17.1E-09	-11.0E-09	-15.9E-09	-8.5E-09	-15.9E-09	-8.5E-09
ON samples							
71	-19.5E-09	-8.5E-09	-9.8E-09	-8.5E-09	-18.3E-09	-11.0E-09	-9.8E-09
72	-9.8E-09	-12.2E-09	-8.5E-09	-13.4E-09	-11.0E-09	-12.2E-09	-15.9E-09
73	-7.3E-09	-12.2E-09	-15.9E-09	-15.9E-09	-12.2E-09	-13.4E-09	-13.4E-09
74	-15.9E-09	-13.4E-09	-17.1E-09	-14.6E-09	-14.6E-09	-14.6E-09	-12.2E-09
75	-15.9E-09	-11.0E-09	-13.4E-09	-18.3E-09	-15.9E-09	-15.9E-09	-15.9E-09
76	-13.4E-09	-11.0E-09	-17.1E-09	-17.1E-09	-18.3E-09	-15.9E-09	-12.2E-09
77	-12.2E-09	-17.1E-09	-11.0E-09	-11.0E-09	-4.9E-09	-12.2E-09	-9.8E-09
78	-12.2E-09	-15.9E-09	-13.4E-09	-12.2E-09	-18.3E-09	-17.1E-09	-7.3E-09
79	-18.3E-09	-12.2E-09	-4.9E-09	-14.6E-09	-6.1E-09	-18.3E-09	-11.0E-09
80	-13.4E-09	-12.2E-09	-11.0E-09	-12.2E-09	-11.0E-09	-11.0E-09	-12.2E-09
Statistics							
Min	-19.5E-09	-17.1E-09	-17.1E-09	-18.3E-09	-18.3E-09	-18.3E-09	-15.9E-09
Max	-7.3E-09	-8.5E-09	-4.9E-09	-8.5E-09	-4.9E-09	-11.0E-09	-7.3E-09
Average	-13.8E-09	-12.6E-09	-12.2E-09	-13.8E-09	-13.1E-09	-14.2E-09	-12.0E-09
Std Deviation	3.7E-09	2.4E-09	3.9E-09	2.9E-09	4.9E-09	2.6E-09	2.7E-09

Measurements

Iih</WE>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-11.0E-09	-11.0E-09	-9.8E-09	-11.0E-09	-6.1E-09	-8.5E-09
87_OUT_REF	-7.3E-09	-17.1E-09	-11.0E-09	-15.9E-09	-8.5E-09	-15.9E-09	-8.5E-09
OFF samples							
81	-13.4E-09	-14.6E-09	-11.0E-09	-7.3E-09	-8.5E-09	-9.8E-09	-13.4E-09
82	-8.5E-09	-12.2E-09	-13.4E-09	-12.2E-09	-14.6E-09	-11.0E-09	-12.2E-09
83	-6.1E-09	-14.6E-09	-7.3E-09	-13.4E-09	-9.8E-09	-8.5E-09	-18.3E-09
84	-11.0E-09	-15.9E-09	-17.1E-09	-15.9E-09	-4.9E-09	-9.8E-09	-13.4E-09
85	-17.1E-09	-8.5E-09	-13.4E-09	-13.4E-09	-11.0E-09	-13.4E-09	-9.8E-09
Statistics							
Min	-17.1E-09	-15.9E-09	-17.1E-09	-15.9E-09	-14.6E-09	-13.4E-09	-18.3E-09
Max	-6.1E-09	-8.5E-09	-7.3E-09	-7.3E-09	-4.9E-09	-8.5E-09	-9.8E-09
Average	-11.2E-09	-13.2E-09	-12.5E-09	-12.5E-09	-9.8E-09	-10.5E-09	-13.4E-09
Std Deviation	4.3E-09	2.9E-09	3.6E-09	3.2E-09	3.6E-09	1.9E-09	3.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	936.3E-12	936.3E-12	173.3E-12	-2.1E-09	-5.2E-09	-4.4E-09
87_OUT_REF	-2.9E-09	936.3E-12	-589.6E-12	1.7E-09	-4.4E-09	-9.7E-09	-2.1E-09
ON samples							
71	1.7E-09	-589.6E-12	173.3E-12	-1.4E-09	-2.9E-09	-3.6E-09	936.3E-12
72	173.3E-12	-2.9E-09	936.3E-12	-2.1E-09	-589.6E-12	-3.6E-09	-589.6E-12
73	2.5E-09	-5.9E-09	936.3E-12	1.7E-09	-2.1E-09	-2.1E-09	-5.9E-09
74	1.7E-09	2.5E-09	173.3E-12	936.3E-12	-3.6E-09	936.3E-12	936.3E-12
75	-1.4E-09	-2.9E-09	-2.9E-09	-1.4E-09	-3.6E-09	-3.6E-09	-5.9E-09
76	-589.6E-12	-3.6E-09	-2.1E-09	-1.4E-09	-2.1E-09	-5.2E-09	-8.2E-09
77	-2.1E-09	-4.4E-09	-2.9E-09	-3.6E-09	-5.2E-09	-2.9E-09	-5.9E-09
78	-2.9E-09	-2.1E-09	-1.4E-09	-2.9E-09	-3.6E-09	-3.6E-09	-2.9E-09
79	-589.6E-12	936.3E-12	1.7E-09	-1.4E-09	936.3E-12	-2.9E-09	-1.4E-09
80	-589.6E-12	-2.9E-09	-2.1E-09	-2.9E-09	-5.2E-09	-5.2E-09	2.5E-09
Statistics							
Min	-2.9E-09	-5.9E-09	-2.9E-09	-3.6E-09	-5.2E-09	-5.2E-09	-8.2E-09
Max	2.5E-09	2.5E-09	1.7E-09	1.7E-09	936.3E-12	936.3E-12	2.5E-09
Average	-208.1E-12	-2.2E-09	-742.2E-12	-1.4E-09	-2.8E-09	-3.2E-09	-2.6E-09
Std Deviation	1.7E-09	2.5E-09	1.7E-09	1.7E-09	1.9E-09	1.7E-09	3.7E-09

Measurements

Iih<ADD[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	936.3E-12	936.3E-12	173.3E-12	-2.1E-09	-5.2E-09	-4.4E-09
87_OUT_REF	-2.9E-09	936.3E-12	-589.6E-12	1.7E-09	-4.4E-09	-9.7E-09	-2.1E-09
OFF samples							
81	-5.2E-09	-2.1E-09	-2.1E-09	-2.1E-09	-1.4E-09	-3.6E-09	1.7E-09
82	-2.1E-09	173.3E-12	-1.4E-09	-2.9E-09	173.3E-12	-2.9E-09	-2.9E-09
83	-5.9E-09	173.3E-12	173.3E-12	936.3E-12	-589.6E-12	-2.9E-09	-4.4E-09
84	3.2E-09	-9.0E-09	1.7E-09	-2.1E-09	-2.1E-09	-3.6E-09	-4.4E-09
85	2.5E-09	936.3E-12	173.3E-12	-589.6E-12	-3.6E-09	173.3E-12	-4.4E-09
Statistics							
Min	-5.9E-09	-9.0E-09	-2.1E-09	-2.9E-09	-3.6E-09	-3.6E-09	-4.4E-09
Max	3.2E-09	936.3E-12	1.7E-09	936.3E-12	173.3E-12	173.3E-12	1.7E-09
Average	-1.5E-09	-2.0E-09	-284.4E-12	-1.4E-09	-1.5E-09	-2.6E-09	-2.9E-09
Std Deviation	4.2E-09	4.1E-09	1.5E-09	1.5E-09	1.5E-09	1.6E-09	2.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.7E-09	-7.5E-09	-8.2E-09	-2.1E-09	-4.4E-09	-1.4E-09	-2.9E-09
87_OUT_REF	-3.6E-09	-7.5E-09	-5.2E-09	-2.1E-09	-2.1E-09	-1.4E-09	-8.2E-09
ON samples							
71	-3.6E-09	-9.7E-09	-5.2E-09	-8.2E-09	-5.2E-09	-5.9E-09	-3.6E-09
72	-589.6E-12	-2.1E-09	936.3E-12	-6.7E-09	-3.6E-09	-1.4E-09	-6.7E-09
73	936.3E-12	-3.6E-09	173.3E-12	-5.9E-09	-4.4E-09	-5.2E-09	-3.6E-09
74	936.3E-12	-5.9E-09	-3.6E-09	-5.9E-09	-5.9E-09	-1.4E-09	-3.6E-09
75	-1.4E-09	-1.4E-09	-9.0E-09	-1.4E-09	-5.9E-09	-589.6E-12	-4.4E-09
76	-3.6E-09	-589.6E-12	-6.7E-09	-2.1E-09	936.3E-12	-5.9E-09	-2.9E-09
77	-2.9E-09	-3.6E-09	-3.6E-09	-5.2E-09	-2.1E-09	-2.9E-09	-5.9E-09
78	-2.9E-09	-1.4E-09	-6.7E-09	-6.7E-09	-4.4E-09	-5.2E-09	-5.2E-09
79	-5.2E-09	-5.9E-09	-3.6E-09	-5.2E-09	-2.9E-09	-4.4E-09	-5.9E-09
80	-4.4E-09	-2.1E-09	-4.4E-09	173.3E-12	-8.2E-09	-1.4E-09	-4.4E-09
Statistics							
Min	-5.2E-09	-9.7E-09	-9.0E-09	-8.2E-09	-8.2E-09	-5.9E-09	-6.7E-09
Max	936.3E-12	-589.6E-12	936.3E-12	173.3E-12	936.3E-12	-589.6E-12	-2.9E-09
Average	-2.3E-09	-3.6E-09	-4.2E-09	-4.7E-09	-4.2E-09	-3.4E-09	-4.6E-09
Std Deviation	2.2E-09	2.8E-09	3.0E-09	2.7E-09	2.5E-09	2.1E-09	1.2E-09

Measurements

Iih<ADD[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.7E-09	-7.5E-09	-8.2E-09	-2.1E-09	-4.4E-09	-1.4E-09	-2.9E-09
87_OUT_REF	-3.6E-09	-7.5E-09	-5.2E-09	-2.1E-09	-2.1E-09	-1.4E-09	-8.2E-09
OFF samples							
81	-4.4E-09	-6.7E-09	-5.2E-09	-2.9E-09	-5.9E-09	-589.6E-12	173.3E-12
82	-4.4E-09	-5.2E-09	-5.9E-09	-4.4E-09	-6.7E-09	-589.6E-12	-7.5E-09
83	-5.2E-09	-3.6E-09	-5.9E-09	-2.9E-09	-6.7E-09	-3.6E-09	-6.7E-09
84	1.7E-09	-5.2E-09	-1.4E-09	-5.2E-09	-10.5E-09	-5.2E-09	-4.4E-09
85	-7.5E-09	-7.5E-09	-4.4E-09	-7.5E-09	-5.9E-09	-5.9E-09	-8.2E-09
Statistics							
Min	-7.5E-09	-7.5E-09	-5.9E-09	-7.5E-09	-10.5E-09	-5.9E-09	-8.2E-09
Max	1.7E-09	-3.6E-09	-1.4E-09	-2.9E-09	-5.9E-09	-589.6E-12	173.3E-12
Average	-3.9E-09	-5.6E-09	-4.6E-09	-4.6E-09	-7.2E-09	-3.2E-09	-5.3E-09
Std Deviation	3.4E-09	1.5E-09	1.9E-09	1.9E-09	1.9E-09	2.5E-09	3.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.9E-09	-3.6E-09	-9.0E-09	-2.9E-09	-5.9E-09	-6.7E-09	-6.7E-09
87_OUT_REF	-10.5E-09	-9.7E-09	-7.5E-09	-5.9E-09	-4.4E-09	-5.2E-09	-4.4E-09
ON samples							
71	-5.9E-09	-5.2E-09	-6.7E-09	-9.0E-09	-2.1E-09	-5.2E-09	-5.2E-09
72	-5.9E-09	-4.4E-09	-4.4E-09	-5.9E-09	-12.0E-09	-7.5E-09	-5.2E-09
73	-8.2E-09	-6.7E-09	-10.5E-09	-1.4E-09	-8.2E-09	-8.2E-09	-11.3E-09
74	1.7E-09	-1.4E-09	-9.0E-09	-1.4E-09	-12.0E-09	-9.0E-09	-2.1E-09
75	-10.5E-09	-9.7E-09	-9.0E-09	-5.2E-09	-4.4E-09	-2.1E-09	-4.4E-09
76	-5.9E-09	-6.7E-09	-5.9E-09	-1.4E-09	-5.2E-09	-9.7E-09	-5.9E-09
77	-1.4E-09	-5.9E-09	-9.0E-09	-5.2E-09	-4.4E-09	-7.5E-09	-589.6E-12
78	-6.7E-09	-7.5E-09	-5.9E-09	-5.9E-09	-6.7E-09	-5.2E-09	-4.4E-09
79	-9.0E-09	-7.5E-09	-6.7E-09	-8.2E-09	-5.2E-09	-8.2E-09	-5.9E-09
80	-7.5E-09	-7.5E-09	-6.7E-09	-4.4E-09	-5.9E-09	-9.0E-09	-4.4E-09
Statistics							
Min	-10.5E-09	-9.7E-09	-10.5E-09	-9.0E-09	-12.0E-09	-9.7E-09	-11.3E-09
Max	1.7E-09	-1.4E-09	-4.4E-09	-1.4E-09	-2.1E-09	-2.1E-09	-589.6E-12
Average	-5.9E-09	-6.2E-09	-7.4E-09	-4.8E-09	-6.6E-09	-7.2E-09	-4.9E-09
Std Deviation	3.6E-09	2.3E-09	1.9E-09	2.7E-09	3.3E-09	2.3E-09	2.8E-09

Measurements

Iih<ADD[10]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.9E-09	-3.6E-09	-9.0E-09	-2.9E-09	-5.9E-09	-6.7E-09	-6.7E-09
87_OUT_REF	-10.5E-09	-9.7E-09	-7.5E-09	-5.9E-09	-4.4E-09	-5.2E-09	-4.4E-09
OFF samples							
81	-5.2E-09	-9.0E-09	-6.7E-09	-4.4E-09	-8.2E-09	-5.2E-09	-4.4E-09
82	-10.5E-09	-5.2E-09	-6.7E-09	-5.2E-09	-2.1E-09	-9.7E-09	1.7E-09
83	-3.6E-09	-9.7E-09	-8.2E-09	-1.4E-09	-4.4E-09	-8.2E-09	-6.7E-09
84	-4.4E-09	-8.2E-09	-7.5E-09	-1.4E-09	-10.5E-09	-9.7E-09	-5.2E-09
85	-7.5E-09	-589.6E-12	-5.9E-09	-3.6E-09	-2.9E-09	-6.7E-09	-7.5E-09
Statistics							
Min	-10.5E-09	-9.7E-09	-8.2E-09	-5.2E-09	-10.5E-09	-9.7E-09	-7.5E-09
Max	-3.6E-09	-589.6E-12	-5.9E-09	-1.4E-09	-2.1E-09	-5.2E-09	1.7E-09
Average	-6.2E-09	-6.5E-09	-7.0E-09	-3.2E-09	-5.6E-09	-7.9E-09	-4.4E-09
Std Deviation	2.8E-09	3.8E-09	869.9E-12	1.8E-09	3.6E-09	2.0E-09	3.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.6E-09	-1.4E-09	-1.4E-09	-4.4E-09	2.5E-09	-2.1E-09	-2.9E-09
87_OUT_REF	173.3E-12	-2.9E-09	-2.1E-09	-2.1E-09	-4.4E-09	-589.6E-12	173.3E-12
ON samples							
71	-1.4E-09	-5.2E-09	173.3E-12	936.3E-12	-2.1E-09	-589.6E-12	-8.2E-09
72	4.0E-09	2.5E-09	2.5E-09	-1.4E-09	-3.6E-09	-1.4E-09	-2.9E-09
73	-589.6E-12	-2.9E-09	-2.1E-09	-589.6E-12	-5.2E-09	2.5E-09	-5.2E-09
74	-2.9E-09	-589.6E-12	-589.6E-12	3.2E-09	1.7E-09	-2.9E-09	-7.5E-09
75	173.3E-12	-4.4E-09	-1.4E-09	-1.4E-09	936.3E-12	-589.6E-12	-3.6E-09
76	936.3E-12	-1.4E-09	-589.6E-12	-5.2E-09	173.3E-12	-1.4E-09	173.3E-12
77	-4.4E-09	173.3E-12	-4.4E-09	-589.6E-12	-5.2E-09	-8.2E-09	-8.2E-09
78	1.7E-09	-1.4E-09	-589.6E-12	173.3E-12	-5.9E-09	-2.9E-09	-4.4E-09
79	173.3E-12	-2.9E-09	-1.4E-09	-1.4E-09	-2.9E-09	-2.9E-09	-4.4E-09
80	173.3E-12	-1.4E-09	-4.4E-09	-2.9E-09	-2.1E-09	173.3E-12	-3.6E-09
Statistics							
Min	-4.4E-09	-5.2E-09	-4.4E-09	-5.2E-09	-5.9E-09	-8.2E-09	-8.2E-09
Max	4.0E-09	2.5E-09	2.5E-09	3.2E-09	1.7E-09	2.5E-09	173.3E-12
Average	-208.1E-12	-1.7E-09	-1.3E-09	-894.8E-12	-2.4E-09	-1.8E-09	-4.8E-09
Std Deviation	2.3E-09	2.2E-09	2.0E-09	2.2E-09	2.7E-09	2.8E-09	2.6E-09

Measurements

Iih<ADD[11]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.6E-09	-1.4E-09	-1.4E-09	-4.4E-09	2.5E-09	-2.1E-09	-2.9E-09
87_OUT_REF	173.3E-12	-2.9E-09	-2.1E-09	-2.1E-09	-4.4E-09	-589.6E-12	173.3E-12
OFF samples							
81	-2.9E-09	-1.4E-09	-6.7E-09	-3.6E-09	936.3E-12	-589.6E-12	-2.1E-09
82	-589.6E-12	-3.6E-09	173.3E-12	173.3E-12	-5.2E-09	4.8E-09	-5.2E-09
83	-589.6E-12	-1.4E-09	-5.2E-09	-2.1E-09	-2.9E-09	2.5E-09	-2.1E-09
84	-2.9E-09	1.7E-09	-2.1E-09	173.3E-12	-2.9E-09	936.3E-12	-5.9E-09
85	-2.9E-09	-2.9E-09	1.7E-09	1.7E-09	-1.4E-09	-4.4E-09	-1.4E-09
Statistics							
Min	-2.9E-09	-3.6E-09	-6.7E-09	-3.6E-09	-5.2E-09	-4.4E-09	-5.9E-09
Max	-589.6E-12	1.7E-09	1.7E-09	1.7E-09	936.3E-12	4.8E-09	-1.4E-09
Average	-2.0E-09	-1.5E-09	-2.4E-09	-742.2E-12	-2.3E-09	631.1E-12	-3.3E-09
Std Deviation	1.3E-09	2.0E-09	3.5E-09	2.1E-09	2.3E-09	3.4E-09	2.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-7.5E-09	-4.4E-09	-3.6E-09	-589.6E-12	-2.1E-09	-4.4E-09
87_OUT_REF	-3.6E-09	-5.2E-09	-2.1E-09	173.3E-12	-6.7E-09	-1.4E-09	-5.2E-09
ON samples							
71	-5.2E-09	936.3E-12	-5.9E-09	-5.9E-09	-3.6E-09	-589.6E-12	2.5E-09
72	-4.4E-09	936.3E-12	-5.2E-09	-3.6E-09	-2.9E-09	1.7E-09	-6.7E-09
73	-8.2E-09	-2.1E-09	-5.2E-09	-1.4E-09	1.7E-09	-3.6E-09	-7.5E-09
74	-7.5E-09	-4.4E-09	-4.4E-09	936.3E-12	3.2E-09	-2.9E-09	-3.6E-09
75	-3.6E-09	-4.4E-09	-4.4E-09	-6.7E-09	-5.2E-09	-4.4E-09	1.7E-09
76	-3.6E-09	-5.2E-09	-2.1E-09	-3.6E-09	-4.4E-09	-589.6E-12	173.3E-12
77	-3.6E-09	-4.4E-09	-589.6E-12	-1.4E-09	1.7E-09	-1.4E-09	-4.4E-09
78	-3.6E-09	-589.6E-12	-2.1E-09	-5.9E-09	173.3E-12	-7.5E-09	-2.9E-09
79	-5.2E-09	-2.9E-09	-3.6E-09	-4.4E-09	-589.6E-12	-2.1E-09	-5.9E-09
80	-2.1E-09	-2.9E-09	-1.4E-09	-6.7E-09	2.5E-09	-6.7E-09	-7.5E-09
Statistics							
Min	-8.2E-09	-5.2E-09	-5.9E-09	-6.7E-09	-5.2E-09	-7.5E-09	-7.5E-09
Max	-2.1E-09	936.3E-12	-589.6E-12	936.3E-12	3.2E-09	1.7E-09	2.5E-09
Average	-4.7E-09	-2.5E-09	-3.5E-09	-3.9E-09	-742.2E-12	-2.8E-09	-3.4E-09
Std Deviation	1.9E-09	2.3E-09	1.8E-09	2.6E-09	3.1E-09	2.8E-09	3.7E-09

Measurements

Iih<ADD[12]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-7.5E-09	-4.4E-09	-3.6E-09	-589.6E-12	-2.1E-09	-4.4E-09
87_OUT_REF	-3.6E-09	-5.2E-09	-2.1E-09	173.3E-12	-6.7E-09	-1.4E-09	-5.2E-09
OFF samples							
81	-6.7E-09	-3.6E-09	-3.6E-09	-2.1E-09	-3.6E-09	-2.1E-09	-2.9E-09
82	-2.1E-09	936.3E-12	-589.6E-12	-2.1E-09	-4.4E-09	-2.1E-09	-5.2E-09
83	-4.4E-09	-3.6E-09	173.3E-12	-6.7E-09	-6.7E-09	-589.6E-12	-1.4E-09
84	-5.9E-09	-5.2E-09	-589.6E-12	173.3E-12	-4.4E-09	-1.4E-09	-5.2E-09
85	-2.1E-09	-2.1E-09	-2.9E-09	-2.9E-09	-3.6E-09	-1.4E-09	-5.2E-09
Statistics							
Min	-6.7E-09	-5.2E-09	-3.6E-09	-6.7E-09	-6.7E-09	-2.1E-09	-5.2E-09
Max	-2.1E-09	936.3E-12	173.3E-12	173.3E-12	-3.6E-09	-589.6E-12	-1.4E-09
Average	-4.3E-09	-2.7E-09	-1.5E-09	-2.7E-09	-4.6E-09	-1.5E-09	-3.9E-09
Std Deviation	2.1E-09	2.3E-09	1.7E-09	2.5E-09	1.3E-09	638.3E-12	1.8E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.7E-09	-12.8E-09	-13.6E-09	-9.0E-09	-5.2E-09	-12.0E-09	-16.6E-09
87_OUT_REF	-6.7E-09	-9.7E-09	-11.3E-09	-7.5E-09	-10.5E-09	-4.4E-09	-5.2E-09
ON samples							
71	-4.4E-09	-10.5E-09	-12.0E-09	-4.4E-09	-11.3E-09	-15.8E-09	-15.8E-09
72	-3.6E-09	-14.3E-09	-12.0E-09	-7.5E-09	-10.5E-09	-7.5E-09	-10.5E-09
73	-10.5E-09	-9.7E-09	-5.9E-09	-9.0E-09	-12.8E-09	-11.3E-09	-8.2E-09
74	-7.5E-09	-5.9E-09	-8.2E-09	-9.0E-09	-4.4E-09	-5.9E-09	-9.0E-09
75	-5.2E-09	-6.7E-09	-6.7E-09	-5.2E-09	-7.5E-09	-8.2E-09	-6.7E-09
76	-7.5E-09	-8.2E-09	-7.5E-09	-10.5E-09	-8.2E-09	-8.2E-09	-9.7E-09
77	-9.0E-09	-11.3E-09	-8.2E-09	-5.9E-09	-9.7E-09	-5.2E-09	-7.5E-09
78	-9.7E-09	-8.2E-09	-10.5E-09	-9.0E-09	-5.9E-09	-5.9E-09	-8.2E-09
79	-9.0E-09	-12.0E-09	-5.9E-09	-13.6E-09	-9.0E-09	-5.9E-09	-3.6E-09
80	-9.7E-09	-9.7E-09	-5.2E-09	-11.3E-09	-9.0E-09	-11.3E-09	-5.9E-09
Statistics							
Min	-10.5E-09	-14.3E-09	-12.0E-09	-13.6E-09	-12.8E-09	-15.8E-09	-15.8E-09
Max	-3.6E-09	-5.9E-09	-5.2E-09	-4.4E-09	-4.4E-09	-5.2E-09	-3.6E-09
Average	-7.6E-09	-9.7E-09	-8.2E-09	-8.5E-09	-8.8E-09	-8.5E-09	-8.5E-09
Std Deviation	2.4E-09	2.5E-09	2.5E-09	2.9E-09	2.5E-09	3.4E-09	3.2E-09

Measurements

Iih<ADD[13]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.7E-09	-12.8E-09	-13.6E-09	-9.0E-09	-5.2E-09	-12.0E-09	-16.6E-09
87_OUT_REF	-6.7E-09	-9.7E-09	-11.3E-09	-7.5E-09	-10.5E-09	-4.4E-09	-5.2E-09
OFF samples							
81	-5.9E-09	-8.2E-09	-4.4E-09	-6.7E-09	-7.5E-09	-8.2E-09	-12.0E-09
82	-5.2E-09	-12.0E-09	-5.9E-09	-6.7E-09	-13.6E-09	-7.5E-09	-9.0E-09
83	-5.9E-09	-11.3E-09	-8.2E-09	-3.6E-09	-9.7E-09	-6.7E-09	-9.7E-09
84	-6.7E-09	-7.5E-09	-9.0E-09	-10.5E-09	-10.5E-09	-11.3E-09	-9.0E-09
85	-5.2E-09	-9.7E-09	-4.4E-09	-5.9E-09	-9.7E-09	-14.3E-09	-8.2E-09
Statistics							
Min	-6.7E-09	-12.0E-09	-9.0E-09	-10.5E-09	-13.6E-09	-14.3E-09	-12.0E-09
Max	-5.2E-09	-7.5E-09	-4.4E-09	-3.6E-09	-7.5E-09	-6.7E-09	-8.2E-09
Average	-5.8E-09	-9.7E-09	-6.4E-09	-6.7E-09	-10.2E-09	-9.6E-09	-9.6E-09
Std Deviation	638.3E-12	1.9E-09	2.1E-09	2.5E-09	2.2E-09	3.2E-09	1.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-7.5E-09	-589.6E-12	-5.9E-09	-4.4E-09	-4.4E-09	-4.4E-09	-5.2E-09
87_OUT_REF	-7.5E-09	-8.2E-09	-5.2E-09	-3.6E-09	-2.9E-09	-3.6E-09	-5.2E-09
ON samples							
71	-6.7E-09	-2.1E-09	-4.4E-09	-9.7E-09	-7.5E-09	-2.9E-09	-589.6E-12
72	-4.4E-09	-6.7E-09	-2.9E-09	-7.5E-09	-1.4E-09	-6.7E-09	-3.6E-09
73	-8.2E-09	-1.4E-09	-5.9E-09	-9.0E-09	-7.5E-09	-2.9E-09	-2.9E-09
74	-7.5E-09	-3.6E-09	-1.4E-09	-4.4E-09	173.3E-12	-4.4E-09	-1.4E-09
75	-5.2E-09	-5.9E-09	-2.1E-09	-5.2E-09	-5.2E-09	-5.9E-09	-1.4E-09
76	-2.1E-09	-3.6E-09	-5.2E-09	-7.5E-09	-589.6E-12	-5.9E-09	-3.6E-09
77	-7.5E-09	-589.6E-12	-4.4E-09	-5.9E-09	-5.9E-09	-4.4E-09	-5.2E-09
78	-3.6E-09	-5.2E-09	-5.9E-09	-5.2E-09	-9.0E-09	-5.9E-09	-3.6E-09
79	-9.7E-09	-5.2E-09	-2.9E-09	-4.4E-09	-5.2E-09	-9.0E-09	-6.7E-09
80	-2.1E-09	-6.7E-09	-589.6E-12	-8.2E-09	-5.9E-09	-5.2E-09	-5.2E-09
Statistics							
Min	-9.7E-09	-6.7E-09	-5.9E-09	-9.7E-09	-9.0E-09	-9.0E-09	-6.7E-09
Max	-2.1E-09	-589.6E-12	-589.6E-12	-4.4E-09	173.3E-12	-2.9E-09	-589.6E-12
Average	-5.7E-09	-4.1E-09	-3.6E-09	-6.7E-09	-4.8E-09	-5.3E-09	-3.4E-09
Std Deviation	2.6E-09	2.2E-09	1.9E-09	1.9E-09	3.1E-09	1.8E-09	1.9E-09

Measurements

Iih<ADD[14]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-7.5E-09	-589.6E-12	-5.9E-09	-4.4E-09	-4.4E-09	-4.4E-09	-5.2E-09
87_OUT_REF	-7.5E-09	-8.2E-09	-5.2E-09	-3.6E-09	-2.9E-09	-3.6E-09	-5.2E-09
OFF samples							
81	-7.5E-09	-3.6E-09	-9.0E-09	-6.7E-09	-5.9E-09	-1.4E-09	1.7E-09
82	-7.5E-09	-2.9E-09	-2.1E-09	-6.7E-09	-2.1E-09	-5.2E-09	-5.9E-09
83	-4.4E-09	-4.4E-09	-3.6E-09	-5.9E-09	-5.2E-09	-2.9E-09	173.3E-12
84	-9.7E-09	-6.7E-09	-5.2E-09	-5.2E-09	-7.5E-09	-5.9E-09	173.3E-12
85	-2.9E-09	-5.9E-09	-9.0E-09	-4.4E-09	173.3E-12	-3.6E-09	-5.2E-09
Statistics							
Min	-9.7E-09	-6.7E-09	-9.0E-09	-6.7E-09	-7.5E-09	-5.9E-09	-5.9E-09
Max	-2.9E-09	-2.9E-09	-2.1E-09	-4.4E-09	173.3E-12	-1.4E-09	1.7E-09
Average	-6.4E-09	-4.7E-09	-5.8E-09	-5.8E-09	-4.1E-09	-3.8E-09	-1.8E-09
Std Deviation	2.7E-09	1.6E-09	3.1E-09	994.7E-12	3.1E-09	1.8E-09	3.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.0E-09	-10.5E-09	-9.0E-09	-8.2E-09	-10.5E-09	-15.1E-09	-17.4E-09
87_OUT_REF	-12.8E-09	-12.0E-09	-10.5E-09	-14.3E-09	-14.3E-09	-12.0E-09	-21.2E-09
ON samples							
71	-9.0E-09	-10.5E-09	-14.3E-09	-12.0E-09	-12.0E-09	-10.5E-09	-16.6E-09
72	-17.4E-09	-11.3E-09	-12.0E-09	-12.0E-09	-7.5E-09	-6.7E-09	-14.3E-09
73	-12.0E-09	-10.5E-09	-9.7E-09	-11.3E-09	-9.7E-09	-15.8E-09	-15.1E-09
74	-13.6E-09	-14.3E-09	-13.6E-09	-3.6E-09	-10.5E-09	-7.5E-09	-17.4E-09
75	-8.2E-09	-10.5E-09	-7.5E-09	-12.0E-09	-8.2E-09	-15.1E-09	-15.1E-09
76	-11.3E-09	-11.3E-09	-12.0E-09	-11.3E-09	-10.5E-09	-10.5E-09	-18.1E-09
77	-10.5E-09	-11.3E-09	-9.7E-09	-9.7E-09	-12.0E-09	-12.0E-09	-14.3E-09
78	-9.7E-09	-11.3E-09	-12.8E-09	-10.5E-09	-15.1E-09	-7.5E-09	-18.1E-09
79	-9.0E-09	-12.0E-09	-11.3E-09	-10.5E-09	-12.0E-09	-13.6E-09	-15.8E-09
80	-12.0E-09	-12.0E-09	-10.5E-09	-10.5E-09	-7.5E-09	-12.8E-09	-15.8E-09
Statistics							
Min	-17.4E-09	-14.3E-09	-14.3E-09	-12.0E-09	-15.1E-09	-15.8E-09	-18.1E-09
Max	-8.2E-09	-10.5E-09	-7.5E-09	-3.6E-09	-7.5E-09	-6.7E-09	-14.3E-09
Average	-11.3E-09	-11.5E-09	-11.3E-09	-10.4E-09	-10.5E-09	-11.2E-09	-16.1E-09
Std Deviation	2.7E-09	1.1E-09	2.0E-09	2.5E-09	2.4E-09	3.2E-09	1.4E-09

Measurements

Iih<ADD[15]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.0E-09	-10.5E-09	-9.0E-09	-8.2E-09	-10.5E-09	-15.1E-09	-17.4E-09
87_OUT_REF	-12.8E-09	-12.0E-09	-10.5E-09	-14.3E-09	-14.3E-09	-12.0E-09	-21.2E-09
OFF samples							
81	-14.3E-09	-10.5E-09	-10.5E-09	-10.5E-09	-9.0E-09	-13.6E-09	-13.6E-09
82	-11.3E-09	-11.3E-09	-8.2E-09	-12.8E-09	-6.7E-09	-9.0E-09	-18.1E-09
83	-5.2E-09	-13.6E-09	-10.5E-09	-7.5E-09	-8.2E-09	-7.5E-09	-14.3E-09
84	-9.7E-09	-15.1E-09	-8.2E-09	-12.0E-09	-12.8E-09	-7.5E-09	-17.4E-09
85	-9.7E-09	-7.5E-09	-10.5E-09	-12.8E-09	-12.8E-09	-11.3E-09	-14.3E-09
Statistics							
Min	-14.3E-09	-15.1E-09	-10.5E-09	-12.8E-09	-12.8E-09	-13.6E-09	-18.1E-09
Max	-5.2E-09	-7.5E-09	-8.2E-09	-7.5E-09	-6.7E-09	-7.5E-09	-13.6E-09
Average	-10.1E-09	-11.6E-09	-9.6E-09	-11.1E-09	-9.9E-09	-9.7E-09	-15.5E-09
Std Deviation	3.3E-09	2.9E-09	1.3E-09	2.3E-09	2.8E-09	2.6E-09	2.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.7E-09	-6.7E-09	-6.7E-09	-5.2E-09	-3.6E-09	-11.3E-09	-5.2E-09
87_OUT_REF	1.7E-09	-7.5E-09	-7.5E-09	-6.7E-09	-5.2E-09	-4.4E-09	-4.4E-09
ON samples							
71	-2.9E-09	-3.6E-09	-8.2E-09	-4.4E-09	-5.2E-09	-6.7E-09	-1.4E-09
72	-1.4E-09	-2.1E-09	-8.2E-09	-5.9E-09	-4.4E-09	-4.4E-09	-8.2E-09
73	-1.4E-09	-3.6E-09	-5.9E-09	-4.4E-09	-9.7E-09	-2.1E-09	-8.2E-09
74	-4.4E-09	-7.5E-09	-7.5E-09	-5.2E-09	-6.7E-09	-8.2E-09	-5.2E-09
75	-4.4E-09	-5.2E-09	-6.7E-09	-5.9E-09	-5.2E-09	-5.9E-09	-8.2E-09
76	-7.5E-09	-5.9E-09	-3.6E-09	-6.7E-09	-5.9E-09	-11.3E-09	-11.3E-09
77	-5.2E-09	-5.2E-09	-3.6E-09	-5.2E-09	-2.1E-09	-9.0E-09	-2.9E-09
78	173.3E-12	-9.0E-09	-6.7E-09	-5.2E-09	-2.1E-09	-11.3E-09	-9.7E-09
79	-9.0E-09	-1.4E-09	-7.5E-09	-4.4E-09	-3.6E-09	-5.9E-09	-2.1E-09
80	-5.9E-09	-9.7E-09	-3.6E-09	-2.9E-09	-7.5E-09	-10.5E-09	-2.9E-09
Statistics							
Min	-9.0E-09	-9.7E-09	-8.2E-09	-6.7E-09	-9.7E-09	-11.3E-09	-11.3E-09
Max	173.3E-12	-1.4E-09	-3.6E-09	-2.9E-09	-2.1E-09	-2.1E-09	-1.4E-09
Average	-4.2E-09	-5.3E-09	-6.2E-09	-5.0E-09	-5.2E-09	-7.5E-09	-6.0E-09
Std Deviation	2.9E-09	2.8E-09	1.9E-09	1.1E-09	2.4E-09	3.1E-09	3.6E-09

Measurements

Iih<ADD[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.7E-09	-6.7E-09	-6.7E-09	-5.2E-09	-3.6E-09	-11.3E-09	-5.2E-09
87_OUT_REF	1.7E-09	-7.5E-09	-7.5E-09	-6.7E-09	-5.2E-09	-4.4E-09	-4.4E-09
OFF samples							
81	-5.9E-09	-3.6E-09	-6.7E-09	-6.7E-09	-7.5E-09	-7.5E-09	-8.2E-09
82	-2.9E-09	173.3E-12	-6.7E-09	-2.9E-09	-1.4E-09	-9.0E-09	-5.2E-09
83	-8.2E-09	173.3E-12	-2.9E-09	-5.2E-09	-5.9E-09	-5.2E-09	-6.7E-09
84	-3.6E-09	-7.5E-09	-6.7E-09	-5.2E-09	-4.4E-09	-5.9E-09	-9.7E-09
85	-5.9E-09	-4.4E-09	-7.5E-09	-5.2E-09	-8.2E-09	-9.7E-09	-5.9E-09
Statistics							
Min	-8.2E-09	-7.5E-09	-7.5E-09	-6.7E-09	-8.2E-09	-9.7E-09	-9.7E-09
Max	-2.9E-09	173.3E-12	-2.9E-09	-2.9E-09	-1.4E-09	-5.2E-09	-5.2E-09
Average	-5.3E-09	-3.0E-09	-6.1E-09	-5.0E-09	-5.5E-09	-7.5E-09	-7.2E-09
Std Deviation	2.1E-09	3.3E-09	1.8E-09	1.4E-09	2.7E-09	1.9E-09	1.8E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.3E-09	-6.7E-09	-7.5E-09	-9.7E-09	-8.2E-09	-5.2E-09	-9.7E-09
87_OUT_REF	-9.0E-09	-6.7E-09	-2.9E-09	-7.5E-09	-8.2E-09	-5.9E-09	-7.5E-09
ON samples							
71	-5.2E-09	-2.1E-09	-7.5E-09	-9.0E-09	-5.2E-09	-7.5E-09	-5.9E-09
72	-8.2E-09	-5.9E-09	-5.9E-09	-8.2E-09	-5.9E-09	-9.0E-09	-10.5E-09
73	-3.6E-09	-8.2E-09	-10.5E-09	-8.2E-09	-9.7E-09	-6.7E-09	-5.2E-09
74	-10.5E-09	-6.7E-09	-9.0E-09	-8.2E-09	-7.5E-09	-8.2E-09	-9.0E-09
75	-5.2E-09	-9.7E-09	-9.0E-09	-9.7E-09	-6.7E-09	-9.7E-09	-7.5E-09
76	-8.2E-09	-7.5E-09	-2.9E-09	-8.2E-09	-7.5E-09	-9.0E-09	-7.5E-09
77	-6.7E-09	-8.2E-09	-9.0E-09	-9.0E-09	-9.0E-09	-4.4E-09	-3.6E-09
78	-6.7E-09	-7.5E-09	-12.0E-09	-9.0E-09	-5.2E-09	-10.5E-09	-5.9E-09
79	-9.7E-09	-10.5E-09	-5.2E-09	-5.9E-09	-9.0E-09	-5.9E-09	-12.0E-09
80	-5.2E-09	-12.0E-09	-5.2E-09	-9.7E-09	-9.0E-09	-6.7E-09	-5.2E-09
Statistics							
Min	-10.5E-09	-12.0E-09	-12.0E-09	-9.7E-09	-9.7E-09	-10.5E-09	-12.0E-09
Max	-3.6E-09	-2.1E-09	-2.9E-09	-5.9E-09	-5.2E-09	-4.4E-09	-3.6E-09
Average	-6.9E-09	-7.8E-09	-7.6E-09	-8.5E-09	-7.5E-09	-7.8E-09	-7.2E-09
Std Deviation	2.2E-09	2.7E-09	2.8E-09	1.1E-09	1.7E-09	1.9E-09	2.6E-09

Measurements

Iih<ADD[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.3E-09	-6.7E-09	-7.5E-09	-9.7E-09	-8.2E-09	-5.2E-09	-9.7E-09
87_OUT_REF	-9.0E-09	-6.7E-09	-2.9E-09	-7.5E-09	-8.2E-09	-5.9E-09	-7.5E-09
OFF samples							
81	-10.5E-09	-9.0E-09	-6.7E-09	-5.9E-09	-4.4E-09	-9.7E-09	-9.7E-09
82	-5.2E-09	-12.0E-09	-7.5E-09	-7.5E-09	-4.4E-09	-5.9E-09	-5.2E-09
83	-9.7E-09	-3.6E-09	-5.9E-09	-5.2E-09	-5.2E-09	-6.7E-09	-6.7E-09
84	-4.4E-09	-5.9E-09	-11.3E-09	-8.2E-09	-7.5E-09	-5.9E-09	-4.4E-09
85	-12.0E-09	-5.9E-09	-6.7E-09	-6.7E-09	-2.9E-09	-6.7E-09	-7.5E-09
Statistics							
Min	-12.0E-09	-12.0E-09	-11.3E-09	-8.2E-09	-7.5E-09	-9.7E-09	-9.7E-09
Max	-4.4E-09	-3.6E-09	-5.9E-09	-5.2E-09	-2.9E-09	-5.9E-09	-4.4E-09
Average	-8.4E-09	-7.3E-09	-7.6E-09	-6.7E-09	-4.9E-09	-7.0E-09	-6.7E-09
Std Deviation	3.4E-09	3.3E-09	2.1E-09	1.2E-09	1.7E-09	1.6E-09	2.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-18.9E-09	-14.3E-09	-18.9E-09	-14.3E-09	-15.1E-09	-14.3E-09	-22.0E-09
87_OUT_REF	-13.6E-09	-15.1E-09	-19.7E-09	-14.3E-09	-16.6E-09	-21.2E-09	-15.8E-09
ON samples							
71	-16.6E-09	-15.1E-09	-13.6E-09	-12.8E-09	-18.1E-09	-15.8E-09	-18.1E-09
72	-14.3E-09	-19.7E-09	-13.6E-09	-11.3E-09	-18.1E-09	-17.4E-09	-15.8E-09
73	-22.7E-09	-15.1E-09	-18.1E-09	-17.4E-09	-18.1E-09	-22.0E-09	-16.6E-09
74	-15.1E-09	-12.0E-09	-12.8E-09	-11.3E-09	-20.4E-09	-15.8E-09	-15.1E-09
75	-15.1E-09	-15.8E-09	-15.1E-09	-13.6E-09	-17.4E-09	-18.9E-09	-14.3E-09
76	-16.6E-09	-15.8E-09	-16.6E-09	-10.5E-09	-13.6E-09	-19.7E-09	-11.3E-09
77	-16.6E-09	-16.6E-09	-16.6E-09	-12.0E-09	-14.3E-09	-15.1E-09	-13.6E-09
78	-14.3E-09	-14.3E-09	-13.6E-09	-12.8E-09	-17.4E-09	-10.5E-09	-18.9E-09
79	-14.3E-09	-19.7E-09	-16.6E-09	-14.3E-09	-15.8E-09	-13.6E-09	-18.1E-09
80	-12.8E-09	-15.1E-09	-16.6E-09	-14.3E-09	-15.8E-09	-13.6E-09	-16.6E-09
Statistics							
Min	-22.7E-09	-19.7E-09	-18.1E-09	-17.4E-09	-20.4E-09	-22.0E-09	-18.9E-09
Max	-12.8E-09	-12.0E-09	-12.8E-09	-10.5E-09	-13.6E-09	-10.5E-09	-11.3E-09
Average	-15.8E-09	-15.9E-09	-15.3E-09	-13.0E-09	-16.9E-09	-16.2E-09	-15.8E-09
Std Deviation	2.7E-09	2.3E-09	1.8E-09	2.0E-09	2.0E-09	3.4E-09	2.4E-09

Measurements

Iih<ADD[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-18.9E-09	-14.3E-09	-18.9E-09	-14.3E-09	-15.1E-09	-14.3E-09	-22.0E-09
87_OUT_REF	-13.6E-09	-15.1E-09	-19.7E-09	-14.3E-09	-16.6E-09	-21.2E-09	-15.8E-09
OFF samples							
81	-14.3E-09	-13.6E-09	-18.1E-09	-15.1E-09	-12.0E-09	-15.8E-09	-14.3E-09
82	-12.0E-09	-14.3E-09	-13.6E-09	-10.5E-09	-14.3E-09	-16.6E-09	-11.3E-09
83	-15.1E-09	-17.4E-09	-16.6E-09	-8.2E-09	-15.1E-09	-15.1E-09	-18.9E-09
84	-10.5E-09	-9.7E-09	-13.6E-09	-9.7E-09	-12.0E-09	-14.3E-09	-18.9E-09
85	-14.3E-09	-14.3E-09	-15.8E-09	-12.0E-09	-17.4E-09	-14.3E-09	-18.9E-09
Statistics							
Min	-15.1E-09	-17.4E-09	-18.1E-09	-15.1E-09	-17.4E-09	-16.6E-09	-18.9E-09
Max	-10.5E-09	-9.7E-09	-13.6E-09	-8.2E-09	-12.0E-09	-14.3E-09	-11.3E-09
Average	-13.3E-09	-13.9E-09	-15.5E-09	-11.1E-09	-14.2E-09	-15.2E-09	-16.5E-09
Std Deviation	1.9E-09	2.7E-09	2.0E-09	2.6E-09	2.3E-09	994.4E-12	3.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.3E-09	-9.0E-09	-12.0E-09	-11.3E-09	-14.3E-09	-6.7E-09	-13.6E-09
87_OUT_REF	-10.5E-09	-12.0E-09	-13.6E-09	-12.8E-09	-10.5E-09	-6.7E-09	-10.5E-09
ON samples							
71	-13.6E-09	-11.3E-09	-14.3E-09	-14.3E-09	-5.2E-09	-8.2E-09	-8.2E-09
72	-11.3E-09	-12.0E-09	-12.0E-09	-7.5E-09	-13.6E-09	-9.7E-09	-7.5E-09
73	-9.0E-09	-11.3E-09	-10.5E-09	-13.6E-09	-8.2E-09	-10.5E-09	-9.0E-09
74	-12.8E-09	-13.6E-09	-12.0E-09	-7.5E-09	-7.5E-09	-7.5E-09	-9.0E-09
75	-8.2E-09	-12.0E-09	-9.0E-09	-9.7E-09	-6.7E-09	-10.5E-09	-7.5E-09
76	-9.0E-09	-8.2E-09	-14.3E-09	-13.6E-09	-9.7E-09	-2.9E-09	-12.0E-09
77	-10.5E-09	-11.3E-09	-9.7E-09	-11.3E-09	-11.3E-09	-8.2E-09	-13.6E-09
78	-6.7E-09	-12.8E-09	-12.8E-09	-12.0E-09	-12.8E-09	-9.7E-09	-11.3E-09
79	-9.0E-09	-13.6E-09	-11.3E-09	-11.3E-09	-11.3E-09	-6.7E-09	-8.2E-09
80	-9.7E-09	-9.0E-09	-14.3E-09	-11.3E-09	-5.9E-09	-11.3E-09	-11.3E-09
Statistics							
Min	-13.6E-09	-13.6E-09	-14.3E-09	-14.3E-09	-13.6E-09	-11.3E-09	-13.6E-09
Max	-6.7E-09	-8.2E-09	-9.0E-09	-7.5E-09	-5.2E-09	-2.9E-09	-7.5E-09
Average	-10.0E-09	-11.5E-09	-12.0E-09	-11.2E-09	-9.2E-09	-8.5E-09	-9.7E-09
Std Deviation	2.1E-09	1.8E-09	1.9E-09	2.4E-09	2.9E-09	2.5E-09	2.1E-09

Measurements

Iih<ADD[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.3E-09	-9.0E-09	-12.0E-09	-11.3E-09	-14.3E-09	-6.7E-09	-13.6E-09
87_OUT_REF	-10.5E-09	-12.0E-09	-13.6E-09	-12.8E-09	-10.5E-09	-6.7E-09	-10.5E-09
OFF samples							
81	-13.6E-09	-10.5E-09	-11.3E-09	-12.0E-09	-10.5E-09	-12.0E-09	-9.0E-09
82	-15.1E-09	-9.0E-09	-12.0E-09	-13.6E-09	-12.8E-09	-12.8E-09	-12.8E-09
83	-9.0E-09	-11.3E-09	-15.8E-09	-12.8E-09	-4.4E-09	-11.3E-09	-9.7E-09
84	-12.8E-09	-9.7E-09	-9.7E-09	-9.7E-09	-9.0E-09	-6.7E-09	-11.3E-09
85	-7.5E-09	-8.2E-09	-14.3E-09	-9.7E-09	-14.3E-09	-7.5E-09	-13.6E-09
Statistics							
Min	-15.1E-09	-11.3E-09	-15.8E-09	-13.6E-09	-14.3E-09	-12.8E-09	-13.6E-09
Max	-7.5E-09	-8.2E-09	-9.7E-09	-9.7E-09	-4.4E-09	-6.7E-09	-9.0E-09
Average	-11.6E-09	-9.7E-09	-12.6E-09	-11.6E-09	-10.2E-09	-10.1E-09	-11.3E-09
Std Deviation	3.2E-09	1.2E-09	2.4E-09	1.8E-09	3.8E-09	2.8E-09	1.9E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	173.3E-12	173.3E-12	936.3E-12	-1.4E-09	-2.9E-09	-2.9E-09	936.3E-12
87_OUT_REF	-589.6E-12	173.3E-12	173.3E-12	-2.9E-09	3.2E-09	-3.6E-09	-5.9E-09
ON samples							
71	-2.1E-09	-3.6E-09	-2.1E-09	1.7E-09	173.3E-12	173.3E-12	-2.1E-09
72	936.3E-12	-2.1E-09	-2.1E-09	-4.4E-09	4.0E-09	3.2E-09	4.8E-09
73	1.7E-09	-4.4E-09	-5.9E-09	-1.4E-09	-2.9E-09	-2.1E-09	173.3E-12
74	936.3E-12	-2.1E-09	-1.4E-09	-2.9E-09	-2.1E-09	1.7E-09	-1.4E-09
75	936.3E-12	4.0E-09	-1.4E-09	4.0E-09	173.3E-12	-1.4E-09	-2.9E-09
76	-589.6E-12	-589.6E-12	-2.9E-09	1.7E-09	-2.1E-09	-589.6E-12	-1.4E-09
77	-589.6E-12	-3.6E-09	936.3E-12	936.3E-12	173.3E-12	-2.9E-09	936.3E-12
78	173.3E-12	-589.6E-12	-589.6E-12	-589.6E-12	-2.9E-09	-4.4E-09	-2.1E-09
79	-589.6E-12	-5.2E-09	-4.4E-09	4.0E-09	173.3E-12	-5.2E-09	-1.4E-09
80	173.3E-12	-2.1E-09	-589.6E-12	173.3E-12	173.3E-12	936.3E-12	-4.4E-09
Statistics							
Min	-2.1E-09	-5.2E-09	-5.9E-09	-4.4E-09	-2.9E-09	-5.2E-09	-4.4E-09
Max	1.7E-09	4.0E-09	936.3E-12	4.0E-09	4.0E-09	3.2E-09	4.8E-09
Average	97.0E-12	-2.0E-09	-2.0E-09	325.9E-12	-513.3E-12	-1.0E-09	-971.1E-12
Std Deviation	1.1E-09	2.6E-09	2.0E-09	2.7E-09	2.1E-09	2.7E-09	2.5E-09

Measurements

Iih<ADD[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	173.3E-12	173.3E-12	936.3E-12	-1.4E-09	-2.9E-09	-2.9E-09	936.3E-12
87_OUT_REF	-589.6E-12	173.3E-12	173.3E-12	-2.9E-09	3.2E-09	-3.6E-09	-5.9E-09
OFF samples							
81	-1.4E-09	-2.1E-09	173.3E-12	2.5E-09	6.3E-09	-3.6E-09	-5.2E-09
82	173.3E-12	2.5E-09	2.5E-09	2.5E-09	-4.4E-09	173.3E-12	173.3E-12
83	-1.4E-09	-589.6E-12	-4.4E-09	-5.9E-09	-589.6E-12	-2.9E-09	-2.1E-09
84	-1.4E-09	173.3E-12	-1.4E-09	-589.6E-12	-5.2E-09	-589.6E-12	173.3E-12
85	-1.4E-09	173.3E-12	-1.4E-09	173.3E-12	-4.4E-09	-4.4E-09	-5.2E-09
Statistics							
Min	-1.4E-09	-2.1E-09	-4.4E-09	-5.9E-09	-5.2E-09	-4.4E-09	-5.2E-09
Max	173.3E-12	2.5E-09	2.5E-09	2.5E-09	6.3E-09	173.3E-12	173.3E-12
Average	-1.0E-09	20.8E-12	-894.8E-12	-284.4E-12	-1.7E-09	-2.3E-09	-2.4E-09
Std Deviation	682.4E-12	1.7E-09	2.5E-09	3.4E-09	4.8E-09	2.0E-09	2.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.6E-09	-3.6E-09	-6.7E-09	-2.9E-09	-2.9E-09	-1.4E-09	-4.4E-09
87_OUT_REF	-4.4E-09	-1.4E-09	173.3E-12	936.3E-12	-4.4E-09	-4.4E-09	-2.1E-09
ON samples							
71	-589.6E-12	-2.9E-09	-7.5E-09	-8.2E-09	-2.9E-09	-5.9E-09	-5.2E-09
72	-4.4E-09	-2.1E-09	-4.4E-09	-3.6E-09	-2.1E-09	-2.1E-09	173.3E-12
73	-5.9E-09	-4.4E-09	-3.6E-09	-5.9E-09	-3.6E-09	-4.4E-09	-1.4E-09
74	936.3E-12	-7.5E-09	-5.2E-09	-3.6E-09	-8.2E-09	936.3E-12	173.3E-12
75	-3.6E-09	-5.2E-09	-8.2E-09	-3.6E-09	-5.2E-09	-6.7E-09	-4.4E-09
76	173.3E-12	-2.9E-09	-3.6E-09	-5.2E-09	-3.6E-09	-2.9E-09	-5.2E-09
77	-6.7E-09	-2.9E-09	-589.6E-12	-1.4E-09	-589.6E-12	-589.6E-12	2.5E-09
78	173.3E-12	-5.9E-09	-2.1E-09	-3.6E-09	-3.6E-09	-2.1E-09	173.3E-12
79	-1.4E-09	-3.6E-09	173.3E-12	-589.6E-12	-6.7E-09	-7.5E-09	-2.9E-09
80	-7.5E-09	-2.9E-09	-3.6E-09	-5.2E-09	173.3E-12	-2.1E-09	-2.1E-09
Statistics							
Min	-7.5E-09	-7.5E-09	-8.2E-09	-8.2E-09	-8.2E-09	-7.5E-09	-5.2E-09
Max	936.3E-12	-2.1E-09	173.3E-12	-589.6E-12	173.3E-12	936.3E-12	2.5E-09
Average	-2.9E-09	-4.0E-09	-3.9E-09	-4.1E-09	-3.6E-09	-3.3E-09	-1.8E-09
Std Deviation	3.1E-09	1.7E-09	2.7E-09	2.2E-09	2.6E-09	2.7E-09	2.6E-09

Measurements

Iih<ADD[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.6E-09	-3.6E-09	-6.7E-09	-2.9E-09	-2.9E-09	-1.4E-09	-4.4E-09
87_OUT_REF	-4.4E-09	-1.4E-09	173.3E-12	936.3E-12	-4.4E-09	-4.4E-09	-2.1E-09
OFF samples							
81	-8.2E-09	-2.9E-09	-5.9E-09	-6.7E-09	936.3E-12	173.3E-12	-2.1E-09
82	-3.6E-09	-4.4E-09	-5.9E-09	-589.6E-12	-8.2E-09	-2.1E-09	936.3E-12
83	-589.6E-12	-2.9E-09	-8.2E-09	-5.2E-09	173.3E-12	-6.7E-09	-4.4E-09
84	-6.7E-09	-1.4E-09	-2.9E-09	-3.6E-09	2.5E-09	-2.1E-09	-6.7E-09
85	-5.2E-09	-8.2E-09	-589.6E-12	936.3E-12	-1.4E-09	-2.9E-09	-3.6E-09
Statistics							
Min	-8.2E-09	-8.2E-09	-8.2E-09	-6.7E-09	-8.2E-09	-6.7E-09	-6.7E-09
Max	-589.6E-12	-1.4E-09	-589.6E-12	936.3E-12	2.5E-09	173.3E-12	936.3E-12
Average	-4.9E-09	-3.9E-09	-4.7E-09	-3.0E-09	-1.2E-09	-2.7E-09	-3.2E-09
Std Deviation	2.9E-09	2.6E-09	3.0E-09	3.2E-09	4.2E-09	2.5E-09	2.8E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	936.3E-12	2.5E-09	-4.4E-09	3.2E-09	2.5E-09	4.8E-09	936.3E-12
87_OUT_REF	2.5E-09	-2.9E-09	936.3E-12	4.0E-09	-2.9E-09	-589.6E-12	173.3E-12
ON samples							
71	-2.1E-09	1.7E-09	-1.4E-09	1.7E-09	936.3E-12	-2.1E-09	-3.6E-09
72	2.5E-09	-589.6E-12	1.7E-09	1.7E-09	-2.1E-09	1.7E-09	-4.4E-09
73	-589.6E-12	173.3E-12	936.3E-12	4.0E-09	173.3E-12	-589.6E-12	-1.4E-09
74	1.7E-09	173.3E-12	936.3E-12	936.3E-12	1.7E-09	-2.9E-09	936.3E-12
75	936.3E-12	-589.6E-12	936.3E-12	4.8E-09	-2.9E-09	4.8E-09	-589.6E-12
76	3.2E-09	-4.4E-09	3.2E-09	4.8E-09	4.8E-09	1.7E-09	173.3E-12
77	-1.4E-09	-2.1E-09	173.3E-12	5.5E-09	2.5E-09	-2.9E-09	-6.7E-09
78	-589.6E-12	2.5E-09	1.7E-09	3.2E-09	4.8E-09	-1.4E-09	3.2E-09
79	936.3E-12	1.7E-09	-2.1E-09	2.5E-09	173.3E-12	-589.6E-12	-4.4E-09
80	2.5E-09	-1.4E-09	-5.9E-09	-589.6E-12	-589.6E-12	936.3E-12	1.7E-09
Statistics							
Min	-2.1E-09	-4.4E-09	-5.9E-09	-589.6E-12	-2.9E-09	-2.9E-09	-6.7E-09
Max	3.2E-09	2.5E-09	3.2E-09	5.5E-09	4.8E-09	4.8E-09	3.2E-09
Average	707.4E-12	-284.4E-12	20.7E-12	2.8E-09	936.3E-12	-131.8E-12	-1.5E-09
Std Deviation	1.8E-09	2.0E-09	2.6E-09	1.9E-09	2.6E-09	2.4E-09	3.2E-09

Measurements

Iih<ADD[8]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	936.3E-12	2.5E-09	-4.4E-09	3.2E-09	2.5E-09	4.8E-09	936.3E-12
87_OUT_REF	2.5E-09	-2.9E-09	936.3E-12	4.0E-09	-2.9E-09	-589.6E-12	173.3E-12
OFF samples							
81	2.5E-09	-589.6E-12	173.3E-12	4.0E-09	3.2E-09	2.5E-09	-2.9E-09
82	1.7E-09	173.3E-12	2.5E-09	4.0E-09	1.7E-09	-2.9E-09	-2.9E-09
83	4.0E-09	4.0E-09	4.8E-09	-589.6E-12	-1.4E-09	173.3E-12	2.5E-09
84	-589.6E-12	936.3E-12	2.5E-09	4.0E-09	4.0E-09	936.3E-12	-4.4E-09
85	173.3E-12	-1.4E-09	-1.4E-09	2.5E-09	173.3E-12	4.0E-09	-1.4E-09
Statistics							
Min	-589.6E-12	-1.4E-09	-1.4E-09	-589.6E-12	-1.4E-09	-2.9E-09	-4.4E-09
Max	4.0E-09	4.0E-09	4.8E-09	4.0E-09	4.0E-09	4.0E-09	2.5E-09
Average	1.5E-09	631.1E-12	1.7E-09	2.8E-09	1.5E-09	936.3E-12	-1.8E-09
Std Deviation	1.8E-09	2.1E-09	2.4E-09	2.0E-09	2.2E-09	2.6E-09	2.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-2.1E-09	-2.1E-09	-4.4E-09	173.3E-12	-3.6E-09	-2.9E-09
87_OUT_REF	1.7E-09	-3.6E-09	936.3E-12	-1.4E-09	-1.4E-09	2.5E-09	-4.4E-09
ON samples							
71	936.3E-12	1.7E-09	936.3E-12	-2.1E-09	-2.1E-09	173.3E-12	-2.1E-09
72	173.3E-12	173.3E-12	-1.4E-09	-1.4E-09	936.3E-12	3.2E-09	-589.6E-12
73	-1.4E-09	2.5E-09	173.3E-12	-3.6E-09	-589.6E-12	-5.2E-09	-3.6E-09
74	936.3E-12	-1.4E-09	-3.6E-09	2.5E-09	936.3E-12	-4.4E-09	173.3E-12
75	-1.4E-09	936.3E-12	936.3E-12	5.5E-09	3.2E-09	-1.4E-09	-589.6E-12
76	-2.9E-09	-1.4E-09	1.7E-09	-589.6E-12	-1.4E-09	1.7E-09	173.3E-12
77	-589.6E-12	-589.6E-12	1.7E-09	-589.6E-12	173.3E-12	-1.4E-09	-2.9E-09
78	-2.9E-09	173.3E-12	173.3E-12	936.3E-12	173.3E-12	-2.1E-09	-1.4E-09
79	-2.1E-09	1.7E-09	4.8E-09	1.7E-09	-3.6E-09	-5.2E-09	173.3E-12
80	-589.6E-12	173.3E-12	936.3E-12	2.5E-09	-4.4E-09	-2.1E-09	-3.6E-09
Statistics							
Min	-2.9E-09	-1.4E-09	-3.6E-09	-3.6E-09	-4.4E-09	-5.2E-09	-3.6E-09
Max	936.3E-12	2.5E-09	4.8E-09	5.5E-09	3.2E-09	3.2E-09	173.3E-12
Average	-971.1E-12	402.2E-12	631.1E-12	478.5E-12	-665.9E-12	-1.7E-09	-1.4E-09
Std Deviation	1.4E-09	1.3E-09	2.2E-09	2.7E-09	2.3E-09	2.8E-09	1.5E-09

Measurements

Iih<ADD[9]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.9E-09	-2.1E-09	-2.1E-09	-4.4E-09	173.3E-12	-3.6E-09	-2.9E-09
87_OUT_REF	1.7E-09	-3.6E-09	936.3E-12	-1.4E-09	-1.4E-09	2.5E-09	-4.4E-09
OFF samples							
81	-2.1E-09	4.8E-09	173.3E-12	-1.4E-09	936.3E-12	173.3E-12	-1.4E-09
82	173.3E-12	936.3E-12	-589.6E-12	-2.1E-09	-1.4E-09	-6.7E-09	1.7E-09
83	-2.1E-09	2.5E-09	-2.9E-09	-2.9E-09	-2.1E-09	-5.9E-09	-2.9E-09
84	-1.4E-09	4.8E-09	1.7E-09	936.3E-12	-4.4E-09	-1.4E-09	-589.6E-12
85	-1.4E-09	5.5E-09	-589.6E-12	-5.2E-09	-589.6E-12	2.5E-09	-589.6E-12
Statistics							
Min	-2.1E-09	936.3E-12	-2.9E-09	-5.2E-09	-4.4E-09	-6.7E-09	-2.9E-09
Max	173.3E-12	5.5E-09	1.7E-09	936.3E-12	936.3E-12	2.5E-09	1.7E-09
Average	-1.4E-09	3.7E-09	-437.0E-12	-2.1E-09	-1.5E-09	-2.3E-09	-742.2E-12
Std Deviation	934.4E-12	1.9E-09	1.7E-09	2.2E-09	2.0E-09	3.9E-09	1.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-8.2E-09	-2.9E-09	-7.5E-09	-6.7E-09	-5.9E-09	-9.7E-09
87_OUT_REF	-1.4E-09	-2.1E-09	-5.9E-09	173.3E-12	-2.1E-09	-6.7E-09	-3.6E-09
ON samples							
71	-9.0E-09	173.3E-12	-3.6E-09	-7.5E-09	-8.2E-09	-1.4E-09	-3.6E-09
72	-7.5E-09	-8.2E-09	-4.4E-09	-3.6E-09	-5.9E-09	-2.1E-09	-6.7E-09
73	-4.4E-09	-2.1E-09	-1.4E-09	-3.6E-09	-5.2E-09	-3.6E-09	-7.5E-09
74	-5.9E-09	-5.2E-09	-2.9E-09	-7.5E-09	-6.7E-09	-6.7E-09	-7.5E-09
75	-7.5E-09	-1.4E-09	-589.6E-12	-6.7E-09	-5.2E-09	-2.9E-09	-4.4E-09
76	-3.6E-09	-5.9E-09	-7.5E-09	-3.6E-09	-6.7E-09	-2.9E-09	-6.7E-09
77	-8.2E-09	-4.4E-09	-5.2E-09	936.3E-12	-589.6E-12	-9.0E-09	-6.7E-09
78	-5.9E-09	-5.9E-09	-3.6E-09	-3.6E-09	-589.6E-12	-9.7E-09	-4.4E-09
79	-4.4E-09	-589.6E-12	-2.1E-09	-4.4E-09	-7.5E-09	-2.1E-09	-589.6E-12
80	-5.9E-09	-589.6E-12	-9.0E-09	-5.2E-09	-8.2E-09	-5.2E-09	-7.5E-09
Statistics							
Min	-9.0E-09	-8.2E-09	-9.0E-09	-7.5E-09	-8.2E-09	-9.7E-09	-7.5E-09
Max	-3.6E-09	173.3E-12	-589.6E-12	936.3E-12	-589.6E-12	-1.4E-09	-589.6E-12
Average	-6.2E-09	-3.4E-09	-4.0E-09	-4.5E-09	-5.5E-09	-4.6E-09	-5.5E-09
Std Deviation	1.8E-09	2.9E-09	2.6E-09	2.5E-09	2.8E-09	3.0E-09	2.3E-09

Measurements

Iih<BANK[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-5.2E-09	-8.2E-09	-2.9E-09	-7.5E-09	-6.7E-09	-5.9E-09	-9.7E-09
87_OUT_REF	-1.4E-09	-2.1E-09	-5.9E-09	173.3E-12	-2.1E-09	-6.7E-09	-3.6E-09
OFF samples							
81	-5.2E-09	-6.7E-09	-6.7E-09	-4.4E-09	-5.9E-09	-3.6E-09	-5.2E-09
82	-4.4E-09	-4.4E-09	173.3E-12	-3.6E-09	-2.9E-09	-6.7E-09	-5.9E-09
83	-5.9E-09	-6.7E-09	-3.6E-09	-5.9E-09	-6.7E-09	-9.0E-09	-7.5E-09
84	-5.2E-09	-589.6E-12	-1.4E-09	-5.2E-09	-5.9E-09	-5.2E-09	-7.5E-09
85	-2.1E-09	-4.4E-09	-1.4E-09	-5.2E-09	-5.9E-09	-3.6E-09	173.3E-12
Statistics							
Min	-5.9E-09	-6.7E-09	-6.7E-09	-5.9E-09	-6.7E-09	-9.0E-09	-7.5E-09
Max	-2.1E-09	-589.6E-12	173.3E-12	-3.6E-09	-2.9E-09	-3.6E-09	173.3E-12
Average	-4.6E-09	-4.6E-09	-2.6E-09	-4.9E-09	-5.5E-09	-5.6E-09	-5.2E-09
Std Deviation	1.5E-09	2.5E-09	2.7E-09	869.9E-12	1.5E-09	2.3E-09	3.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-13.6E-09	-5.9E-09	-9.0E-09	-10.5E-09	-12.0E-09	-10.5E-09	-8.2E-09
87_OUT_REF	-7.5E-09	-7.5E-09	-12.0E-09	-9.7E-09	-7.5E-09	-9.7E-09	-7.5E-09
ON samples							
71	-13.6E-09	-9.7E-09	-13.6E-09	-12.8E-09	-11.3E-09	-12.0E-09	-12.0E-09
72	-14.3E-09	-9.7E-09	-12.8E-09	-9.0E-09	-9.7E-09	-9.0E-09	-12.0E-09
73	-8.2E-09	-12.8E-09	-12.8E-09	-13.6E-09	-13.6E-09	-12.8E-09	-9.0E-09
74	-12.0E-09	-11.3E-09	-7.5E-09	-9.0E-09	-10.5E-09	-9.7E-09	-11.3E-09
75	-6.7E-09	-12.0E-09	-12.8E-09	-13.6E-09	-12.8E-09	-10.5E-09	-13.6E-09
76	-7.5E-09	-9.7E-09	-11.3E-09	-11.3E-09	-10.5E-09	-14.3E-09	-9.7E-09
77	-11.3E-09	-9.7E-09	-9.0E-09	-6.7E-09	-10.5E-09	-6.7E-09	-12.8E-09
78	-5.2E-09	-12.0E-09	-7.5E-09	-12.0E-09	-12.8E-09	-10.5E-09	-12.0E-09
79	-7.5E-09	-7.5E-09	-12.0E-09	-14.3E-09	-10.5E-09	-12.8E-09	-7.5E-09
80	-9.0E-09	-9.7E-09	-11.3E-09	-11.3E-09	-9.0E-09	-9.7E-09	-7.5E-09
Statistics							
Min	-14.3E-09	-12.8E-09	-13.6E-09	-14.3E-09	-13.6E-09	-14.3E-09	-13.6E-09
Max	-5.2E-09	-7.5E-09	-7.5E-09	-6.7E-09	-9.0E-09	-6.7E-09	-7.5E-09
Average	-9.5E-09	-10.4E-09	-11.0E-09	-11.3E-09	-11.1E-09	-10.8E-09	-10.7E-09
Std Deviation	3.1E-09	1.6E-09	2.3E-09	2.5E-09	1.5E-09	2.2E-09	2.2E-09

Measurements

Iih<BANK[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-13.6E-09	-5.9E-09	-9.0E-09	-10.5E-09	-12.0E-09	-10.5E-09	-8.2E-09
87_OUT_REF	-7.5E-09	-7.5E-09	-12.0E-09	-9.7E-09	-7.5E-09	-9.7E-09	-7.5E-09
OFF samples							
81	-13.6E-09	-10.5E-09	-9.7E-09	-12.0E-09	-5.9E-09	-12.8E-09	-9.0E-09
82	-10.5E-09	-12.0E-09	-15.1E-09	-9.7E-09	-9.7E-09	-6.7E-09	-9.0E-09
83	-9.0E-09	-8.2E-09	-14.3E-09	-11.3E-09	-9.0E-09	-8.2E-09	-12.8E-09
84	-12.0E-09	-11.3E-09	-12.8E-09	-8.2E-09	-10.5E-09	-7.5E-09	-10.5E-09
85	-12.0E-09	-14.3E-09	-6.7E-09	-9.7E-09	-12.8E-09	-9.7E-09	-9.0E-09
Statistics							
Min	-13.6E-09	-14.3E-09	-15.1E-09	-12.0E-09	-12.8E-09	-12.8E-09	-12.8E-09
Max	-9.0E-09	-8.2E-09	-6.7E-09	-8.2E-09	-5.9E-09	-6.7E-09	-9.0E-09
Average	-11.4E-09	-11.3E-09	-11.7E-09	-10.2E-09	-9.6E-09	-9.0E-09	-10.1E-09
Std Deviation	1.7E-09	2.2E-09	3.5E-09	1.5E-09	2.5E-09	2.4E-09	1.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.8E-09	-9.7E-09	-9.7E-09	-8.2E-09	-8.2E-09	-11.3E-09	-5.2E-09
87_OUT_REF	-10.5E-09	-7.5E-09	-8.2E-09	-12.8E-09	-9.7E-09	-5.9E-09	-5.2E-09
ON samples							
71	-12.0E-09	-9.0E-09	-8.2E-09	-3.6E-09	-9.0E-09	-10.5E-09	-10.5E-09
72	-11.3E-09	-12.8E-09	-9.7E-09	-8.2E-09	-7.5E-09	-9.7E-09	-4.4E-09
73	-12.0E-09	-11.3E-09	-9.7E-09	-7.5E-09	-9.0E-09	-13.6E-09	-9.0E-09
74	-7.5E-09	-9.7E-09	-7.5E-09	-7.5E-09	-10.5E-09	-8.2E-09	-9.0E-09
75	-11.3E-09	-9.7E-09	-9.0E-09	-12.8E-09	-12.8E-09	-10.5E-09	-12.0E-09
76	-12.8E-09	-14.3E-09	-11.3E-09	-7.5E-09	-12.8E-09	-9.7E-09	-4.4E-09
77	-17.4E-09	-13.6E-09	-6.7E-09	-9.0E-09	-7.5E-09	-10.5E-09	-11.3E-09
78	-13.6E-09	-9.7E-09	-12.0E-09	-9.7E-09	-12.0E-09	-7.5E-09	-7.5E-09
79	-10.5E-09	-13.6E-09	-8.2E-09	-10.5E-09	-7.5E-09	-2.9E-09	-12.0E-09
80	-11.3E-09	-11.3E-09	-12.8E-09	-11.3E-09	-9.7E-09	-13.6E-09	-8.2E-09
Statistics							
Min	-17.4E-09	-14.3E-09	-12.8E-09	-12.8E-09	-12.8E-09	-13.6E-09	-12.0E-09
Max	-7.5E-09	-9.0E-09	-6.7E-09	-3.6E-09	-7.5E-09	-2.9E-09	-4.4E-09
Average	-12.0E-09	-11.5E-09	-9.5E-09	-8.8E-09	-9.8E-09	-9.7E-09	-8.8E-09
Std Deviation	2.5E-09	1.9E-09	2.0E-09	2.5E-09	2.1E-09	3.1E-09	2.8E-09

Measurements

Iih<BANK[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.8E-09	-9.7E-09	-9.7E-09	-8.2E-09	-8.2E-09	-11.3E-09	-5.2E-09
87_OUT_REF	-10.5E-09	-7.5E-09	-8.2E-09	-12.8E-09	-9.7E-09	-5.9E-09	-5.2E-09
OFF samples							
81	-9.7E-09	-10.5E-09	-8.2E-09	-8.2E-09	-9.0E-09	-8.2E-09	-5.2E-09
82	-8.2E-09	-9.7E-09	-9.0E-09	-6.7E-09	-10.5E-09	-8.2E-09	-7.5E-09
83	-11.3E-09	-9.7E-09	-8.2E-09	-12.0E-09	-9.0E-09	-8.2E-09	-15.1E-09
84	-9.0E-09	-12.8E-09	-11.3E-09	-14.3E-09	-9.0E-09	-3.6E-09	-11.3E-09
85	-12.0E-09	-5.9E-09	-5.9E-09	-12.0E-09	-4.4E-09	-15.8E-09	-11.3E-09
Statistics							
Min	-12.0E-09	-12.8E-09	-11.3E-09	-14.3E-09	-10.5E-09	-15.8E-09	-15.1E-09
Max	-8.2E-09	-5.9E-09	-5.9E-09	-6.7E-09	-4.4E-09	-3.6E-09	-5.2E-09
Average	-10.1E-09	-9.7E-09	-8.5E-09	-10.7E-09	-8.4E-09	-8.8E-09	-10.1E-09
Std Deviation	1.6E-09	2.5E-09	1.9E-09	3.1E-09	2.3E-09	4.4E-09	3.8E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-30.5E-09	-33.0E-09	-26.9E-09	-33.0E-09	-29.3E-09	-29.3E-09	-31.7E-09
87_OUT_REF	-34.2E-09	-35.4E-09	-35.4E-09	-24.4E-09	-33.0E-09	-33.0E-09	-28.1E-09
ON samples							
71	-28.1E-09	-37.8E-09	-28.1E-09	-28.1E-09	-28.1E-09	-28.1E-09	-28.1E-09
72	-41.5E-09	-40.3E-09	-28.1E-09	-28.1E-09	-22.0E-09	-23.2E-09	-33.0E-09
73	-23.2E-09	-35.4E-09	-29.3E-09	-34.2E-09	-34.2E-09	-29.3E-09	-28.1E-09
74	-31.7E-09	-33.0E-09	-35.4E-09	-39.1E-09	-30.5E-09	-28.1E-09	-25.6E-09
75	-26.9E-09	-29.3E-09	-31.7E-09	-34.2E-09	-18.3E-09	-25.6E-09	-31.7E-09
76	-30.5E-09	-33.0E-09	-30.5E-09	-30.5E-09	-35.4E-09	-31.7E-09	-31.7E-09
77	-26.9E-09	-25.6E-09	-29.3E-09	-39.1E-09	-26.9E-09	-35.4E-09	-23.2E-09
78	-23.2E-09	-33.0E-09	-28.1E-09	-28.1E-09	-35.4E-09	-35.4E-09	-25.6E-09
79	-24.4E-09	-28.1E-09	-28.1E-09	-33.0E-09	-24.4E-09	-35.4E-09	-34.2E-09
80	-28.1E-09	-34.2E-09	-30.5E-09	-35.4E-09	-24.4E-09	-35.4E-09	-30.5E-09
Statistics							
Min	-41.5E-09	-40.3E-09	-35.4E-09	-39.1E-09	-35.4E-09	-35.4E-09	-34.2E-09
Max	-23.2E-09	-25.6E-09	-28.1E-09	-28.1E-09	-18.3E-09	-23.2E-09	-23.2E-09
Average	-28.4E-09	-33.0E-09	-29.9E-09	-33.0E-09	-28.0E-09	-30.8E-09	-29.2E-09
Std Deviation	5.4E-09	4.4E-09	2.3E-09	4.2E-09	5.9E-09	4.6E-09	3.6E-09

Measurements

Iih<CK/>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-30.5E-09	-33.0E-09	-26.9E-09	-33.0E-09	-29.3E-09	-29.3E-09	-31.7E-09
87_OUT_REF	-34.2E-09	-35.4E-09	-35.4E-09	-24.4E-09	-33.0E-09	-33.0E-09	-28.1E-09
OFF samples							
81	-29.3E-09	-26.9E-09	-29.3E-09	-30.5E-09	-28.1E-09	-34.2E-09	-31.7E-09
82	-25.6E-09	-25.6E-09	-29.3E-09	-25.6E-09	-26.9E-09	-31.7E-09	-25.6E-09
83	-24.4E-09	-28.1E-09	-33.0E-09	-29.3E-09	-28.1E-09	-33.0E-09	-29.3E-09
84	-37.8E-09	-26.9E-09	-35.4E-09	-25.6E-09	-37.8E-09	-26.9E-09	-25.6E-09
85	-34.2E-09	-29.3E-09	-33.0E-09	-35.4E-09	-20.8E-09	-37.8E-09	-28.1E-09
Statistics							
Min	-37.8E-09	-29.3E-09	-35.4E-09	-35.4E-09	-37.8E-09	-37.8E-09	-31.7E-09
Max	-24.4E-09	-25.6E-09	-29.3E-09	-25.6E-09	-20.8E-09	-26.9E-09	-25.6E-09
Average	-30.3E-09	-27.3E-09	-32.0E-09	-29.3E-09	-28.3E-09	-32.7E-09	-28.1E-09
Std Deviation	5.7E-09	1.4E-09	2.6E-09	4.0E-09	6.1E-09	4.0E-09	2.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-35.4E-09	-33.0E-09	-28.1E-09	-34.2E-09	-28.1E-09	-42.7E-09	-40.3E-09
87_OUT_REF	-35.4E-09	-22.0E-09	-36.6E-09	-37.8E-09	-24.4E-09	-36.6E-09	-24.4E-09
ON samples							
71	-37.8E-09	-34.2E-09	-23.2E-09	-37.8E-09	-29.3E-09	-23.2E-09	-37.8E-09
72	-33.0E-09	-39.1E-09	-29.3E-09	-37.8E-09	-23.2E-09	-25.6E-09	-29.3E-09
73	-31.7E-09	-33.0E-09	-31.7E-09	-31.7E-09	-39.1E-09	-36.6E-09	-36.6E-09
74	-30.5E-09	-36.6E-09	-35.4E-09	-33.0E-09	-33.0E-09	-28.1E-09	-26.9E-09
75	-28.1E-09	-33.0E-09	-37.8E-09	-30.5E-09	-25.6E-09	-25.6E-09	-34.2E-09
76	-33.0E-09	-29.3E-09	-30.5E-09	-40.3E-09	-34.2E-09	-42.7E-09	-34.2E-09
77	-39.1E-09	-30.5E-09	-26.9E-09	-36.6E-09	-33.0E-09	-35.4E-09	-34.2E-09
78	-26.9E-09	-35.4E-09	-29.3E-09	-36.6E-09	-30.5E-09	-41.5E-09	-29.3E-09
79	-33.0E-09	-28.1E-09	-31.7E-09	-34.2E-09	-25.6E-09	-33.0E-09	-30.5E-09
80	-29.3E-09	-35.4E-09	-29.3E-09	-37.8E-09	-25.6E-09	-28.1E-09	-35.4E-09
Statistics							
Min	-39.1E-09	-39.1E-09	-37.8E-09	-40.3E-09	-39.1E-09	-42.7E-09	-37.8E-09
Max	-26.9E-09	-28.1E-09	-23.2E-09	-30.5E-09	-23.2E-09	-23.2E-09	-26.9E-09
Average	-32.2E-09	-33.4E-09	-30.5E-09	-35.6E-09	-29.9E-09	-32.0E-09	-32.8E-09
Std Deviation	3.9E-09	3.4E-09	4.1E-09	3.1E-09	5.0E-09	6.9E-09	3.6E-09

Measurements

Iih<CK>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-35.4E-09	-33.0E-09	-28.1E-09	-34.2E-09	-28.1E-09	-42.7E-09	-40.3E-09
87_OUT_REF	-35.4E-09	-22.0E-09	-36.6E-09	-37.8E-09	-24.4E-09	-36.6E-09	-24.4E-09
OFF samples							
81	-30.5E-09	-26.9E-09	-40.3E-09	-36.6E-09	-33.0E-09	-34.2E-09	-33.0E-09
82	-28.1E-09	-39.1E-09	-39.1E-09	-30.5E-09	-34.2E-09	-31.7E-09	-30.5E-09
83	-29.3E-09	-29.3E-09	-33.0E-09	-37.8E-09	-35.4E-09	-29.3E-09	-33.0E-09
84	-37.8E-09	-30.5E-09	-30.5E-09	-33.0E-09	-40.3E-09	-37.8E-09	-28.1E-09
85	-29.3E-09	-31.7E-09	-35.4E-09	-31.7E-09	-30.5E-09	-37.8E-09	-25.6E-09
Statistics							
Min	-37.8E-09	-39.1E-09	-40.3E-09	-37.8E-09	-40.3E-09	-37.8E-09	-33.0E-09
Max	-28.1E-09	-26.9E-09	-30.5E-09	-30.5E-09	-30.5E-09	-29.3E-09	-25.6E-09
Average	-31.0E-09	-31.5E-09	-35.6E-09	-33.9E-09	-34.7E-09	-34.2E-09	-30.0E-09
Std Deviation	3.9E-09	4.6E-09	4.1E-09	3.2E-09	3.6E-09	3.8E-09	3.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-17.1E-09	-4.9E-09	-4.9E-09	-9.8E-09	-11.0E-09	-3.7E-09	-13.4E-09
87_OUT_REF	-13.4E-09	-9.8E-09	-9.8E-09	-8.5E-09	-14.6E-09	-19.5E-09	-22.0E-09
ON samples							
71	-12.2E-09	-8.5E-09	-12.2E-09	-13.4E-09	-9.8E-09	-18.3E-09	-17.1E-09
72	-17.1E-09	-11.0E-09	-15.9E-09	-11.0E-09	-24.4E-09	-8.5E-09	-12.2E-09
73	-7.3E-09	-13.4E-09	-8.5E-09	-12.2E-09	-18.3E-09	-13.4E-09	-9.8E-09
74	-7.3E-09	-11.0E-09	-18.3E-09	-17.1E-09	-13.4E-09	-14.6E-09	-8.5E-09
75	-17.1E-09	-14.6E-09	-9.8E-09	-4.9E-09	-9.8E-09	-8.5E-09	-12.2E-09
76	-12.2E-09	-15.9E-09	-14.6E-09	-13.4E-09	-12.2E-09	-18.3E-09	-4.9E-09
77	-15.9E-09	-11.0E-09	-14.6E-09	-11.0E-09	-9.8E-09	-11.0E-09	-12.2E-09
78	-20.8E-09	-13.4E-09	-9.8E-09	-13.4E-09	-18.3E-09	-9.8E-09	-13.4E-09
79	-13.4E-09	-9.8E-09	-13.4E-09	-11.0E-09	-12.2E-09	-6.1E-09	-15.9E-09
80	-14.6E-09	-15.9E-09	-8.5E-09	-17.1E-09	-6.1E-09	-19.5E-09	-13.4E-09
Statistics							
Min	-20.8E-09	-15.9E-09	-18.3E-09	-17.1E-09	-24.4E-09	-19.5E-09	-17.1E-09
Max	-7.3E-09	-8.5E-09	-8.5E-09	-4.9E-09	-6.1E-09	-6.1E-09	-4.9E-09
Average	-13.8E-09	-12.5E-09	-12.6E-09	-12.5E-09	-13.4E-09	-12.8E-09	-12.0E-09
Std Deviation	4.3E-09	2.6E-09	3.4E-09	3.5E-09	5.4E-09	4.8E-09	3.5E-09

Measurements

Iih<CKE>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-17.1E-09	-4.9E-09	-4.9E-09	-9.8E-09	-11.0E-09	-3.7E-09	-13.4E-09
87_OUT_REF	-13.4E-09	-9.8E-09	-9.8E-09	-8.5E-09	-14.6E-09	-19.5E-09	-22.0E-09
OFF samples							
81	-9.8E-09	-17.1E-09	-9.8E-09	-12.2E-09	-15.9E-09	-13.4E-09	-26.9E-09
82	-2.4E-09	-14.6E-09	-3.7E-09	-4.9E-09	-24.4E-09	-20.8E-09	-11.0E-09
83	-9.8E-09	-22.0E-09	-12.2E-09	-11.0E-09	-14.6E-09	-8.5E-09	-13.4E-09
84	-15.9E-09	-19.5E-09	-18.3E-09	-7.3E-09	-12.2E-09	-8.5E-09	-20.8E-09
85	-9.8E-09	-14.6E-09	-11.0E-09	-15.9E-09	-19.5E-09	-15.9E-09	-14.6E-09
Statistics							
Min	-15.9E-09	-22.0E-09	-18.3E-09	-15.9E-09	-24.4E-09	-20.8E-09	-26.9E-09
Max	-2.4E-09	-14.6E-09	-3.7E-09	-4.9E-09	-12.2E-09	-8.5E-09	-11.0E-09
Average	-9.5E-09	-17.6E-09	-11.0E-09	-10.3E-09	-17.3E-09	-13.4E-09	-17.3E-09
Std Deviation	4.8E-09	3.2E-09	5.3E-09	4.3E-09	4.8E-09	5.2E-09	6.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-14.6E-09	-23.2E-09	-13.4E-09	-17.1E-09	-26.9E-09	-13.4E-09
87_OUT_REF	-15.9E-09	-15.9E-09	-20.8E-09	-19.5E-09	-23.2E-09	-25.6E-09	-23.2E-09
ON samples							
71	-12.2E-09	-9.8E-09	-12.2E-09	-6.1E-09	-8.5E-09	-6.1E-09	-11.0E-09
72	-13.4E-09	-11.0E-09	-15.9E-09	-13.4E-09	-18.3E-09	-19.5E-09	-15.9E-09
73	-11.0E-09	-12.2E-09	-15.9E-09	-11.0E-09	-20.8E-09	-9.8E-09	-12.2E-09
74	-6.1E-09	-11.0E-09	-18.3E-09	-17.1E-09	-15.9E-09	-17.1E-09	-18.3E-09
75	-19.5E-09	-14.6E-09	-8.5E-09	-24.4E-09	-24.4E-09	-17.1E-09	-13.4E-09
76	-14.6E-09	-22.0E-09	-14.6E-09	-23.2E-09	-11.0E-09	-18.3E-09	-17.1E-09
77	-17.1E-09	-20.8E-09	-7.3E-09	-9.8E-09	-26.9E-09	-11.0E-09	-19.5E-09
78	-22.0E-09	-18.3E-09	-11.0E-09	-13.4E-09	-20.8E-09	-15.9E-09	-15.9E-09
79	-17.1E-09	-9.8E-09	-8.5E-09	-19.5E-09	-6.1E-09	-13.4E-09	-13.4E-09
80	-4.9E-09	-14.6E-09	-4.9E-09	-7.3E-09	-9.8E-09	-17.1E-09	-9.8E-09
Statistics							
Min	-22.0E-09	-22.0E-09	-18.3E-09	-24.4E-09	-26.9E-09	-19.5E-09	-19.5E-09
Max	-4.9E-09	-9.8E-09	-4.9E-09	-6.1E-09	-6.1E-09	-6.1E-09	-9.8E-09
Average	-13.8E-09	-14.4E-09	-11.7E-09	-14.5E-09	-16.2E-09	-14.5E-09	-14.6E-09
Std Deviation	5.5E-09	4.5E-09	4.4E-09	6.4E-09	7.1E-09	4.3E-09	3.2E-09

Measurements

Iih<DM>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-14.6E-09	-23.2E-09	-13.4E-09	-17.1E-09	-26.9E-09	-13.4E-09
87_OUT_REF	-15.9E-09	-15.9E-09	-20.8E-09	-19.5E-09	-23.2E-09	-25.6E-09	-23.2E-09
OFF samples							
81	-15.9E-09	-17.1E-09	-9.8E-09	-6.1E-09	-14.6E-09	-14.6E-09	-17.1E-09
82	-18.3E-09	-15.9E-09	-13.4E-09	-11.0E-09	-11.0E-09	-3.7E-09	-13.4E-09
83	-11.0E-09	-13.4E-09	-14.6E-09	-9.8E-09	-7.3E-09	-29.3E-09	-15.9E-09
84	-8.5E-09	-6.1E-09	-4.9E-09	-17.1E-09	-11.0E-09	-23.2E-09	-9.8E-09
85	-12.2E-09	-14.6E-09	-9.8E-09	-11.0E-09	-12.2E-09	-14.6E-09	-19.5E-09
Statistics							
Min	-18.3E-09	-17.1E-09	-14.6E-09	-17.1E-09	-14.6E-09	-29.3E-09	-19.5E-09
Max	-8.5E-09	-6.1E-09	-4.9E-09	-6.1E-09	-7.3E-09	-3.7E-09	-9.8E-09
Average	-13.2E-09	-13.4E-09	-10.5E-09	-11.0E-09	-11.2E-09	-17.1E-09	-15.1E-09
Std Deviation	3.9E-09	4.3E-09	3.8E-09	4.0E-09	2.6E-09	9.7E-09	3.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-13.4E-09	-13.4E-09	-12.2E-09	-18.3E-09	-17.1E-09	-19.5E-09
87_OUT_REF	-12.2E-09	-20.8E-09	-14.6E-09	-9.8E-09	-19.5E-09	-14.6E-09	-14.6E-09
ON samples							
71	-17.1E-09	-15.9E-09	-8.5E-09	-12.2E-09	-12.2E-09	-19.5E-09	-9.8E-09
72	-18.3E-09	-17.1E-09	-14.6E-09	-15.9E-09	-18.3E-09	-19.5E-09	-20.8E-09
73	-11.0E-09	-14.6E-09	-17.1E-09	-14.6E-09	-14.6E-09	-19.5E-09	-11.0E-09
74	-12.2E-09	-13.4E-09	-17.1E-09	-15.9E-09	-15.9E-09	-19.5E-09	-17.1E-09
75	-17.1E-09	-18.3E-09	-14.6E-09	-12.2E-09	-17.1E-09	-22.0E-09	-19.5E-09
76	-11.0E-09	-17.1E-09	-18.3E-09	-14.6E-09	-17.1E-09	-14.6E-09	-15.9E-09
77	-13.4E-09	-14.6E-09	-15.9E-09	-15.9E-09	-22.0E-09	-17.1E-09	-12.2E-09
78	-18.3E-09	-17.1E-09	-12.2E-09	-12.2E-09	-18.3E-09	-18.3E-09	-19.5E-09
79	-12.2E-09	-11.0E-09	-17.1E-09	-12.2E-09	-14.6E-09	-14.6E-09	-18.3E-09
80	-8.5E-09	-18.3E-09	-14.6E-09	-9.8E-09	-12.2E-09	-12.2E-09	-15.9E-09
Statistics							
Min	-18.3E-09	-18.3E-09	-18.3E-09	-15.9E-09	-22.0E-09	-22.0E-09	-20.8E-09
Max	-8.5E-09	-11.0E-09	-8.5E-09	-9.8E-09	-12.2E-09	-12.2E-09	-9.8E-09
Average	-13.9E-09	-15.7E-09	-15.0E-09	-13.5E-09	-16.2E-09	-17.7E-09	-16.0E-09
Std Deviation	3.5E-09	2.3E-09	2.9E-09	2.1E-09	3.0E-09	3.0E-09	3.8E-09

Measurements

Iih<DQ[0]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-14.6E-09	-13.4E-09	-13.4E-09	-12.2E-09	-18.3E-09	-17.1E-09	-19.5E-09
87_OUT_REF	-12.2E-09	-20.8E-09	-14.6E-09	-9.8E-09	-19.5E-09	-14.6E-09	-14.6E-09
OFF samples							
81	-8.5E-09	-17.1E-09	-12.2E-09	-11.0E-09	-11.0E-09	-17.1E-09	-17.1E-09
82	-20.8E-09	-15.9E-09	-12.2E-09	-14.6E-09	-24.4E-09	-20.8E-09	-19.5E-09
83	-15.9E-09	-11.0E-09	-17.1E-09	-12.2E-09	-13.4E-09	-11.0E-09	-17.1E-09
84	-17.1E-09	-14.6E-09	-15.9E-09	-13.4E-09	-12.2E-09	-13.4E-09	-8.5E-09
85	-15.9E-09	-15.9E-09	-11.0E-09	-11.0E-09	-17.1E-09	-15.9E-09	-15.9E-09
Statistics							
Min	-20.8E-09	-17.1E-09	-17.1E-09	-14.6E-09	-24.4E-09	-20.8E-09	-19.5E-09
Max	-8.5E-09	-11.0E-09	-11.0E-09	-11.0E-09	-11.0E-09	-11.0E-09	-8.5E-09
Average	-15.6E-09	-14.9E-09	-13.7E-09	-12.5E-09	-15.6E-09	-15.6E-09	-15.6E-09
Std Deviation	4.4E-09	2.3E-09	2.6E-09	1.6E-09	5.4E-09	3.7E-09	4.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	2.4E-09	-3.7E-09	2.4E-09	1.2E-09	1.2E-09	-1.2E-09	0.0E+00
87_OUT_REF	4.9E-09	1.2E-09	1.2E-09	1.2E-09	3.7E-09	0.0E+00	1.2E-09
ON samples							
71	4.9E-09	3.7E-09	8.5E-09	8.5E-09	6.1E-09	3.7E-09	4.9E-09
72	8.5E-09	-4.9E-09	2.4E-09	0.0E+00	6.1E-09	4.9E-09	2.4E-09
73	0.0E+00	3.7E-09	0.0E+00	3.7E-09	-2.4E-09	3.7E-09	7.3E-09
74	2.4E-09	3.7E-09	0.0E+00	3.7E-09	6.1E-09	2.4E-09	2.4E-09
75	3.7E-09	-2.4E-09	0.0E+00	1.2E-09	4.9E-09	-2.4E-09	-6.1E-09
76	-1.2E-09	1.2E-09	1.2E-09	2.4E-09	-3.7E-09	0.0E+00	0.0E+00
77	6.1E-09	-1.2E-09	-1.2E-09	8.5E-09	2.4E-09	3.7E-09	7.3E-09
78	1.2E-09	1.2E-09	3.7E-09	7.3E-09	-4.9E-09	4.9E-09	1.2E-09
79	4.9E-09	1.2E-09	4.9E-09	9.8E-09	2.4E-09	-3.7E-09	7.3E-09
80	2.4E-09	2.4E-09	4.9E-09	7.3E-09	2.4E-09	6.1E-09	-1.2E-09
Statistics							
Min	-1.2E-09	-4.9E-09	-1.2E-09	0.0E+00	-4.9E-09	-3.7E-09	-6.1E-09
Max	8.5E-09	3.7E-09	8.5E-09	9.8E-09	6.1E-09	6.1E-09	7.3E-09
Average	3.3E-09	854.5E-12	2.4E-09	5.2E-09	2.0E-09	2.3E-09	2.6E-09
Std Deviation	2.9E-09	2.9E-09	3.0E-09	3.5E-09	4.2E-09	3.3E-09	4.4E-09

Measurements

Iih<DQ[1]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	2.4E-09	-3.7E-09	2.4E-09	1.2E-09	1.2E-09	-1.2E-09	0.0E+00
87_OUT_REF	4.9E-09	1.2E-09	1.2E-09	1.2E-09	3.7E-09	0.0E+00	1.2E-09
OFF samples							
81	7.3E-09	7.3E-09	6.1E-09	8.5E-09	7.3E-09	7.3E-09	8.5E-09
82	4.9E-09	7.3E-09	1.2E-09	4.9E-09	-2.4E-09	3.7E-09	1.2E-09
83	4.9E-09	2.4E-09	7.3E-09	11.0E-09	2.4E-09	-1.2E-09	7.3E-09
84	3.7E-09	11.0E-09	8.5E-09	6.1E-09	2.4E-09	2.4E-09	2.4E-09
85	4.9E-09	2.4E-09	0.0E+00	3.7E-09	2.4E-09	-1.2E-09	-1.2E-09
Statistics							
Min	3.7E-09	2.4E-09	0.0E+00	3.7E-09	-2.4E-09	-1.2E-09	-1.2E-09
Max	7.3E-09	11.0E-09	8.5E-09	11.0E-09	7.3E-09	7.3E-09	8.5E-09
Average	5.1E-09	6.1E-09	4.6E-09	6.8E-09	2.4E-09	2.2E-09	3.7E-09
Std Deviation	1.3E-09	3.7E-09	3.8E-09	2.9E-09	3.5E-09	3.6E-09	4.1E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.7E-09	-12.2E-09	-6.1E-09	-2.4E-09	-4.9E-09	-6.1E-09	-9.8E-09
87_OUT_REF	3.7E-09	-11.0E-09	-2.4E-09	6.1E-09	-11.0E-09	-7.3E-09	-8.5E-09
ON samples							
71	-7.3E-09	-4.9E-09	-3.7E-09	7.3E-09	-9.8E-09	-9.8E-09	-4.9E-09
72	-2.4E-09	0.0E+00	-6.1E-09	1.2E-09	-15.9E-09	-11.0E-09	-7.3E-09
73	-1.2E-09	-9.8E-09	-7.3E-09	6.1E-09	-7.3E-09	-8.5E-09	-9.8E-09
74	-4.9E-09	-7.3E-09	-7.3E-09	2.4E-09	-13.4E-09	-3.7E-09	-12.2E-09
75	-12.2E-09	-9.8E-09	-4.9E-09	-2.4E-09	-13.4E-09	-13.4E-09	-13.4E-09
76	-11.0E-09	-12.2E-09	-8.5E-09	-6.1E-09	-13.4E-09	-13.4E-09	-11.0E-09
77	-4.9E-09	-6.1E-09	-11.0E-09	6.1E-09	-7.3E-09	-3.7E-09	-6.1E-09
78	-9.8E-09	-12.2E-09	-12.2E-09	-4.9E-09	-12.2E-09	-9.8E-09	-12.2E-09
79	-6.1E-09	-13.4E-09	-11.0E-09	2.4E-09	-12.2E-09	-6.1E-09	-6.1E-09
80	-8.5E-09	-2.4E-09	-4.9E-09	3.7E-09	-8.5E-09	-3.7E-09	-6.1E-09
Statistics							
Min	-12.2E-09	-13.4E-09	-12.2E-09	-6.1E-09	-15.9E-09	-13.4E-09	-13.4E-09
Max	-1.2E-09	0.0E+00	-3.7E-09	7.3E-09	-7.3E-09	-3.7E-09	-4.9E-09
Average	-6.8E-09	-7.8E-09	-7.7E-09	1.6E-09	-11.4E-09	-8.3E-09	-8.9E-09
Std Deviation	3.6E-09	4.5E-09	2.9E-09	4.7E-09	2.9E-09	3.9E-09	3.2E-09

Measurements

Iih<DQ[2]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-3.7E-09	-12.2E-09	-6.1E-09	-2.4E-09	-4.9E-09	-6.1E-09	-9.8E-09
87_OUT_REF	3.7E-09	-11.0E-09	-2.4E-09	6.1E-09	-11.0E-09	-7.3E-09	-8.5E-09
OFF samples							
81	1.2E-09	-6.1E-09	-3.7E-09	7.3E-09	-12.2E-09	-2.4E-09	-4.9E-09
82	-8.5E-09	-4.9E-09	-14.6E-09	2.4E-09	-13.4E-09	-4.9E-09	-9.8E-09
83	-6.1E-09	-9.8E-09	-6.1E-09	2.4E-09	-11.0E-09	-7.3E-09	-2.4E-09
84	0.0E+00	-4.9E-09	-11.0E-09	11.0E-09	-4.9E-09	-1.2E-09	-6.1E-09
85	-3.7E-09	-11.0E-09	-11.0E-09	2.4E-09	-9.8E-09	-7.3E-09	-7.3E-09
Statistics							
Min	-8.5E-09	-11.0E-09	-14.6E-09	2.4E-09	-13.4E-09	-7.3E-09	-9.8E-09
Max	1.2E-09	-4.9E-09	-3.7E-09	11.0E-09	-4.9E-09	-1.2E-09	-2.4E-09
Average	-3.4E-09	-7.3E-09	-9.3E-09	5.1E-09	-10.3E-09	-4.6E-09	-6.1E-09
Std Deviation	4.1E-09	2.9E-09	4.4E-09	3.9E-09	3.3E-09	2.8E-09	2.7E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.0E-09	-12.2E-09	-17.1E-09	-12.2E-09	-11.0E-09	-13.4E-09	-11.0E-09
87_OUT_REF	-9.8E-09	-14.6E-09	-13.4E-09	-13.4E-09	-3.7E-09	-13.4E-09	-6.1E-09
ON samples							
71	-6.1E-09	-11.0E-09	-6.1E-09	-8.5E-09	-3.7E-09	-7.3E-09	-2.4E-09
72	-18.3E-09	-12.2E-09	-12.2E-09	-13.4E-09	-12.2E-09	-8.5E-09	-11.0E-09
73	-9.8E-09	-9.8E-09	-7.3E-09	-12.2E-09	-7.3E-09	-7.3E-09	-12.2E-09
74	-13.4E-09	-7.3E-09	-12.2E-09	-11.0E-09	-14.6E-09	-9.8E-09	-4.9E-09
75	-12.2E-09	-17.1E-09	-14.6E-09	-14.6E-09	-15.9E-09	-19.5E-09	-15.9E-09
76	-12.2E-09	-12.2E-09	-17.1E-09	-8.5E-09	-6.1E-09	-7.3E-09	-11.0E-09
77	-9.8E-09	-9.8E-09	-7.3E-09	-9.8E-09	-12.2E-09	-15.9E-09	-8.5E-09
78	-9.8E-09	-9.8E-09	-9.8E-09	-11.0E-09	-9.8E-09	-9.8E-09	-15.9E-09
79	-9.8E-09	-4.9E-09	-17.1E-09	-11.0E-09	-9.8E-09	-13.4E-09	-8.5E-09
80	-8.5E-09	-13.4E-09	-12.2E-09	-7.3E-09	-6.1E-09	-12.2E-09	-7.3E-09
Statistics							
Min	-18.3E-09	-17.1E-09	-17.1E-09	-14.6E-09	-15.9E-09	-19.5E-09	-15.9E-09
Max	-6.1E-09	-4.9E-09	-6.1E-09	-7.3E-09	-3.7E-09	-7.3E-09	-2.4E-09
Average	-11.0E-09	-10.7E-09	-11.6E-09	-10.7E-09	-9.8E-09	-11.1E-09	-9.8E-09
Std Deviation	3.3E-09	3.3E-09	4.0E-09	2.3E-09	4.0E-09	4.1E-09	4.3E-09

Measurements

Iih<DQ[3]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-11.0E-09	-12.2E-09	-17.1E-09	-12.2E-09	-11.0E-09	-13.4E-09	-11.0E-09
87_OUT_REF	-9.8E-09	-14.6E-09	-13.4E-09	-13.4E-09	-3.7E-09	-13.4E-09	-6.1E-09
OFF samples							
81	-4.9E-09	-8.5E-09	-12.2E-09	-9.8E-09	-7.3E-09	-8.5E-09	-14.6E-09
82	-11.0E-09	-11.0E-09	-12.2E-09	-11.0E-09	-14.6E-09	-15.9E-09	-6.1E-09
83	-8.5E-09	-9.8E-09	-19.5E-09	-11.0E-09	-6.1E-09	-13.4E-09	-9.8E-09
84	-3.7E-09	-6.1E-09	-7.3E-09	-6.1E-09	-6.1E-09	-9.8E-09	-6.1E-09
85	-13.4E-09	-11.0E-09	-14.6E-09	-11.0E-09	-11.0E-09	-11.0E-09	-11.0E-09
Statistics							
Min	-13.4E-09	-11.0E-09	-19.5E-09	-11.0E-09	-14.6E-09	-15.9E-09	-14.6E-09
Max	-3.7E-09	-6.1E-09	-7.3E-09	-6.1E-09	-6.1E-09	-8.5E-09	-6.1E-09
Average	-8.3E-09	-9.3E-09	-13.2E-09	-9.8E-09	-9.0E-09	-11.7E-09	-9.5E-09
Std Deviation	4.1E-09	2.0E-09	4.4E-09	2.1E-09	3.7E-09	2.9E-09	3.6E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-11.0E-09	-3.7E-09	-1.2E-09	-7.3E-09	-9.8E-09	-3.7E-09
87_OUT_REF	-6.1E-09	-8.5E-09	-9.8E-09	-6.1E-09	-7.3E-09	-7.3E-09	-8.5E-09
ON samples							
71	-9.8E-09	-9.8E-09	-3.7E-09	0.0E+00	-4.9E-09	-4.9E-09	-3.7E-09
72	-11.0E-09	-13.4E-09	-9.8E-09	-7.3E-09	-9.8E-09	-11.0E-09	-9.8E-09
73	-9.8E-09	-11.0E-09	-11.0E-09	-1.2E-09	-9.8E-09	-7.3E-09	-13.4E-09
74	-7.3E-09	-9.8E-09	-14.6E-09	-1.2E-09	-13.4E-09	-4.9E-09	-6.1E-09
75	-11.0E-09	-12.2E-09	-14.6E-09	-8.5E-09	-7.3E-09	-9.8E-09	-7.3E-09
76	-9.8E-09	-8.5E-09	-15.9E-09	-8.5E-09	-2.4E-09	-12.2E-09	-13.4E-09
77	-13.4E-09	-13.4E-09	-7.3E-09	-1.2E-09	-6.1E-09	-8.5E-09	-9.8E-09
78	-13.4E-09	-13.4E-09	-12.2E-09	-4.9E-09	-9.8E-09	-7.3E-09	-8.5E-09
79	-11.0E-09	-7.3E-09	-8.5E-09	-2.4E-09	-4.9E-09	-4.9E-09	-9.8E-09
80	-6.1E-09	-2.4E-09	-7.3E-09	0.0E+00	-2.4E-09	-11.0E-09	-3.7E-09
Statistics							
Min	-13.4E-09	-13.4E-09	-15.9E-09	-8.5E-09	-13.4E-09	-12.2E-09	-13.4E-09
Max	-6.1E-09	-2.4E-09	-3.7E-09	0.0E+00	-2.4E-09	-4.9E-09	-3.7E-09
Average	-10.3E-09	-10.1E-09	-10.5E-09	-3.5E-09	-7.1E-09	-8.2E-09	-8.5E-09
Std Deviation	2.3E-09	3.5E-09	3.9E-09	3.5E-09	3.6E-09	2.8E-09	3.5E-09

Measurements

Iih<DQ[4]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-11.0E-09	-3.7E-09	-1.2E-09	-7.3E-09	-9.8E-09	-3.7E-09
87_OUT_REF	-6.1E-09	-8.5E-09	-9.8E-09	-6.1E-09	-7.3E-09	-7.3E-09	-8.5E-09
OFF samples							
81	-2.4E-09	-11.0E-09	-3.7E-09	-2.4E-09	-6.1E-09	-6.1E-09	-4.9E-09
82	-9.8E-09	-11.0E-09	-7.3E-09	-8.5E-09	-7.3E-09	-11.0E-09	-7.3E-09
83	-12.2E-09	-11.0E-09	-6.1E-09	-1.2E-09	-3.7E-09	-3.7E-09	-6.1E-09
84	-8.5E-09	-7.3E-09	-8.5E-09	-8.5E-09	0.0E+00	-22.0E-09	-4.9E-09
85	-8.5E-09	-11.0E-09	-14.6E-09	-9.8E-09	-3.7E-09	-4.9E-09	-9.8E-09
Statistics							
Min	-12.2E-09	-11.0E-09	-14.6E-09	-9.8E-09	-7.3E-09	-22.0E-09	-9.8E-09
Max	-2.4E-09	-7.3E-09	-3.7E-09	-1.2E-09	0.0E+00	-3.7E-09	-4.9E-09
Average	-8.3E-09	-10.3E-09	-8.1E-09	-6.1E-09	-4.2E-09	-9.5E-09	-6.6E-09
Std Deviation	3.6E-09	1.6E-09	4.1E-09	4.0E-09	2.8E-09	7.5E-09	2.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	1.2E-09	-1.2E-09	1.2E-09	-6.1E-09	-3.7E-09	-8.5E-09
87_OUT_REF	-1.2E-09	-2.4E-09	-2.4E-09	0.0E+00	-1.2E-09	-2.4E-09	-3.7E-09
ON samples							
71	1.2E-09	-1.2E-09	0.0E+00	0.0E+00	-6.1E-09	2.4E-09	-2.4E-09
72	-4.9E-09	0.0E+00	-1.2E-09	3.7E-09	-2.4E-09	-6.1E-09	-9.8E-09
73	3.7E-09	-1.2E-09	0.0E+00	6.1E-09	-6.1E-09	1.2E-09	-3.7E-09
74	-7.3E-09	-4.9E-09	-6.1E-09	-3.7E-09	-11.0E-09	-6.1E-09	-12.2E-09
75	-4.9E-09	-2.4E-09	-7.3E-09	0.0E+00	-3.7E-09	-8.5E-09	-4.9E-09
76	-7.3E-09	-8.5E-09	0.0E+00	-1.2E-09	-6.1E-09	-9.8E-09	-7.3E-09
77	2.4E-09	1.2E-09	-1.2E-09	6.1E-09	-4.9E-09	-3.7E-09	-3.7E-09
78	-4.9E-09	-1.2E-09	-3.7E-09	-1.2E-09	-4.9E-09	0.0E+00	-7.3E-09
79	-1.2E-09	-2.4E-09	-1.2E-09	1.2E-09	-8.5E-09	-4.9E-09	-8.5E-09
80	1.2E-09	-3.7E-09	4.9E-09	3.7E-09	-2.4E-09	2.4E-09	-3.7E-09
Statistics							
Min	-7.3E-09	-8.5E-09	-7.3E-09	-3.7E-09	-11.0E-09	-9.8E-09	-12.2E-09
Max	3.7E-09	1.2E-09	4.9E-09	6.1E-09	-2.4E-09	2.4E-09	-2.4E-09
Average	-2.2E-09	-2.4E-09	-1.6E-09	1.5E-09	-5.6E-09	-3.3E-09	-6.3E-09
Std Deviation	4.1E-09	2.8E-09	3.5E-09	3.3E-09	2.6E-09	4.5E-09	3.2E-09

Measurements

Iih<DQ[5]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-6.1E-09	1.2E-09	-1.2E-09	1.2E-09	-6.1E-09	-3.7E-09	-8.5E-09
87_OUT_REF	-1.2E-09	-2.4E-09	-2.4E-09	0.0E+00	-1.2E-09	-2.4E-09	-3.7E-09
OFF samples							
81	-1.2E-09	-4.9E-09	1.2E-09	3.7E-09	-7.3E-09	-4.9E-09	0.0E+00
82	-4.9E-09	1.2E-09	-3.7E-09	-1.2E-09	-11.0E-09	-4.9E-09	-2.4E-09
83	-3.7E-09	-7.3E-09	-2.4E-09	-2.4E-09	-6.1E-09	-3.7E-09	-6.1E-09
84	3.7E-09	4.9E-09	1.2E-09	2.4E-09	2.4E-09	6.1E-09	-2.4E-09
85	-1.2E-09	-1.2E-09	-9.8E-09	1.2E-09	-1.2E-09	-4.9E-09	0.0E+00
Statistics							
Min	-4.9E-09	-7.3E-09	-9.8E-09	-2.4E-09	-11.0E-09	-4.9E-09	-6.1E-09
Max	3.7E-09	4.9E-09	1.2E-09	3.7E-09	2.4E-09	6.1E-09	0.0E+00
Average	-1.5E-09	-1.5E-09	-2.7E-09	732.4E-12	-4.6E-09	-2.4E-09	-2.2E-09
Std Deviation	3.3E-09	4.8E-09	4.5E-09	2.5E-09	5.3E-09	4.8E-09	2.5E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-14.6E-09	-11.0E-09	-4.9E-09	-4.9E-09	-13.4E-09	-14.6E-09
87_OUT_REF	-7.3E-09	-8.5E-09	-8.5E-09	-2.4E-09	-9.8E-09	-9.8E-09	-15.9E-09
ON samples							
71	-6.1E-09	-6.1E-09	-11.0E-09	6.1E-09	-11.0E-09	-9.8E-09	-7.3E-09
72	-4.9E-09	-9.8E-09	-11.0E-09	-4.9E-09	-15.9E-09	-13.4E-09	-15.9E-09
73	-4.9E-09	-4.9E-09	-8.5E-09	-1.2E-09	-9.8E-09	-11.0E-09	-6.1E-09
74	-6.1E-09	-8.5E-09	-12.2E-09	-1.2E-09	-7.3E-09	-12.2E-09	-11.0E-09
75	-11.0E-09	-7.3E-09	-8.5E-09	-6.1E-09	-9.8E-09	-15.9E-09	-8.5E-09
76	-11.0E-09	-15.9E-09	-12.2E-09	-3.7E-09	-11.0E-09	-15.9E-09	-12.2E-09
77	-14.6E-09	-9.8E-09	-4.9E-09	0.0E+00	-8.5E-09	-6.1E-09	-11.0E-09
78	-15.9E-09	-12.2E-09	-14.6E-09	-3.7E-09	-15.9E-09	-7.3E-09	-15.9E-09
79	-4.9E-09	-7.3E-09	-11.0E-09	-1.2E-09	-4.9E-09	-11.0E-09	-14.6E-09
80	-8.5E-09	-6.1E-09	-2.4E-09	-2.4E-09	-7.3E-09	-9.8E-09	-7.3E-09
Statistics							
Min	-15.9E-09	-15.9E-09	-14.6E-09	-6.1E-09	-15.9E-09	-15.9E-09	-15.9E-09
Max	-4.9E-09	-4.9E-09	-2.4E-09	6.1E-09	-4.9E-09	-6.1E-09	-6.1E-09
Average	-8.8E-09	-8.8E-09	-9.6E-09	-1.8E-09	-10.1E-09	-11.2E-09	-11.0E-09
Std Deviation	4.1E-09	3.3E-09	3.7E-09	3.4E-09	3.5E-09	3.2E-09	3.6E-09

Measurements

Iih<DQ[6]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-12.2E-09	-14.6E-09	-11.0E-09	-4.9E-09	-4.9E-09	-13.4E-09	-14.6E-09
87_OUT_REF	-7.3E-09	-8.5E-09	-8.5E-09	-2.4E-09	-9.8E-09	-9.8E-09	-15.9E-09
OFF samples							
81	-12.2E-09	-6.1E-09	-4.9E-09	1.2E-09	-15.9E-09	-9.8E-09	-13.4E-09
82	-7.3E-09	-8.5E-09	-11.0E-09	-4.9E-09	-18.3E-09	-12.2E-09	-15.9E-09
83	-13.4E-09	-8.5E-09	-7.3E-09	0.0E+00	-11.0E-09	-8.5E-09	-7.3E-09
84	-4.9E-09	-3.7E-09	-7.3E-09	7.3E-09	-4.9E-09	-1.2E-09	-11.0E-09
85	-8.5E-09	-6.1E-09	-8.5E-09	-4.9E-09	-15.9E-09	-9.8E-09	-9.8E-09
Statistics							
Min	-13.4E-09	-8.5E-09	-11.0E-09	-4.9E-09	-18.3E-09	-12.2E-09	-15.9E-09
Max	-4.9E-09	-3.7E-09	-4.9E-09	7.3E-09	-4.9E-09	-1.2E-09	-7.3E-09
Average	-9.3E-09	-6.6E-09	-7.8E-09	-244.1E-12	-13.2E-09	-8.3E-09	-11.5E-09
Std Deviation	3.5E-09	2.0E-09	2.2E-09	5.1E-09	5.3E-09	4.2E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	0.0E+00	-3.7E-09	0.0E+00	0.0E+00	-4.9E-09	-3.7E-09	-6.1E-09
87_OUT_REF	-6.1E-09	-9.8E-09	-3.7E-09	-4.9E-09	-8.5E-09	-4.9E-09	-1.2E-09
ON samples							
71	3.7E-09	1.2E-09	-1.2E-09	3.7E-09	-3.7E-09	-1.2E-09	-7.3E-09
72	-2.4E-09	-3.7E-09	-3.7E-09	-4.9E-09	-1.2E-09	-6.1E-09	-2.4E-09
73	2.4E-09	-4.9E-09	-4.9E-09	2.4E-09	-1.2E-09	-11.0E-09	-2.4E-09
74	-3.7E-09	-2.4E-09	2.4E-09	0.0E+00	-2.4E-09	-4.9E-09	-1.2E-09
75	-7.3E-09	-4.9E-09	-6.1E-09	-3.7E-09	-2.4E-09	-6.1E-09	-6.1E-09
76	-7.3E-09	-9.8E-09	-1.2E-09	1.2E-09	-6.1E-09	-8.5E-09	-8.5E-09
77	-2.4E-09	0.0E+00	-2.4E-09	6.1E-09	2.4E-09	-4.9E-09	-1.2E-09
78	-7.3E-09	-6.1E-09	-4.9E-09	2.4E-09	-6.1E-09	-4.9E-09	-3.7E-09
79	-1.2E-09	-2.4E-09	-2.4E-09	3.7E-09	-4.9E-09	-2.4E-09	-1.2E-09
80	3.7E-09	2.4E-09	3.7E-09	4.9E-09	-1.2E-09	1.2E-09	-3.7E-09
Statistics							
Min	-7.3E-09	-9.8E-09	-6.1E-09	-4.9E-09	-6.1E-09	-11.0E-09	-8.5E-09
Max	3.7E-09	2.4E-09	3.7E-09	6.1E-09	2.4E-09	1.2E-09	-1.2E-09
Average	-2.2E-09	-3.1E-09	-2.1E-09	1.6E-09	-2.7E-09	-4.9E-09	-3.8E-09
Std Deviation	4.4E-09	3.7E-09	3.2E-09	3.5E-09	2.6E-09	3.5E-09	2.7E-09

Measurements

Iih<DQ[7]>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	0.0E+00	-3.7E-09	0.0E+00	0.0E+00	-4.9E-09	-3.7E-09	-6.1E-09
87_OUT_REF	-6.1E-09	-9.8E-09	-3.7E-09	-4.9E-09	-8.5E-09	-4.9E-09	-1.2E-09
OFF samples							
81	2.4E-09	-1.2E-09	-4.9E-09	2.4E-09	-7.3E-09	-1.2E-09	0.0E+00
82	-1.2E-09	-1.2E-09	-2.4E-09	3.7E-09	1.2E-09	-7.3E-09	-8.5E-09
83	-2.4E-09	-4.9E-09	-7.3E-09	3.7E-09	0.0E+00	-1.2E-09	-8.5E-09
84	1.2E-09	3.7E-09	1.2E-09	6.1E-09	-1.2E-09	4.9E-09	3.7E-09
85	1.2E-09	-9.8E-09	-7.3E-09	-1.2E-09	0.0E+00	-3.7E-09	-1.2E-09
Statistics							
Min	-2.4E-09	-9.8E-09	-7.3E-09	-1.2E-09	-7.3E-09	-7.3E-09	-8.5E-09
Max	2.4E-09	3.7E-09	1.2E-09	6.1E-09	1.2E-09	4.9E-09	3.7E-09
Average	244.1E-12	-2.7E-09	-4.2E-09	2.9E-09	-1.5E-09	-1.7E-09	-2.9E-09
Std Deviation	2.0E-09	5.0E-09	3.6E-09	2.7E-09	3.4E-09	4.5E-09	5.4E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.4E-09	-6.1E-09	-8.5E-09	-3.7E-09	-7.3E-09	1.2E-09	-1.2E-09
87_OUT_REF	3.7E-09	-6.1E-09	-1.2E-09	-3.7E-09	-4.9E-09	1.2E-09	-11.0E-09
ON samples							
71	-2.4E-09	-6.1E-09	1.2E-09	1.2E-09	-2.4E-09	4.9E-09	0.0E+00
72	0.0E+00	-6.1E-09	-4.9E-09	-1.2E-09	-3.7E-09	-4.9E-09	-1.2E-09
73	-2.4E-09	-2.4E-09	-6.1E-09	2.4E-09	-4.9E-09	-2.4E-09	-2.4E-09
74	-1.2E-09	-1.2E-09	-2.4E-09	0.0E+00	-8.5E-09	0.0E+00	-7.3E-09
75	-7.3E-09	-6.1E-09	-6.1E-09	-3.7E-09	-4.9E-09	-3.7E-09	-8.5E-09
76	-4.9E-09	-2.4E-09	-6.1E-09	-4.9E-09	-1.2E-09	-6.1E-09	-11.0E-09
77	-6.1E-09	1.2E-09	-6.1E-09	-4.9E-09	0.0E+00	-3.7E-09	-7.3E-09
78	-8.5E-09	-7.3E-09	-6.1E-09	-1.2E-09	-4.9E-09	-9.8E-09	-8.5E-09
79	-4.9E-09	-6.1E-09	-6.1E-09	-2.4E-09	-2.4E-09	-3.7E-09	0.0E+00
80	-2.4E-09	1.2E-09	-2.4E-09	2.4E-09	-1.2E-09	-3.7E-09	0.0E+00
Statistics							
Min	-8.5E-09	-7.3E-09	-6.1E-09	-4.9E-09	-8.5E-09	-9.8E-09	-11.0E-09
Max	0.0E+00	1.2E-09	1.2E-09	2.4E-09	0.0E+00	4.9E-09	0.0E+00
Average	-4.0E-09	-3.5E-09	-4.5E-09	-1.2E-09	-3.4E-09	-3.3E-09	-4.6E-09
Std Deviation	2.8E-09	3.2E-09	2.5E-09	2.8E-09	2.5E-09	3.8E-09	4.3E-09

Measurements

Iih<DQS/>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-2.4E-09	-6.1E-09	-8.5E-09	-3.7E-09	-7.3E-09	1.2E-09	-1.2E-09
87_OUT_REF	3.7E-09	-6.1E-09	-1.2E-09	-3.7E-09	-4.9E-09	1.2E-09	-11.0E-09
OFF samples							
81	2.4E-09	-1.2E-09	1.2E-09	1.2E-09	-3.7E-09	-4.9E-09	-4.9E-09
82	-3.7E-09	-2.4E-09	-9.8E-09	-1.2E-09	-4.9E-09	-3.7E-09	-4.9E-09
83	-4.9E-09	-3.7E-09	-2.4E-09	-3.7E-09	-3.7E-09	-3.7E-09	-6.1E-09
84	1.2E-09	-1.2E-09	-4.9E-09	3.7E-09	6.1E-09	0.0E+00	-6.1E-09
85	-3.7E-09	-3.7E-09	-4.9E-09	0.0E+00	-4.9E-09	-4.9E-09	-7.3E-09
Statistics							
Min	-4.9E-09	-3.7E-09	-9.8E-09	-3.7E-09	-4.9E-09	-4.9E-09	-7.3E-09
Max	2.4E-09	-1.2E-09	1.2E-09	3.7E-09	6.1E-09	0.0E+00	-4.9E-09
Average	-1.7E-09	-2.4E-09	-4.2E-09	0.0E+00	-2.2E-09	-3.4E-09	-5.9E-09
Std Deviation	3.3E-09	1.2E-09	4.0E-09	2.7E-09	4.7E-09	2.0E-09	1.0E-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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.2E-09	0.0E+00	-4.9E-09	-4.9E-09	0.0E+00	-1.2E-09	-2.4E-09
87_OUT_REF	-4.9E-09	-3.7E-09	-3.7E-09	-1.2E-09	0.0E+00	-3.7E-09	-6.1E-09
ON samples							
71	-4.9E-09	-6.1E-09	-3.7E-09	-2.4E-09	-1.2E-09	-2.4E-09	0.0E+00
72	-4.9E-09	-6.1E-09	-1.2E-09	-6.1E-09	-8.5E-09	-7.3E-09	-4.9E-09
73	-3.7E-09	2.4E-09	-8.5E-09	-2.4E-09	0.0E+00	-2.4E-09	0.0E+00
74	-3.7E-09	-3.7E-09	-1.2E-09	-4.9E-09	-4.9E-09	-2.4E-09	-3.7E-09
75	-3.7E-09	-6.1E-09	-8.5E-09	-7.3E-09	-9.8E-09	-9.8E-09	-6.1E-09
76	-8.5E-09	-4.9E-09	-2.4E-09	-7.3E-09	-3.7E-09	-2.4E-09	-4.9E-09
77	-7.3E-09	-3.7E-09	-8.5E-09	-7.3E-09	-3.7E-09	-7.3E-09	-6.1E-09
78	-3.7E-09	-3.7E-09	-4.9E-09	-2.4E-09	-6.1E-09	-8.5E-09	-1.2E-09
79	-6.1E-09	-2.4E-09	-7.3E-09	-1.2E-09	0.0E+00	-3.7E-09	-9.8E-09
80	-6.1E-09	-1.2E-09	-3.7E-09	2.4E-09	1.2E-09	0.0E+00	-1.2E-09
Statistics							
Min	-8.5E-09	-6.1E-09	-8.5E-09	-7.3E-09	-9.8E-09	-9.8E-09	-9.8E-09
Max	-3.7E-09	2.4E-09	-1.2E-09	2.4E-09	1.2E-09	0.0E+00	0.0E+00
Average	-5.2E-09	-3.5E-09	-5.0E-09	-3.9E-09	-3.7E-09	-4.6E-09	-3.8E-09
Std Deviation	1.7E-09	2.7E-09	3.0E-09	3.2E-09	3.7E-09	3.3E-09	3.2E-09

Measurements

Iih<DQS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-1.2E-09	0.0E+00	-4.9E-09	-4.9E-09	0.0E+00	-1.2E-09	-2.4E-09
87_OUT_REF	-4.9E-09	-3.7E-09	-3.7E-09	-1.2E-09	0.0E+00	-3.7E-09	-6.1E-09
OFF samples							
81	-3.7E-09	0.0E+00	0.0E+00	1.2E-09	-2.4E-09	-8.5E-09	-7.3E-09
82	-2.4E-09	-6.1E-09	-8.5E-09	-7.3E-09	-9.8E-09	-4.9E-09	-6.1E-09
83	-9.8E-09	-4.9E-09	-6.1E-09	-3.7E-09	-4.9E-09	-3.7E-09	-3.7E-09
84	2.4E-09	1.2E-09	1.2E-09	1.2E-09	-3.7E-09	1.2E-09	-2.4E-09
85	-7.3E-09	-3.7E-09	-1.2E-09	-4.9E-09	-2.4E-09	-2.4E-09	-4.9E-09
Statistics							
Min	-9.8E-09	-6.1E-09	-8.5E-09	-7.3E-09	-9.8E-09	-8.5E-09	-7.3E-09
Max	2.4E-09	1.2E-09	1.2E-09	1.2E-09	-2.4E-09	1.2E-09	-2.4E-09
Average	-4.2E-09	-2.7E-09	-2.9E-09	-2.7E-09	-4.6E-09	-3.7E-09	-4.9E-09
Std Deviation	4.7E-09	3.2E-09	4.2E-09	3.8E-09	3.0E-09	3.6E-09	1.9E-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.

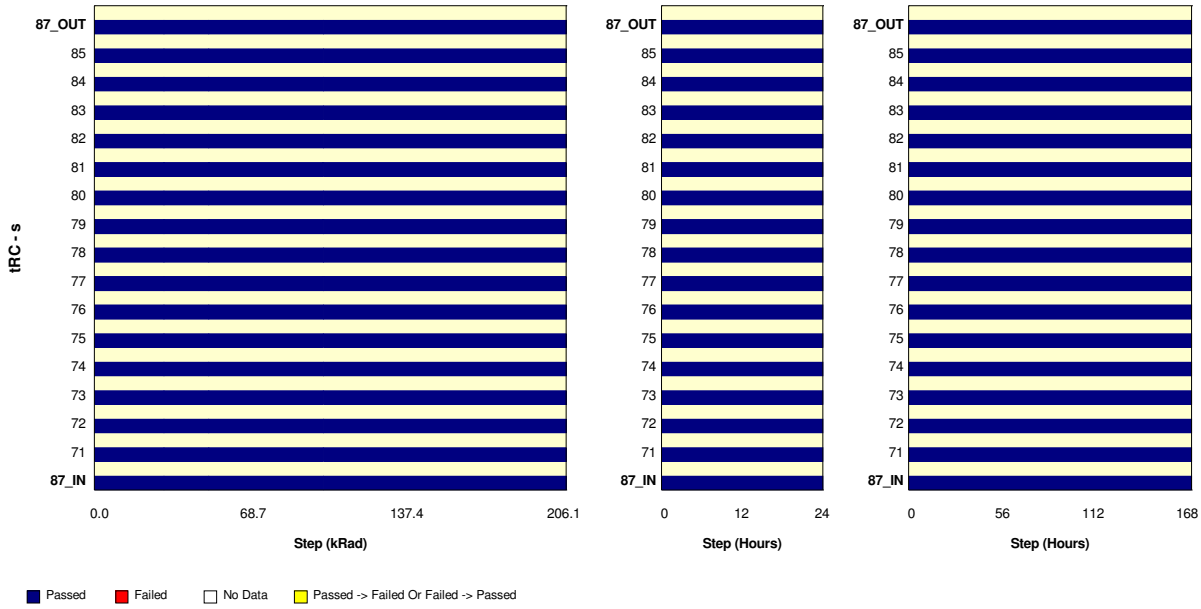
Measurements

Iih<ODT>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	-2.1E-09	-589.6E-12	-5.2E-09	-4.4E-09	-5.2E-09	-5.2E-09
87_OUT_REF	-589.6E-12	-1.4E-09	-3.6E-09	-3.6E-09	936.3E-12	-4.4E-09	-2.9E-09
ON samples							
71	-4.4E-09	-8.2E-09	-3.6E-09	-4.4E-09	-2.9E-09	-3.6E-09	-2.1E-09
72	-1.4E-09	-7.5E-09	936.3E-12	-6.7E-09	-2.9E-09	-4.4E-09	-1.4E-09
73	-2.9E-09	-1.4E-09	-4.4E-09	-2.9E-09	936.3E-12	-5.2E-09	-3.6E-09
74	-8.2E-09	-5.2E-09	173.3E-12	-2.9E-09	-5.2E-09	-5.2E-09	-4.4E-09
75	-2.1E-09	-5.2E-09	-589.6E-12	-2.9E-09	-8.2E-09	-2.9E-09	-2.1E-09
76	-5.2E-09	173.3E-12	-6.7E-09	-3.6E-09	-7.5E-09	-5.9E-09	-4.4E-09
77	1.7E-09	-1.4E-09	-4.4E-09	-4.4E-09	-4.4E-09	-2.1E-09	-1.4E-09
78	-8.2E-09	-589.6E-12	-589.6E-12	-6.7E-09	-3.6E-09	-3.6E-09	-4.4E-09
79	-5.2E-09	-5.2E-09	-1.4E-09	-3.6E-09	-2.9E-09	-589.6E-12	173.3E-12
80	-4.4E-09	-5.9E-09	-2.1E-09	-3.6E-09	-4.4E-09	936.3E-12	-4.4E-09
Statistics							
Min	-8.2E-09	-8.2E-09	-6.7E-09	-6.7E-09	-8.2E-09	-5.9E-09	-4.4E-09
Max	1.7E-09	173.3E-12	936.3E-12	-2.9E-09	936.3E-12	936.3E-12	173.3E-12
Average	-4.0E-09	-4.0E-09	-2.3E-09	-4.2E-09	-4.1E-09	-3.3E-09	-2.8E-09
Std Deviation	3.0E-09	3.0E-09	2.4E-09	1.4E-09	2.6E-09	2.2E-09	1.7E-09

Measurements

Iih<ODT>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-4.4E-09	-2.1E-09	-589.6E-12	-5.2E-09	-4.4E-09	-5.2E-09	-5.2E-09
87_OUT_REF	-589.6E-12	-1.4E-09	-3.6E-09	-3.6E-09	936.3E-12	-4.4E-09	-2.9E-09
OFF samples							
81	-2.1E-09	-2.9E-09	-2.9E-09	-2.9E-09	173.3E-12	-1.4E-09	-2.1E-09
82	173.3E-12	-5.9E-09	-1.4E-09	-2.9E-09	-3.6E-09	-2.9E-09	-589.6E-12
83	-1.4E-09	-4.4E-09	1.7E-09	-3.6E-09	173.3E-12	-5.2E-09	-2.1E-09
84	-2.1E-09	-5.9E-09	-3.6E-09	-5.2E-09	-589.6E-12	-4.4E-09	-2.1E-09
85	-2.9E-09	-4.4E-09	-2.9E-09	-2.1E-09	-1.4E-09	-3.6E-09	-589.6E-12
Statistics							
Min	-2.9E-09	-5.9E-09	-3.6E-09	-5.2E-09	-3.6E-09	-5.2E-09	-2.1E-09
Max	173.3E-12	-2.9E-09	1.7E-09	-2.1E-09	173.3E-12	-1.4E-09	-589.6E-12
Average	-1.7E-09	-4.7E-09	-1.8E-09	-3.3E-09	-1.0E-09	-3.5E-09	-1.5E-09
Std Deviation	1.2E-09	1.3E-09	2.1E-09	1.2E-09	1.6E-09	1.5E-09	835.8E-12

Parameter : ACTIVATE to ACTIVATE or REFRESH command Period : tRC
Test conditions : go/no go
Unit : s
Spec Limit Max : 48.8E-09
Spec limits are represented in bold lines on the graphic.



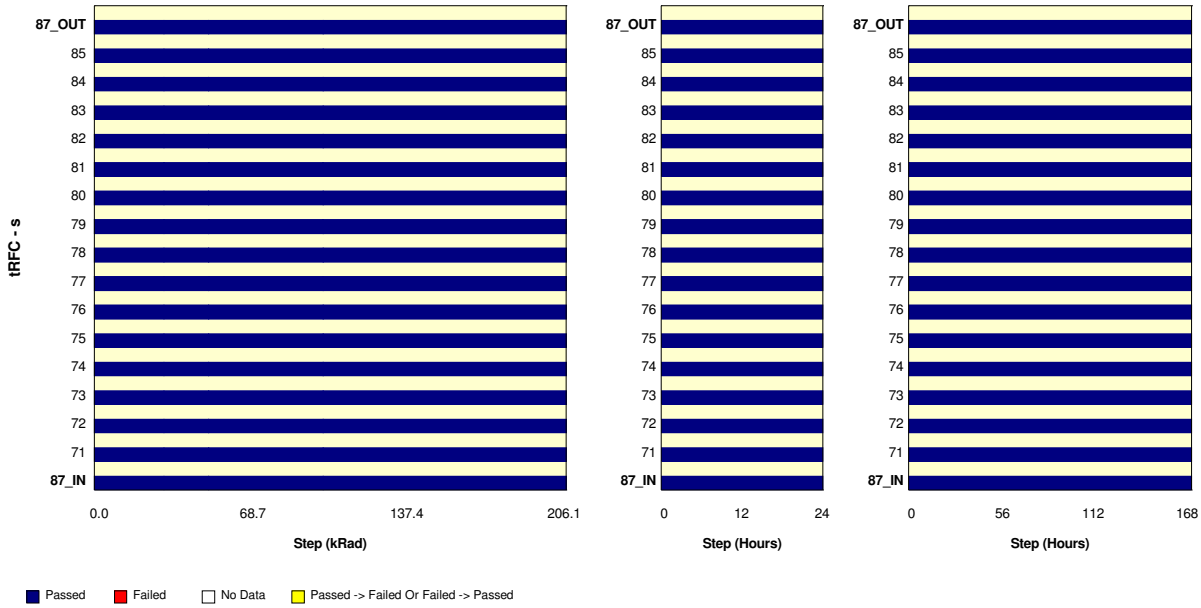
Measurements

tRC	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRC	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : REFRESH to ACTIVATE or REFRESH : tRFC
Test conditions : go/no go (4Gb memory)
Unit : s
Spec Limit Max : 260.0E-09
Spec limits are represented in bold lines on the graphic.



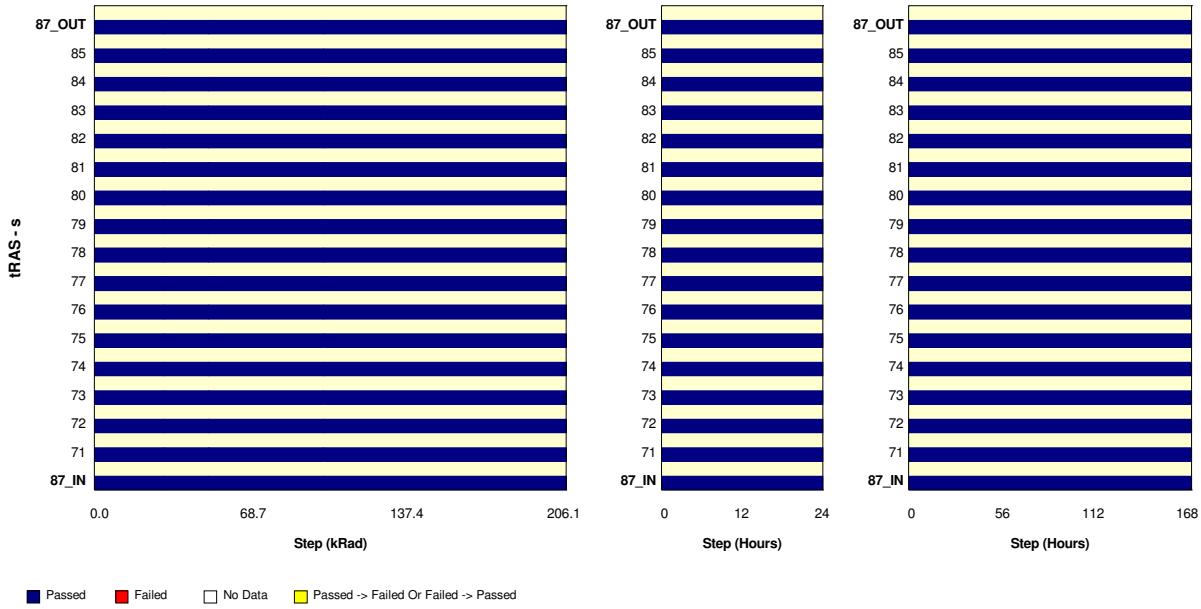
Measurements

tRFC	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRFC	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to PRECHARGE Command Period : tRAS
Test conditions : go/no go
Unit : s
Spec Limit Max : 35.0E-09
Spec limits are represented in bold lines on the graphic.



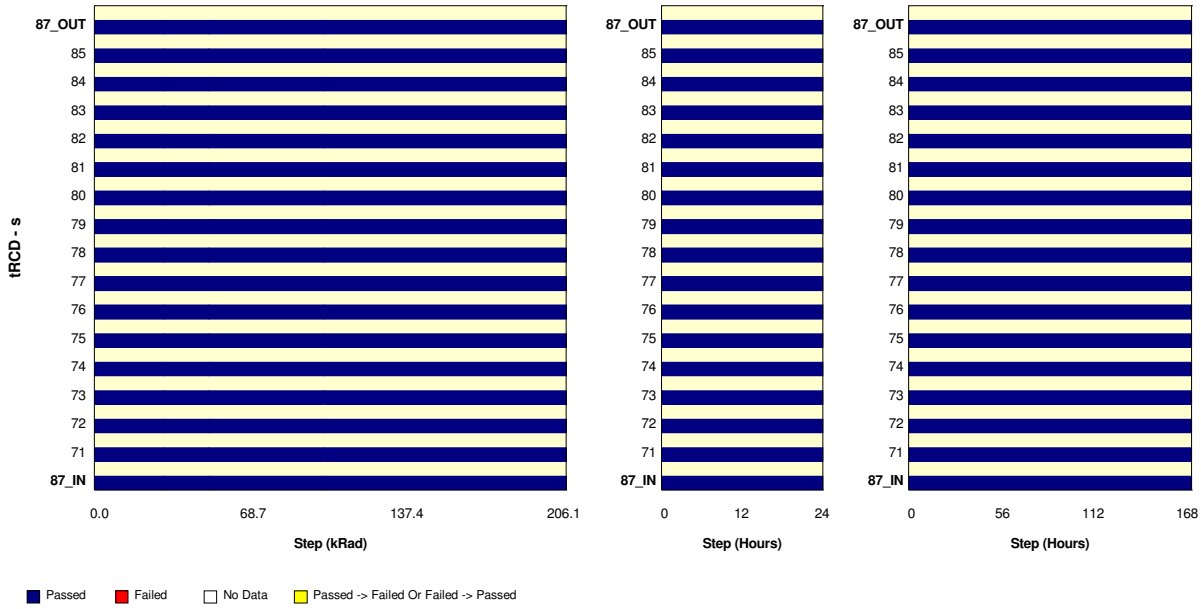
Measurements

tRAS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRAS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to internal Read or WRITE delay : tRCD
Test conditions : go/no go
Unit : s
Spec Limit Max : 13.8E-09
Spec limits are represented in bold lines on the graphic.



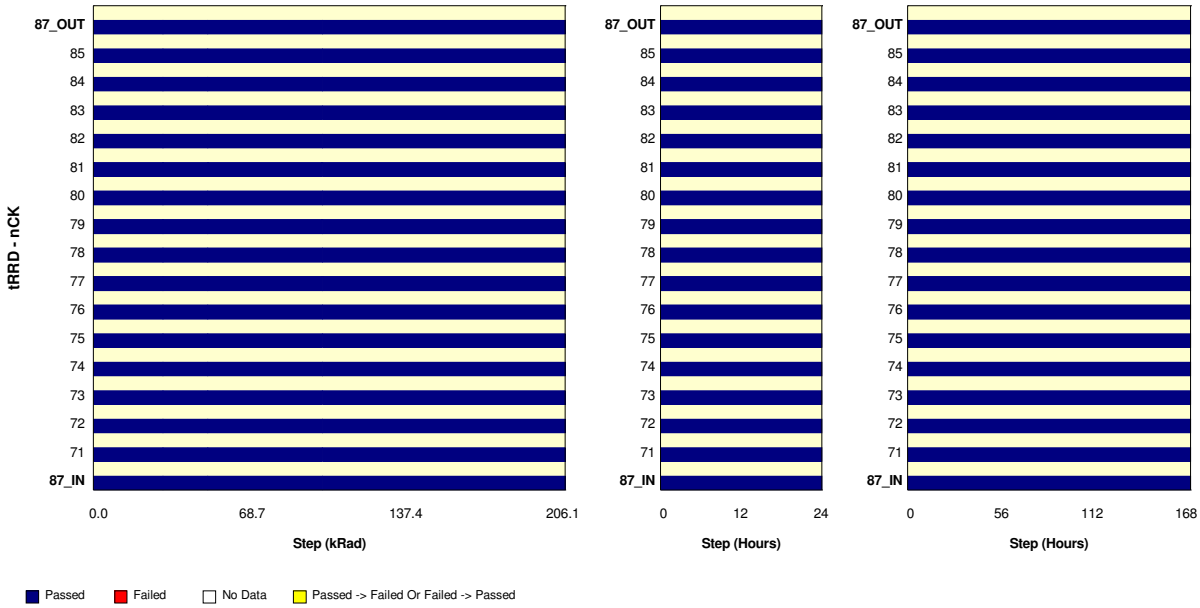
Measurements

tRCD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRCD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : ACTIVATE to ACTIVATE min command period : tRRD
Test conditions : go/no go
Unit : nCK
Spec Limit Max : 4.0E+00
Spec limits are represented in bold lines on the graphic.



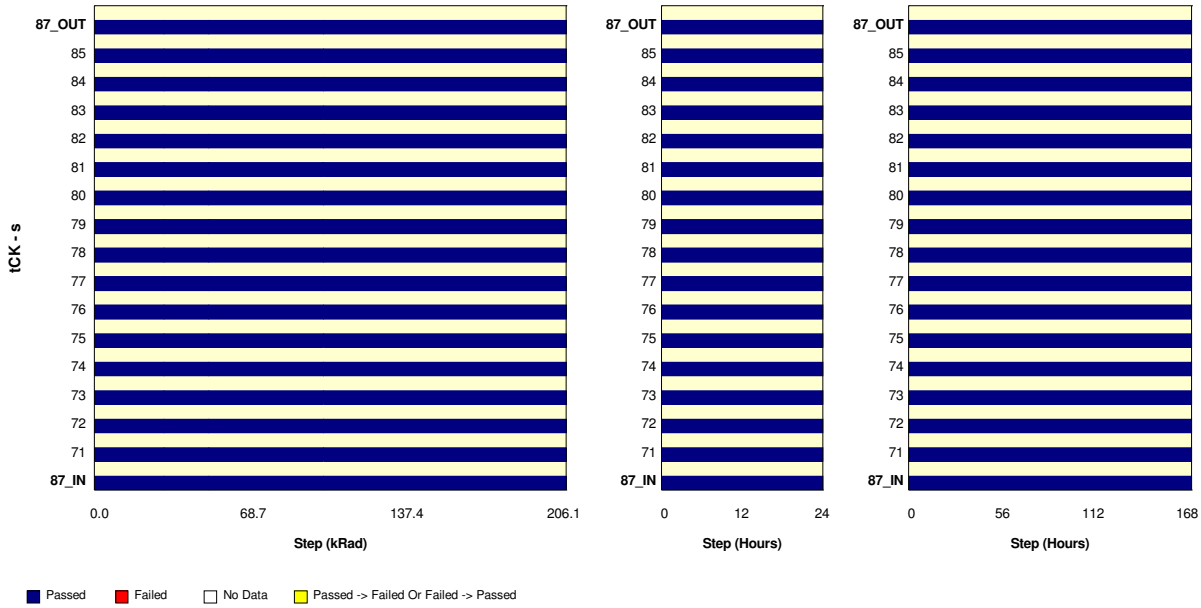
Measurements

tRRD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRRD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Clock Cycle time : tCK
Test conditions : go/no go
Unit : s
Spec Limit Min : -1.3E-09
Spec limits are represented in bold lines on the graphic.



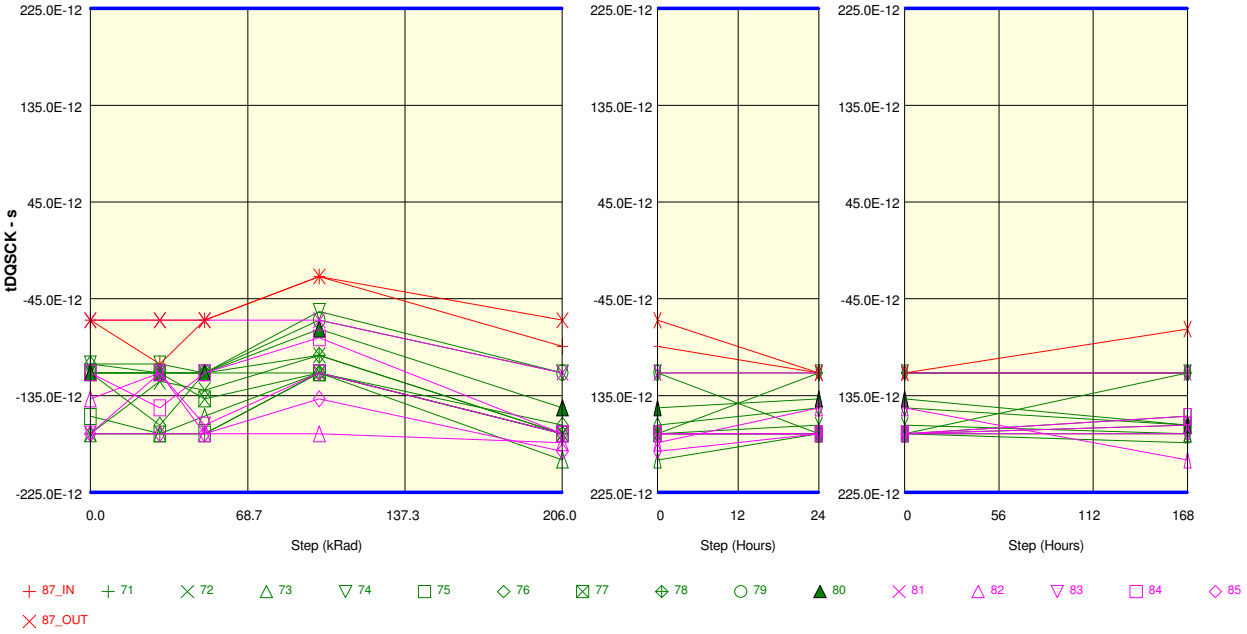
Measurements

tCK	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tCK	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQS. DQS# rising to/from rising CK. CK# Upper Bits : tDQSCK
Test conditions : Search ; Note 3
Unit : s
Spec Limit Min : -225.0E-12
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



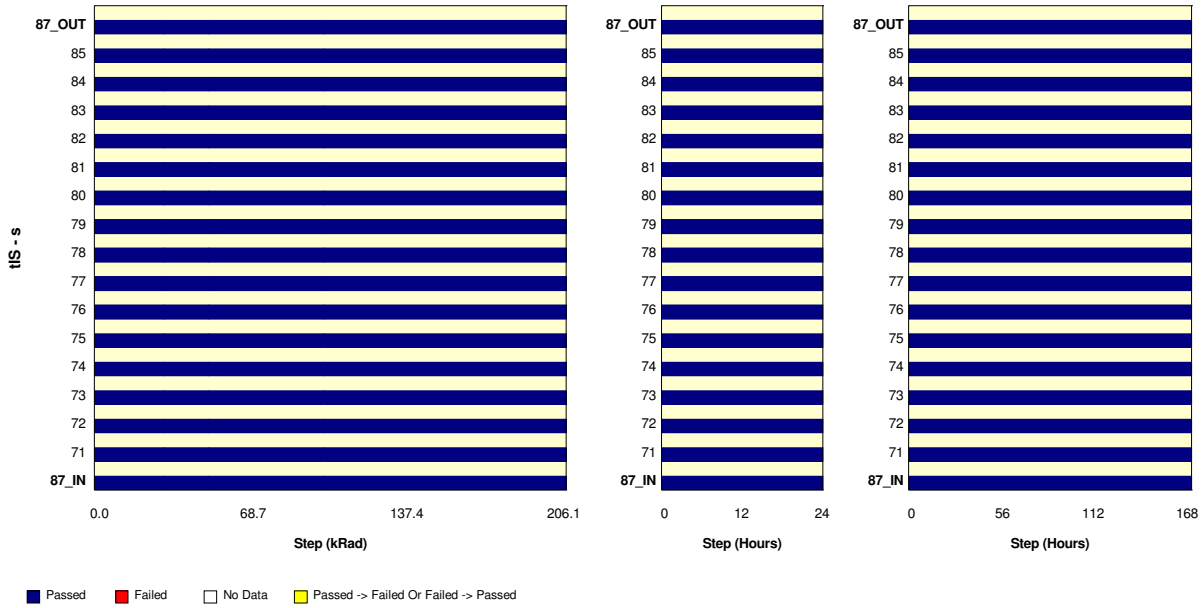
Measurements

tDQSCK	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-65.0E-12	-105.6E-12	-65.0E-12	-24.4E-12	-89.4E-12	-113.8E-12	-113.8E-12
87_OUT_REF	-65.0E-12	-65.0E-12	-65.0E-12	-24.4E-12	-65.0E-12	-113.8E-12	-73.1E-12
ON samples							
71	-170.6E-12	-170.6E-12	-170.6E-12	-113.8E-12	-170.6E-12	-170.6E-12	-178.8E-12
72	-170.6E-12	-121.9E-12	-130.0E-12	-97.5E-12	-170.6E-12	-162.5E-12	-170.6E-12
73	-170.6E-12	-170.6E-12	-154.4E-12	-113.8E-12	-195.0E-12	-170.6E-12	-170.6E-12
74	-105.6E-12	-105.6E-12	-113.8E-12	-56.9E-12	-113.8E-12	-113.8E-12	-113.8E-12
75	-154.4E-12	-170.6E-12	-170.6E-12	-113.8E-12	-170.6E-12	-170.6E-12	-154.4E-12
76	-113.8E-12	-162.5E-12	-113.8E-12	-113.8E-12	-162.5E-12	-146.3E-12	-162.5E-12
77	-113.8E-12	-113.8E-12	-138.1E-12	-113.8E-12	-170.6E-12	-170.6E-12	-162.5E-12
78	-105.6E-12	-113.8E-12	-113.8E-12	-97.5E-12	-170.6E-12	-113.8E-12	-113.8E-12
79	-113.8E-12	-113.8E-12	-113.8E-12	-65.0E-12	-113.8E-12	-170.6E-12	-113.8E-12
80	-113.8E-12	-113.8E-12	-113.8E-12	-73.1E-12	-146.3E-12	-138.1E-12	-162.5E-12
Statistics							
Min	-170.6E-12	-170.6E-12	-170.6E-12	-113.8E-12	-195.0E-12	-170.6E-12	-178.8E-12
Max	-105.6E-12	-105.6E-12	-113.8E-12	-56.9E-12	-113.8E-12	-113.8E-12	-113.8E-12
Average	-133.3E-12	-135.7E-12	-133.3E-12	-95.9E-12	-158.4E-12	-152.8E-12	-150.3E-12
Std Deviation	29.2E-12	28.7E-12	24.0E-12	22.6E-12	26.3E-12	23.6E-12	26.0E-12

Measurements

tDQSCK	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-65.0E-12	-105.6E-12	-65.0E-12	-24.4E-12	-89.4E-12	-113.8E-12	-113.8E-12
87_OUT_REF	-65.0E-12	-65.0E-12	-65.0E-12	-24.4E-12	-65.0E-12	-113.8E-12	-73.1E-12
OFF samples							
81	-65.0E-12	-65.0E-12	-65.0E-12	-65.0E-12	-113.8E-12	-113.8E-12	-113.8E-12
82	-138.1E-12	-113.8E-12	-170.6E-12	-170.6E-12	-178.8E-12	-146.3E-12	-195.0E-12
83	-170.6E-12	-113.8E-12	-162.5E-12	-113.8E-12	-170.6E-12	-170.6E-12	-162.5E-12
84	-113.8E-12	-146.3E-12	-113.8E-12	-81.3E-12	-170.6E-12	-170.6E-12	-154.4E-12
85	-170.6E-12	-170.6E-12	-170.6E-12	-138.1E-12	-186.9E-12	-170.6E-12	-170.6E-12
Statistics							
Min	-170.6E-12	-170.6E-12	-170.6E-12	-170.6E-12	-186.9E-12	-170.6E-12	-195.0E-12
Max	-65.0E-12	-65.0E-12	-65.0E-12	-65.0E-12	-113.8E-12	-113.8E-12	-113.8E-12
Average	-131.6E-12	-121.9E-12	-136.5E-12	-113.8E-12	-164.1E-12	-154.4E-12	-159.3E-12
Std Deviation	44.3E-12	39.8E-12	46.5E-12	42.6E-12	29.0E-12	25.0E-12	29.6E-12

Parameter : Input Setup Time (fast slew rate) : tIS
Test conditions : go/no go ; CAS#; RAS#; CS#; WE# Note 2
Unit : s
Spec Limit Max : 365.0E-12
Spec limits are represented in bold lines on the graphic.



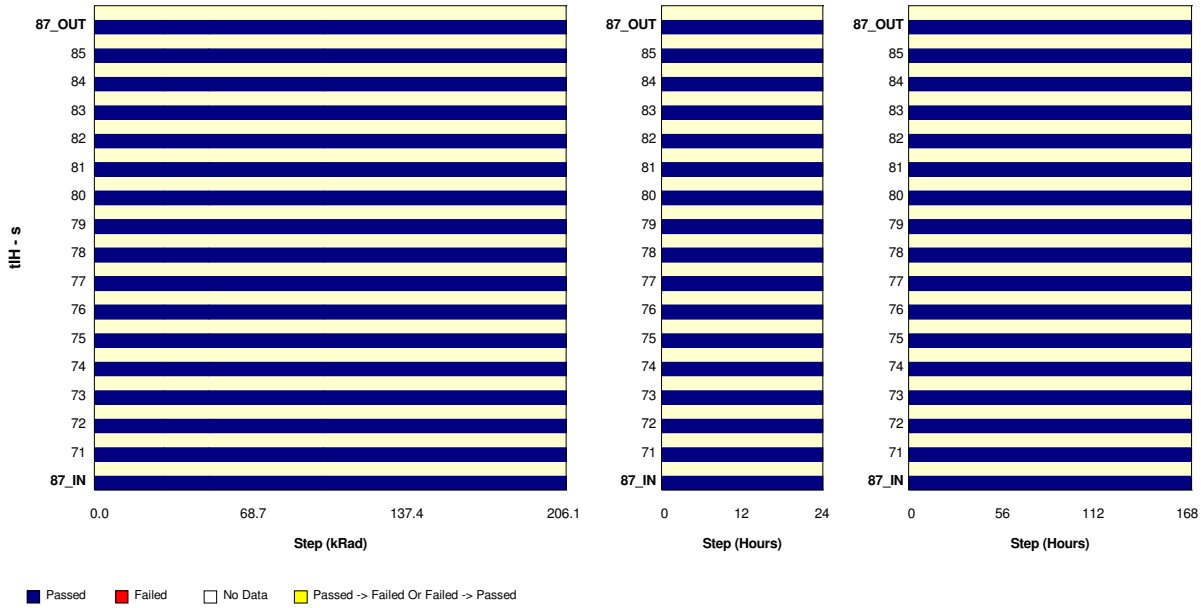
Measurements

tIS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tIS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Input Hold Time (fast slew rate) : tIH
Test conditions : go/no go ; CAS#; RAS#; CS#; WE# Note 2
Unit : s
Spec Limit Max : 400.0E-12
Spec limits are represented in bold lines on the graphic.



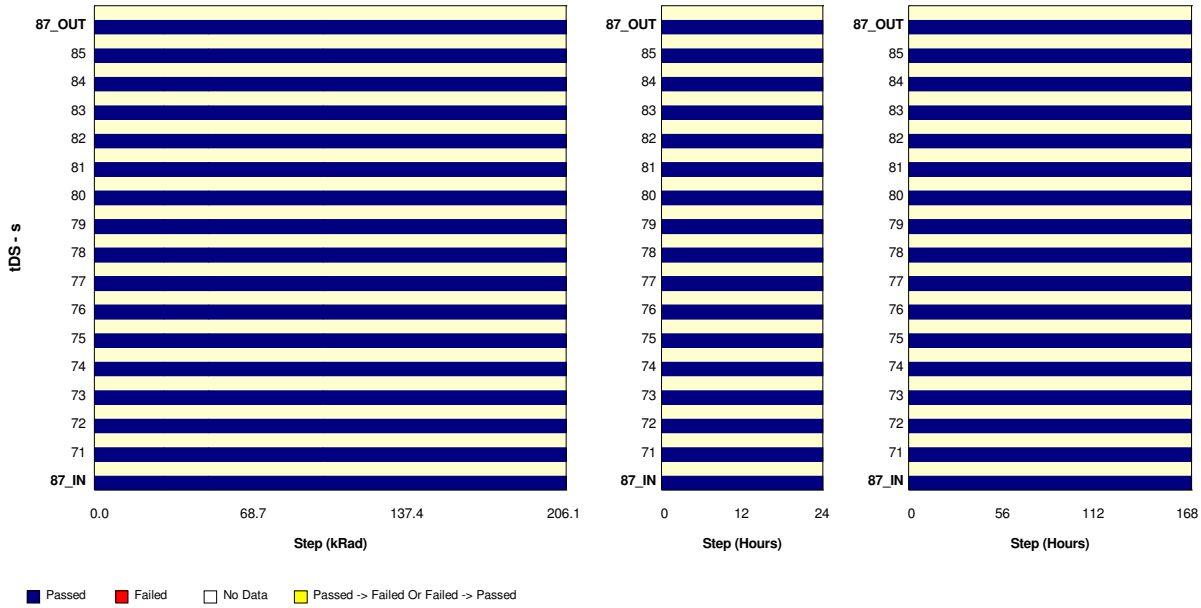
Measurements

tIH	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tIH	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data?In Setup Time to DQS?In (DQ. DM) : tDS
Test conditions : go/no go Note 2
Unit : s
Spec Limit Max : 258.0E-12
Spec limits are represented in bold lines on the graphic.



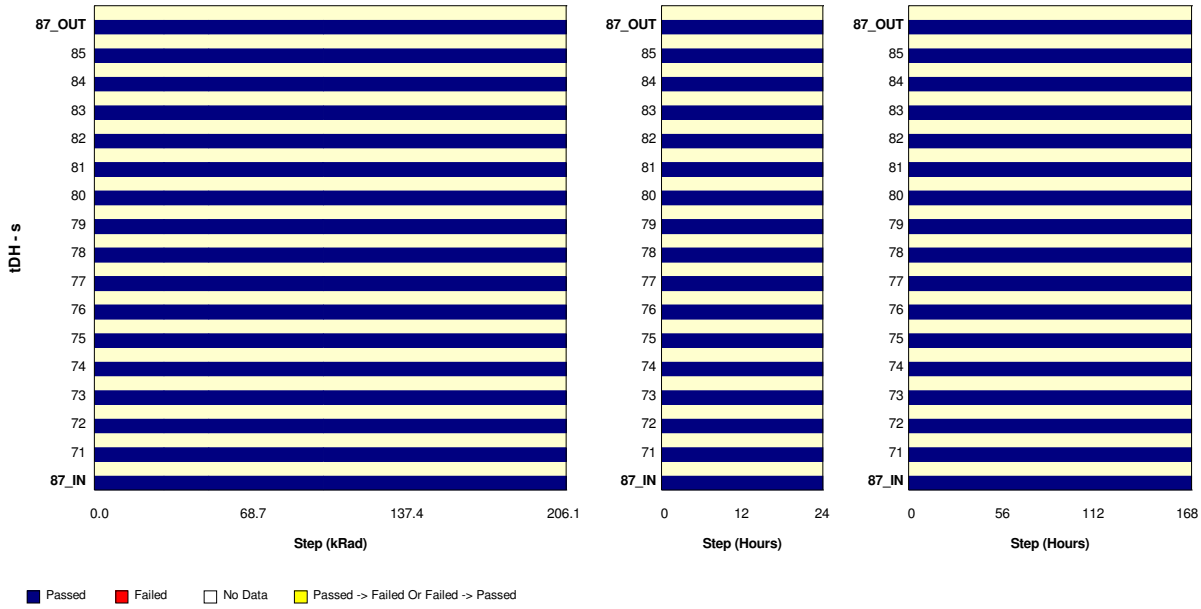
Measurements

tDS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data?In Hold Time to DQS?In (DQ. DM) : tDH
Test conditions : go/no go Note 2
Unit : s
Spec Limit Max : 265.0E-12
Spec limits are represented in bold lines on the graphic.



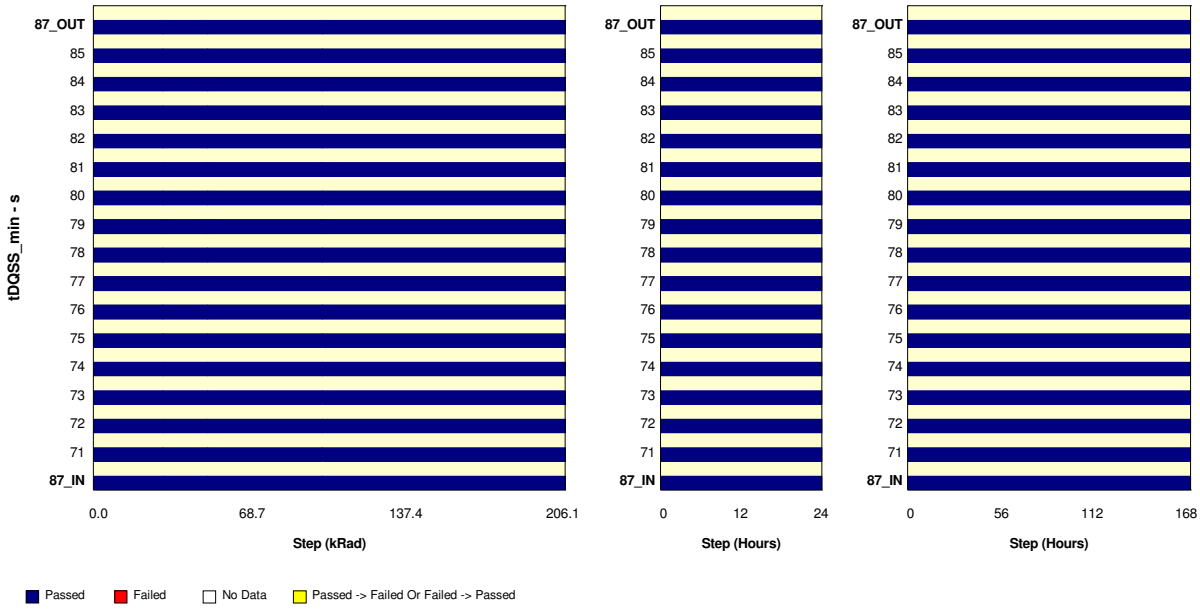
Measurements

tDH	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDH	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CLK to First Rising Edge of DQS-In : tDQSS_min
Test conditions : go/no go Note 4
Unit : s
Spec Limit Min : -270.0E-03
Spec limits are represented in bold lines on the graphic.



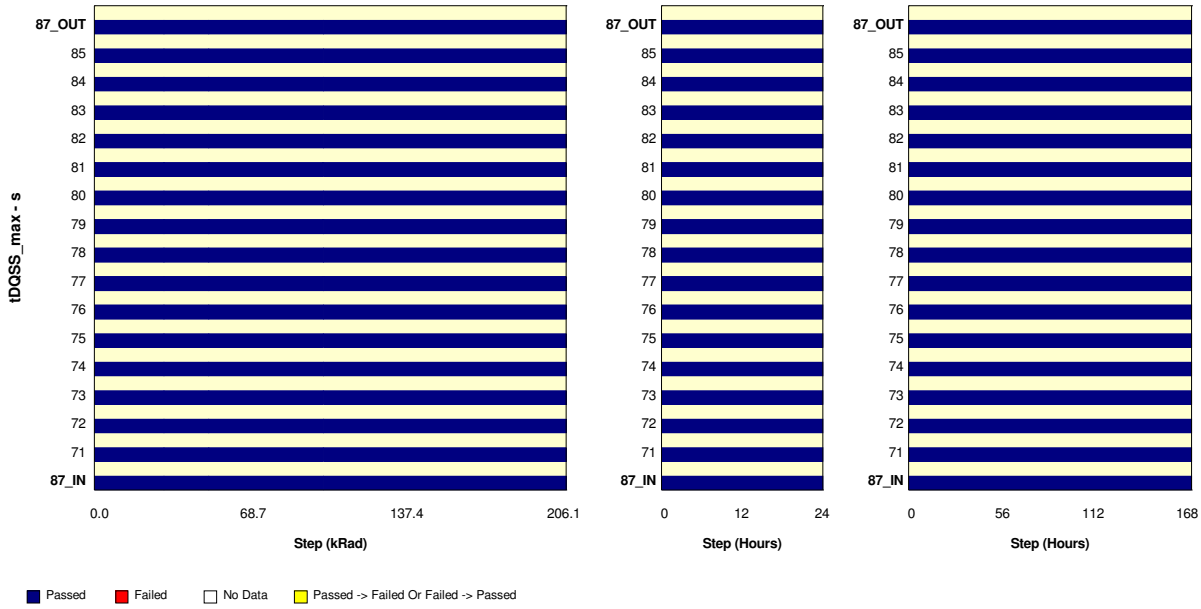
Measurements

tDQSS_min	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDQSS_min	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CLK to First Rising Edge of DQS-In : tDQSS_max
Test conditions : go/no go Note 4
Unit : s
Spec Limit Max : 270.0E-03
Spec limits are represented in bold lines on the graphic.



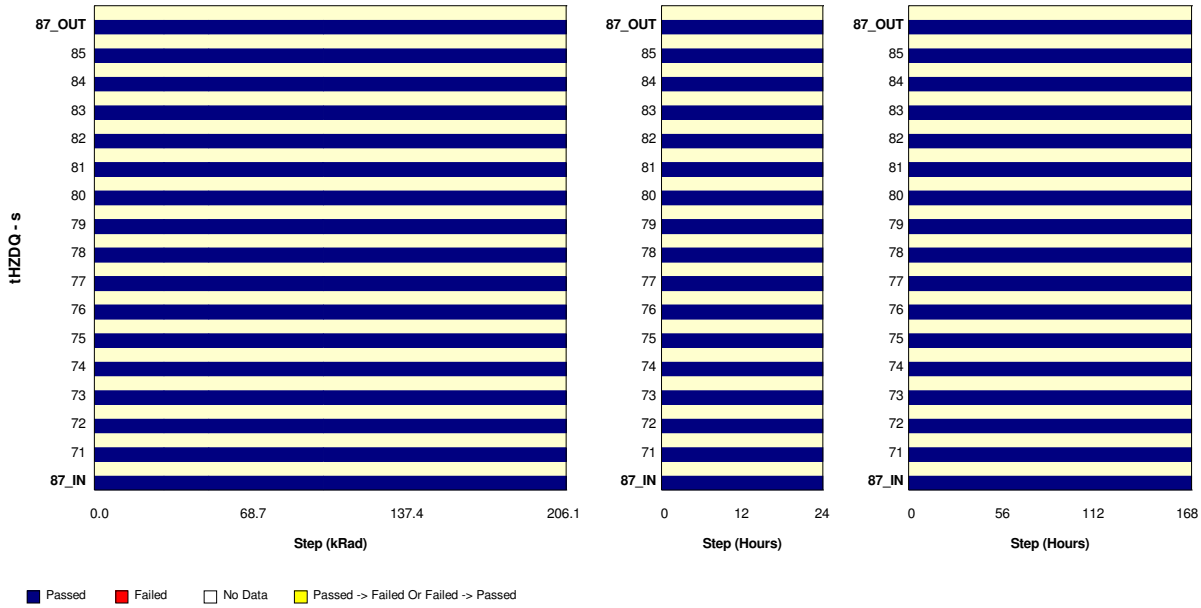
Measurements

tDQSS_max	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tDQSS_max	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Data?Out to High Impedance from CK/CK# : tHZDQ
Test conditions : go/no go Note 3
Unit : s
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



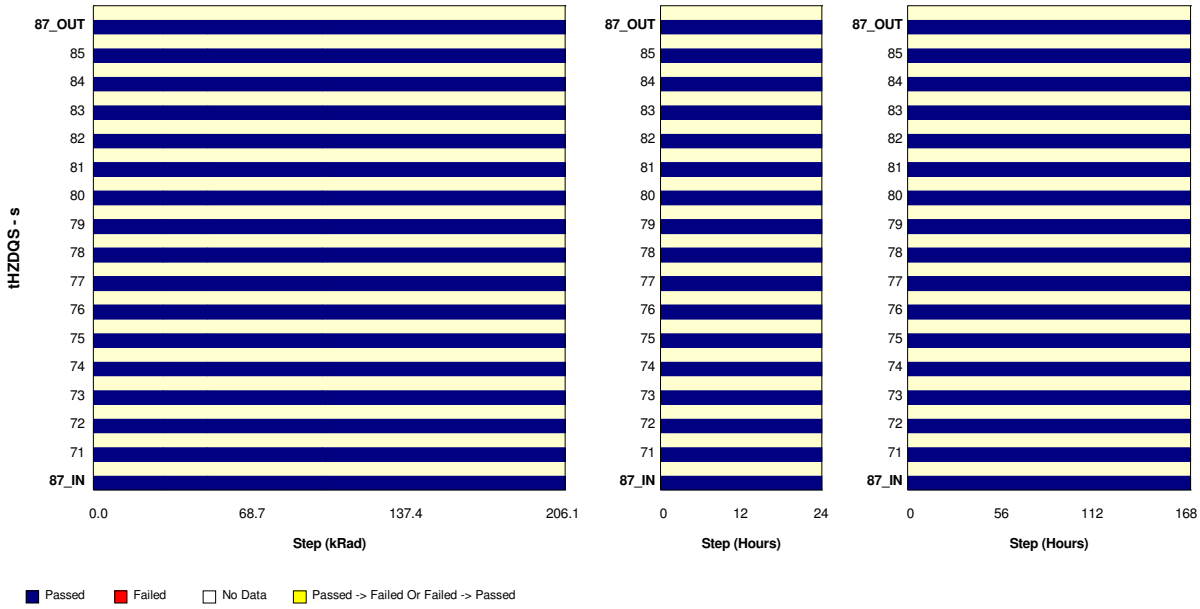
Measurements

tHZDQ	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tHZDQ	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQS to High Impedance from CK/CK# : tHZDQS
Test conditions : go/no go Note 3
Unit : s
Spec Limit Max : 225.0E-12
Spec limits are represented in bold lines on the graphic.



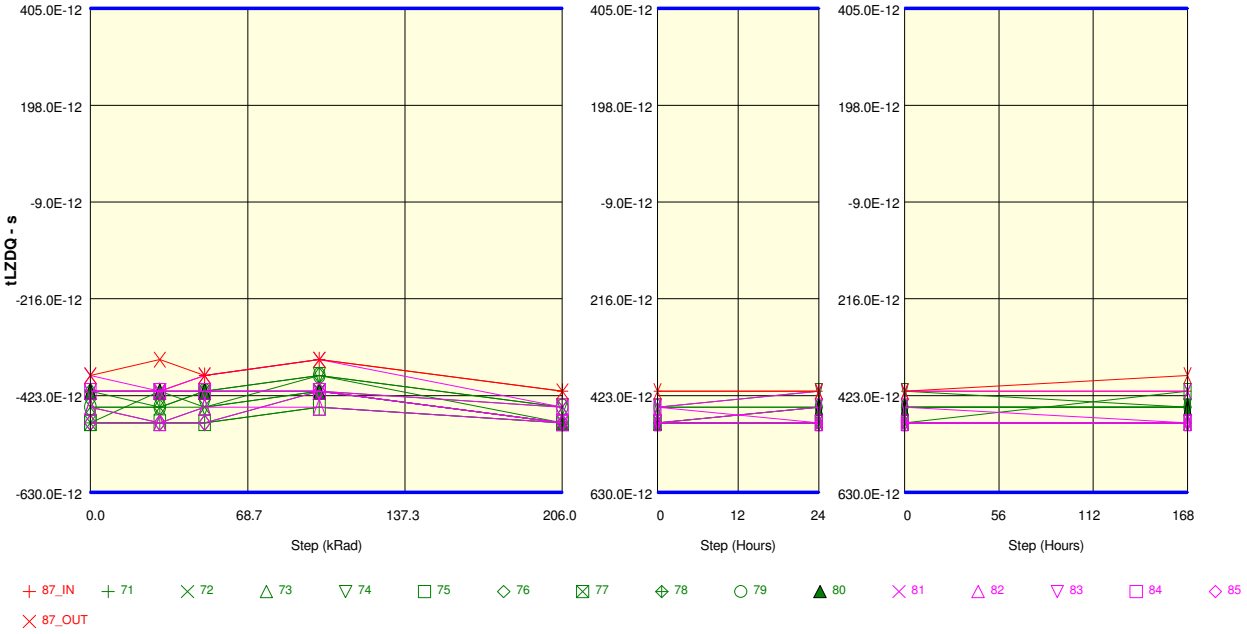
Measurements

tHZDQS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tHZDQS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : DQ to Low Impedance from CK/CK# : tLZDQ
Test conditions : go/no go Note 2
Unit : s
Spec Limit Min : -630.0E-12
Spec Limit Max : 405.0E-12
Spec limits are represented in bold lines on the graphic.



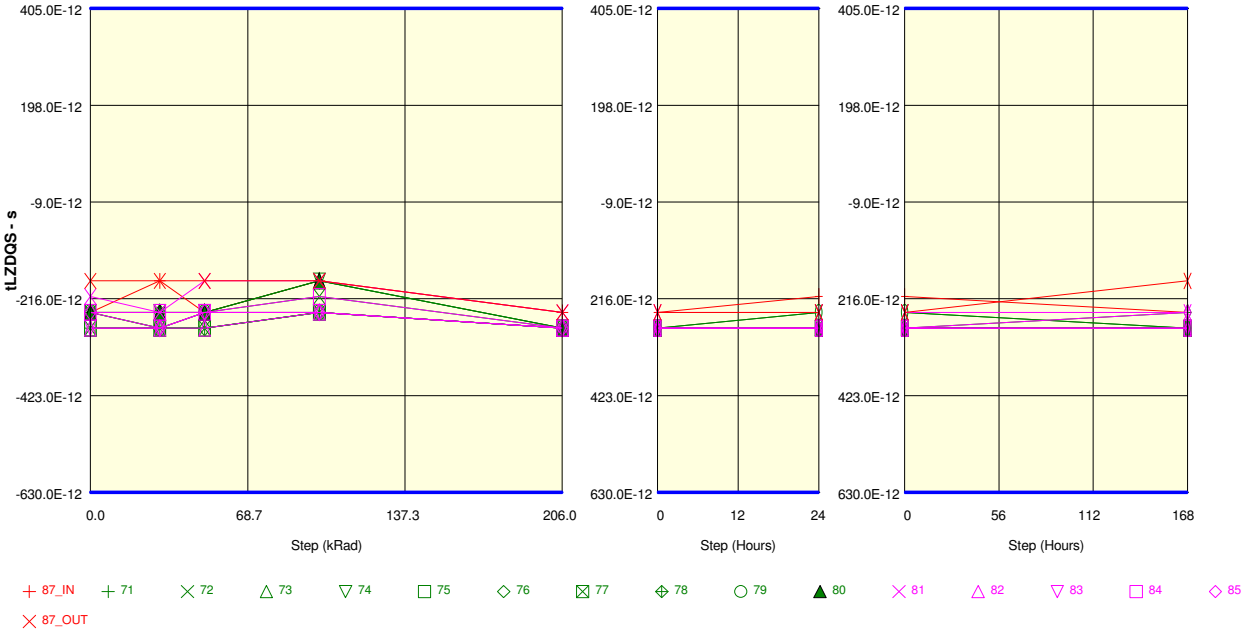
Measurements

tLZDQ	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-413.8E-12	-413.8E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12	-413.8E-12
87_OUT_REF	-380.0E-12	-346.3E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12	-380.0E-12
ON samples							
71	-481.3E-12	-481.3E-12	-481.3E-12	-447.5E-12	-481.3E-12	-481.3E-12	-481.3E-12
72	-447.5E-12	-447.5E-12	-447.5E-12	-413.8E-12	-447.5E-12	-447.5E-12	-447.5E-12
73	-447.5E-12	-481.3E-12	-447.5E-12	-413.8E-12	-481.3E-12	-481.3E-12	-481.3E-12
74	-413.8E-12	-413.8E-12	-447.5E-12	-380.0E-12	-447.5E-12	-413.8E-12	-447.5E-12
75	-481.3E-12	-481.3E-12	-481.3E-12	-447.5E-12	-481.3E-12	-481.3E-12	-481.3E-12
76	-481.3E-12	-481.3E-12	-481.3E-12	-413.8E-12	-481.3E-12	-481.3E-12	-481.3E-12
77	-481.3E-12	-413.8E-12	-413.8E-12	-413.8E-12	-481.3E-12	-481.3E-12	-413.8E-12
78	-413.8E-12	-447.5E-12	-413.8E-12	-380.0E-12	-481.3E-12	-447.5E-12	-447.5E-12
79	-447.5E-12	-447.5E-12	-413.8E-12	-380.0E-12	-447.5E-12	-447.5E-12	-447.5E-12
80	-413.8E-12	-413.8E-12	-413.8E-12	-413.8E-12	-481.3E-12	-447.5E-12	-447.5E-12
Statistics							
Min	-481.3E-12	-481.3E-12	-481.3E-12	-447.5E-12	-481.3E-12	-481.3E-12	-481.3E-12
Max	-413.8E-12	-413.8E-12	-413.8E-12	-380.0E-12	-447.5E-12	-413.8E-12	-413.8E-12
Average	-450.9E-12	-450.9E-12	-444.1E-12	-410.4E-12	-471.1E-12	-461.0E-12	-457.6E-12
Std Deviation	29.6E-12	29.6E-12	29.6E-12	24.9E-12	16.3E-12	23.6E-12	22.8E-12

Measurements

tLZDQ	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-413.8E-12	-413.8E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12	-413.8E-12
87_OUT_REF	-380.0E-12	-346.3E-12	-380.0E-12	-346.3E-12	-413.8E-12	-413.8E-12	-380.0E-12
OFF samples							
81	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-447.5E-12	-413.8E-12	-413.8E-12
82	-447.5E-12	-481.3E-12	-447.5E-12	-447.5E-12	-481.3E-12	-481.3E-12	-481.3E-12
83	-413.8E-12	-413.8E-12	-413.8E-12	-413.8E-12	-481.3E-12	-447.5E-12	-481.3E-12
84	-413.8E-12	-413.8E-12	-413.8E-12	-413.8E-12	-447.5E-12	-481.3E-12	-481.3E-12
85	-481.3E-12	-481.3E-12	-481.3E-12	-413.8E-12	-481.3E-12	-481.3E-12	-481.3E-12
Statistics							
Min	-481.3E-12	-481.3E-12	-481.3E-12	-447.5E-12	-481.3E-12	-481.3E-12	-481.3E-12
Max	-380.0E-12	-413.8E-12	-380.0E-12	-346.3E-12	-447.5E-12	-413.8E-12	-413.8E-12
Average	-427.3E-12	-440.8E-12	-427.3E-12	-407.0E-12	-467.8E-12	-461.0E-12	-467.8E-12
Std Deviation	38.5E-12	37.0E-12	38.5E-12	37.0E-12	18.5E-12	30.2E-12	30.2E-12

Parameter : DQS/DQS# Low Impedance from CK/CK# : tLZDQS
Test conditions : go/no go Note 2
Unit : s
Spec Limit Min : -630.0E-12
Spec Limit Max : 405.0E-12
Spec limits are represented in bold lines on the graphic.



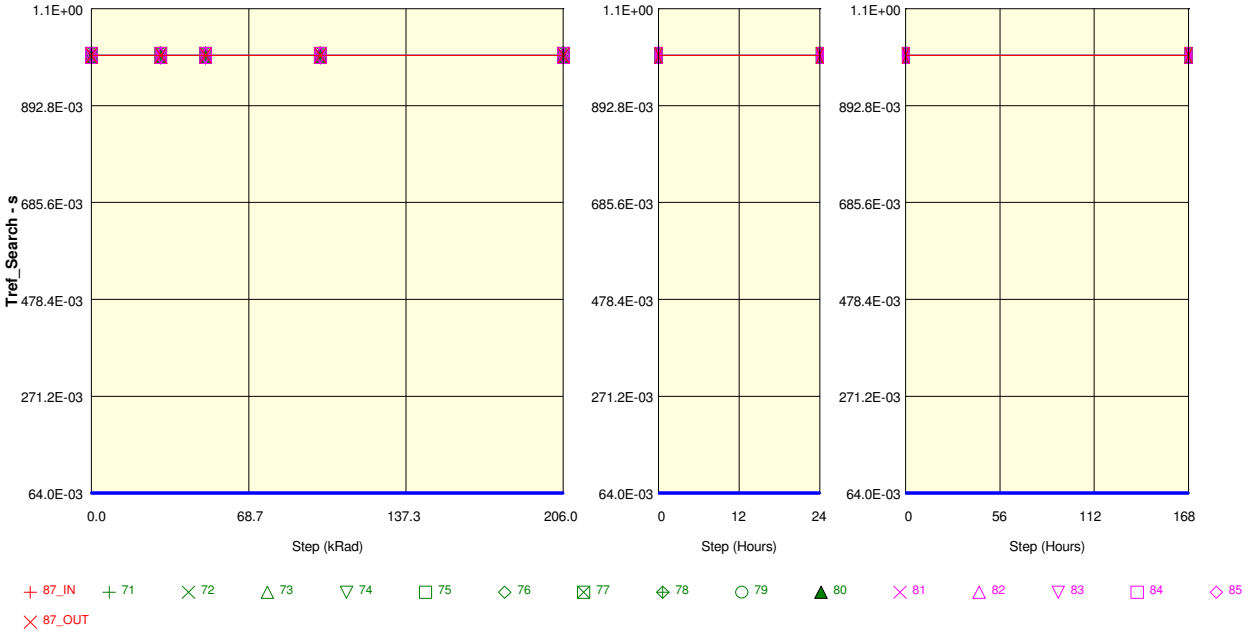
Measurements

tLZDQS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-245.0E-12	-177.5E-12	-245.0E-12	-177.5E-12	-245.0E-12	-211.3E-12	-245.0E-12
87_OUT_REF	-177.5E-12	-177.5E-12	-177.5E-12	-177.5E-12	-245.0E-12	-245.0E-12	-177.5E-12
ON samples							
71	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
72	-245.0E-12	-245.0E-12	-245.0E-12	-211.3E-12	-278.8E-12	-245.0E-12	-278.8E-12
73	-278.8E-12	-278.8E-12	-245.0E-12	-177.5E-12	-278.8E-12	-278.8E-12	-278.8E-12
74	-245.0E-12	-245.0E-12	-245.0E-12	-177.5E-12	-278.8E-12	-278.8E-12	-278.8E-12
75	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
76	-245.0E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
77	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
78	-245.0E-12	-245.0E-12	-245.0E-12	-245.0E-12	-278.8E-12	-278.8E-12	-245.0E-12
79	-245.0E-12	-278.8E-12	-245.0E-12	-245.0E-12	-278.8E-12	-245.0E-12	-278.8E-12
80	-245.0E-12	-245.0E-12	-245.0E-12	-177.5E-12	-278.8E-12	-278.8E-12	-278.8E-12
Statistics							
Min	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
Max	-245.0E-12	-245.0E-12	-245.0E-12	-177.5E-12	-278.8E-12	-245.0E-12	-245.0E-12
Average	-258.5E-12	-265.3E-12	-258.5E-12	-221.4E-12	-278.8E-12	-272.0E-12	-275.4E-12
Std Deviation	17.4E-12	17.4E-12	17.4E-12	32.0E-12	5.4E-18	14.2E-12	10.7E-12

Measurements

tLZDQS	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	-245.0E-12	-177.5E-12	-245.0E-12	-177.5E-12	-245.0E-12	-211.3E-12	-245.0E-12
87_OUT_REF	-177.5E-12	-177.5E-12	-177.5E-12	-177.5E-12	-245.0E-12	-245.0E-12	-177.5E-12
OFF samples							
81	-211.3E-12	-245.0E-12	-177.5E-12	-177.5E-12	-245.0E-12	-245.0E-12	-245.0E-12
82	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
83	-278.8E-12	-278.8E-12	-245.0E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
84	-245.0E-12	-245.0E-12	-245.0E-12	-211.3E-12	-278.8E-12	-278.8E-12	-278.8E-12
85	-245.0E-12	-278.8E-12	-245.0E-12	-245.0E-12	-278.8E-12	-278.8E-12	-245.0E-12
Statistics							
Min	-278.8E-12	-278.8E-12	-278.8E-12	-245.0E-12	-278.8E-12	-278.8E-12	-278.8E-12
Max	-211.3E-12	-245.0E-12	-177.5E-12	-177.5E-12	-245.0E-12	-245.0E-12	-245.0E-12
Average	-251.8E-12	-265.3E-12	-238.3E-12	-224.8E-12	-272.0E-12	-272.0E-12	-265.3E-12
Std Deviation	28.2E-12	18.5E-12	37.0E-12	30.2E-12	15.1E-12	15.1E-12	18.5E-12

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



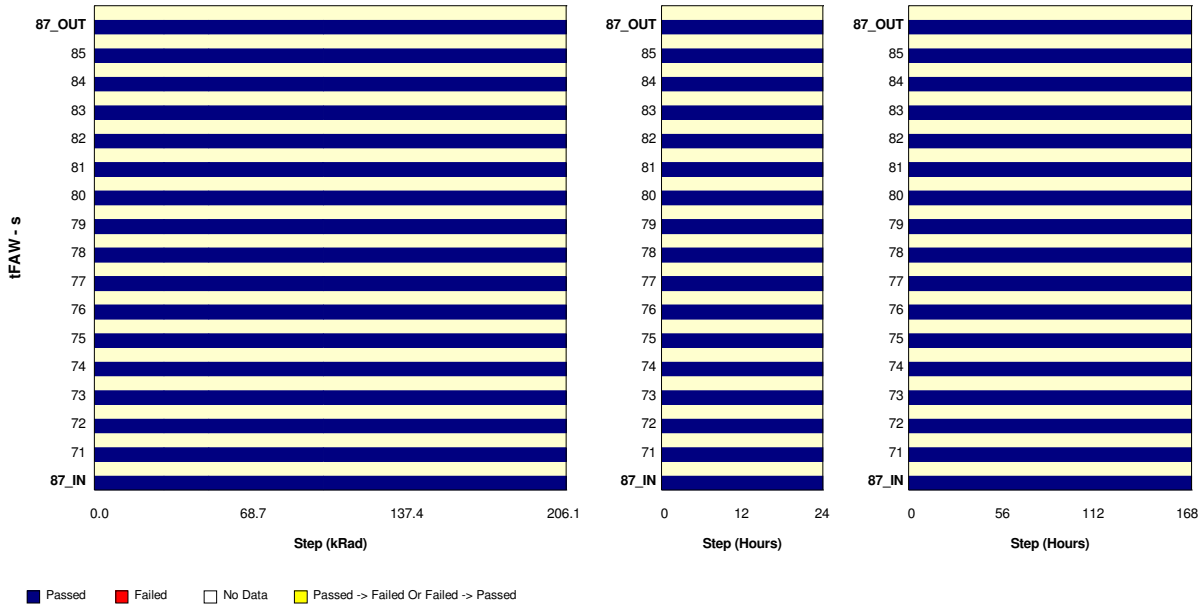
Measurements

Tref_Search	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
87_OUT_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
ON samples							
71	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
72	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
73	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
74	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
75	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
76	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
77	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
78	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
79	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
80	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
Max	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
Std Deviation	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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
87_OUT_REF	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
OFF samples							
81	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
82	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
83	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
84	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0E+00
85	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
Max	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
Std Deviation	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 : go/no go
Unit : s
Spec Limit Max : 30.0E-09
Spec limits are represented in bold lines on the graphic.



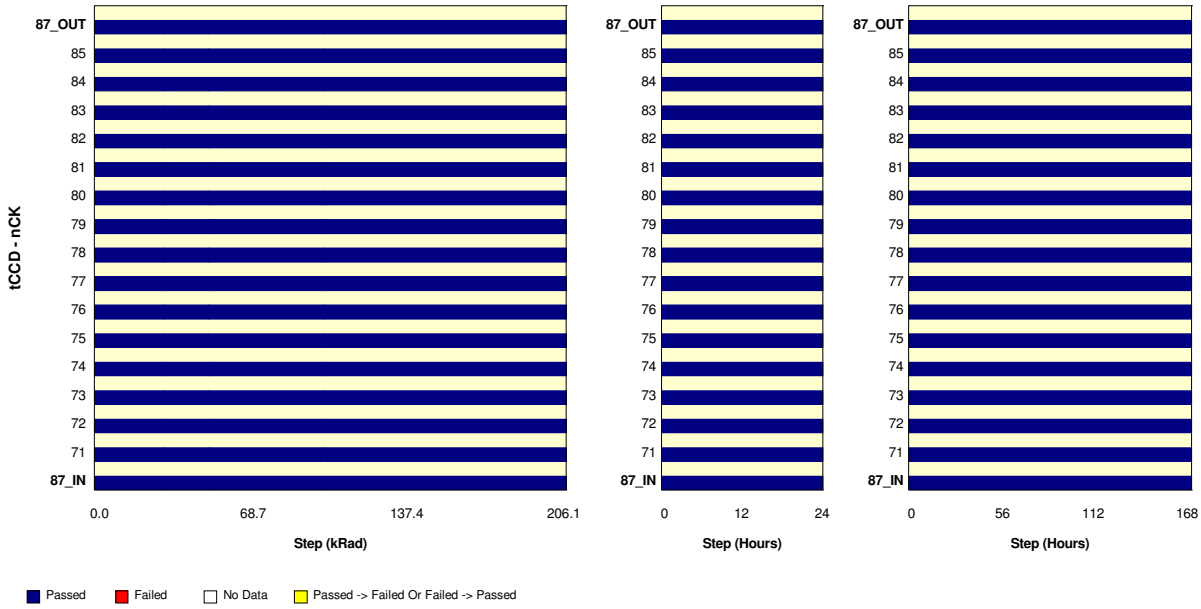
Measurements

tFAW	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tFAW	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : CAS to CAS command delay : tCCD
Test conditions : go/no go
Unit : nCK
Spec Limit Max : 4.0E+00
Spec limits are represented in bold lines on the graphic.



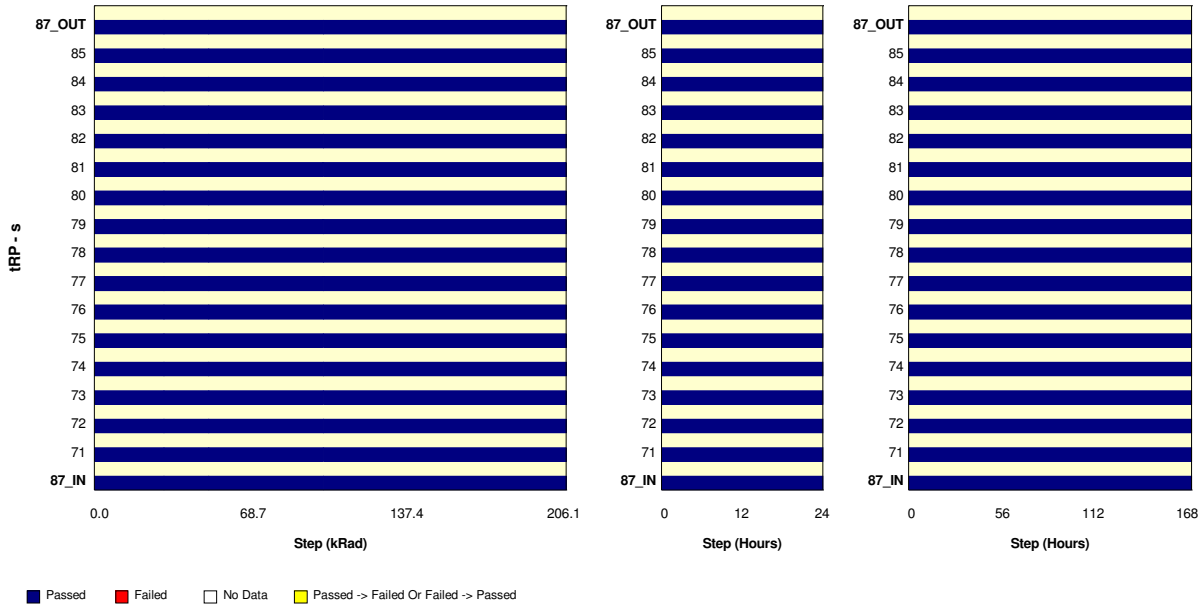
Measurements

tCCD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tCCD	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : PECHARGE Command period : tRP
Test conditions : go/no go
Unit : s
Spec Limit Max : 13.8E-09
Spec limits are represented in bold lines on the graphic.



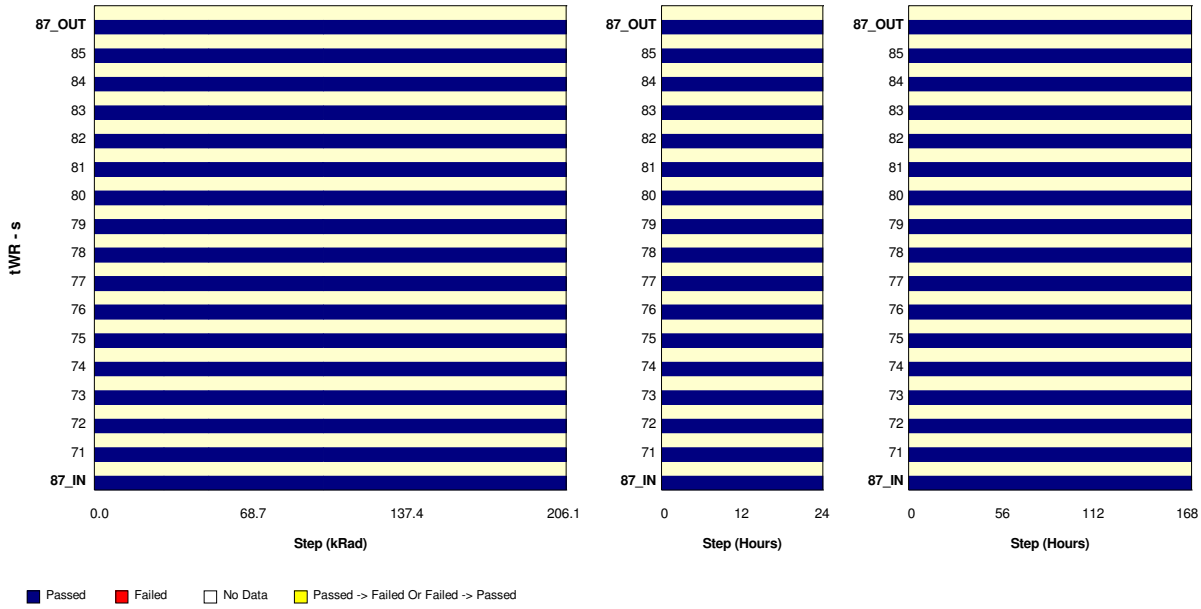
Measurements

tRP	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tRP	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Parameter : Write Recovery Time : tWR
Test conditions : go/no go
Unit : s
Spec Limit Max : 15.0E-09
Spec limits are represented in bold lines on the graphic.



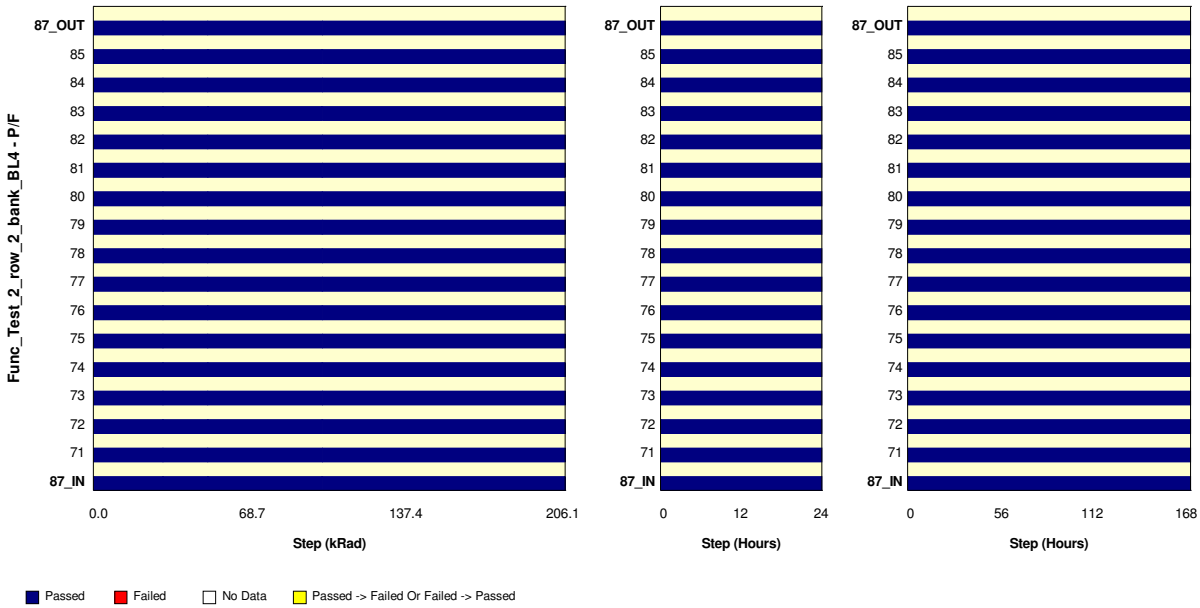
Measurements

tWR	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

tWR	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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.



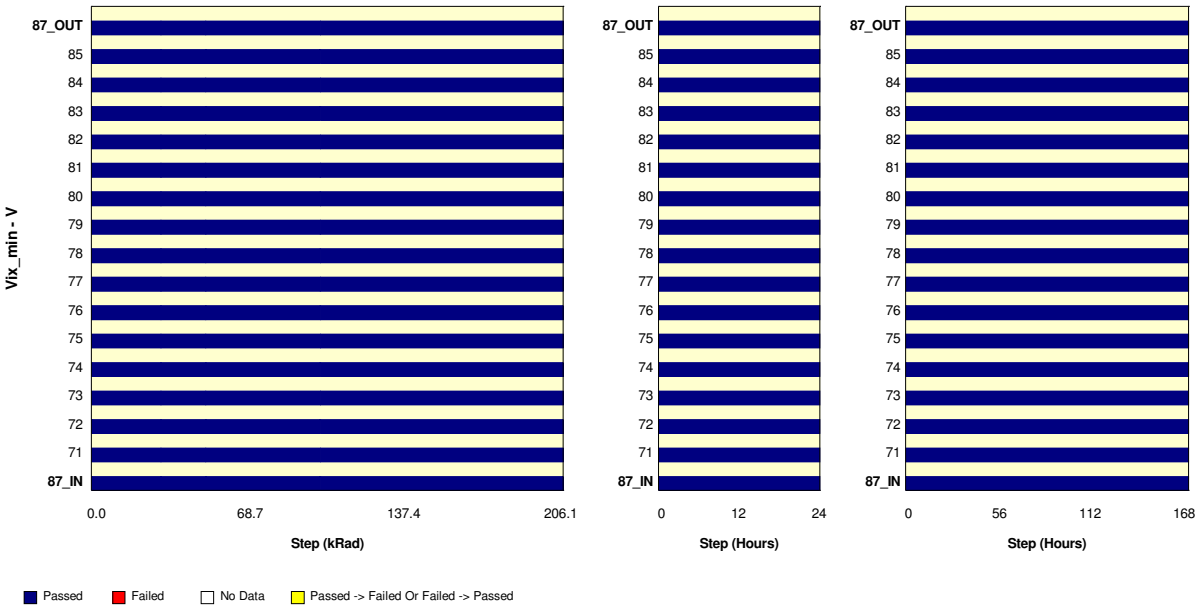
Measurements

Func_Test_2_row_2_bank_BL4	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Func_Test_2_row_2_bank_BL4	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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.



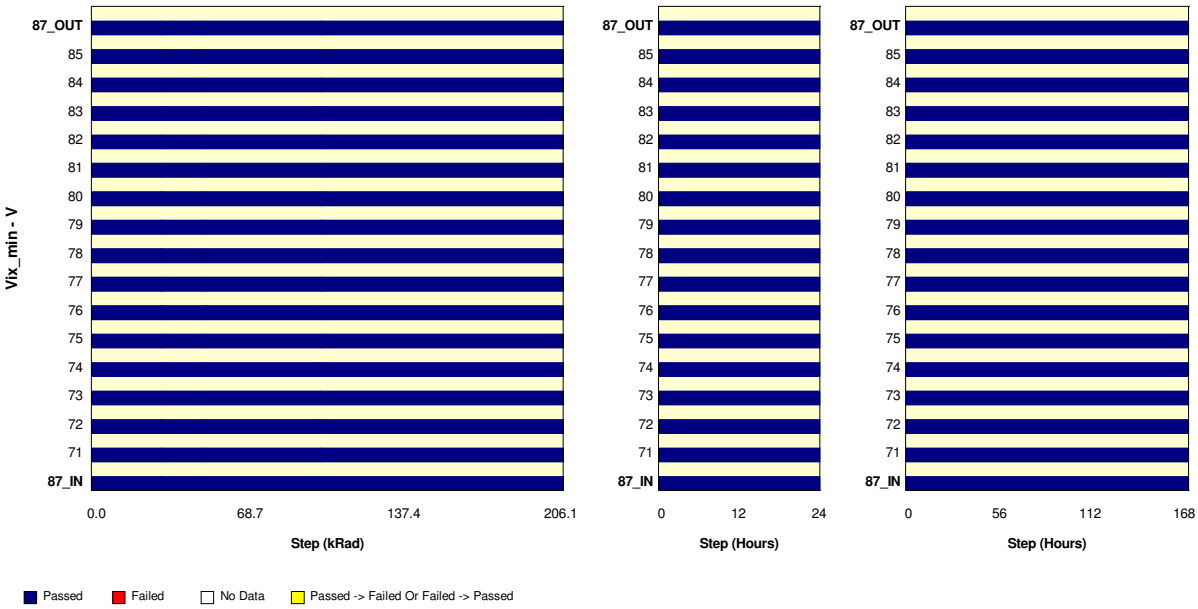
Measurements

Vix_min<DQS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_min<DQS>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	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	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
ON samples							
71	PASS	PASS	PASS	PASS	PASS	PASS	PASS
72	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	PASS	PASS	PASS	PASS	PASS	PASS	PASS
80	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Measurements

Vix_min<CK>	0 kRad	30.3 kRad	49.9 kRad	99.9 kRad	206.1 kRad	24 Hours	168 Hours
87_IN_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87_OUT_REF	PASS	PASS	PASS	PASS	PASS	PASS	PASS
OFF samples							
81	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Appendix 3: CO^{60} irradiation certificate

Co^{60} IRRADIATION CERTIFICATE

Customer: HIR Case followed up by: JPA
FAO: Frédéric TILHAC

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

Reference : PV/ATR/GAMRAY-210/XX47/HIR/JPA/1806 Rev: 0
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	19.1	20.8	19.8
Relative humidity	%	54.8	75.4	61.8

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)
210-14	08/06/2018	220.80

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)	Lot No. (If applicable)
210-14	03/07/2018	0	-
	09/07/2018	30.28	-
	13/07/2018	49.90	-
	23/07/2018	99.91	-
	13/08/2018	206.08	-

Measurement uncertainty : 1.6% *The measurement uncertainty is expressed at two standard uncertainties (k=2).*
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	H5TC4G83CFR
Tested function	DDR3L SDRAM
Chip manufacturer	Hynix
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

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DOCUMENTATION CHANGE NOTICE

Issue	Date	Page	Change Item	
01	16/11/2018	All	Original issue	

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TOTAL IONIZING DOSE TEST REPORT on H5TC4G83CFR

Erreur ! Source du renvoi introuvable.

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1 Introduction

This report presents the functional test results obtained on Hynix H5TC4G83CFR 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.

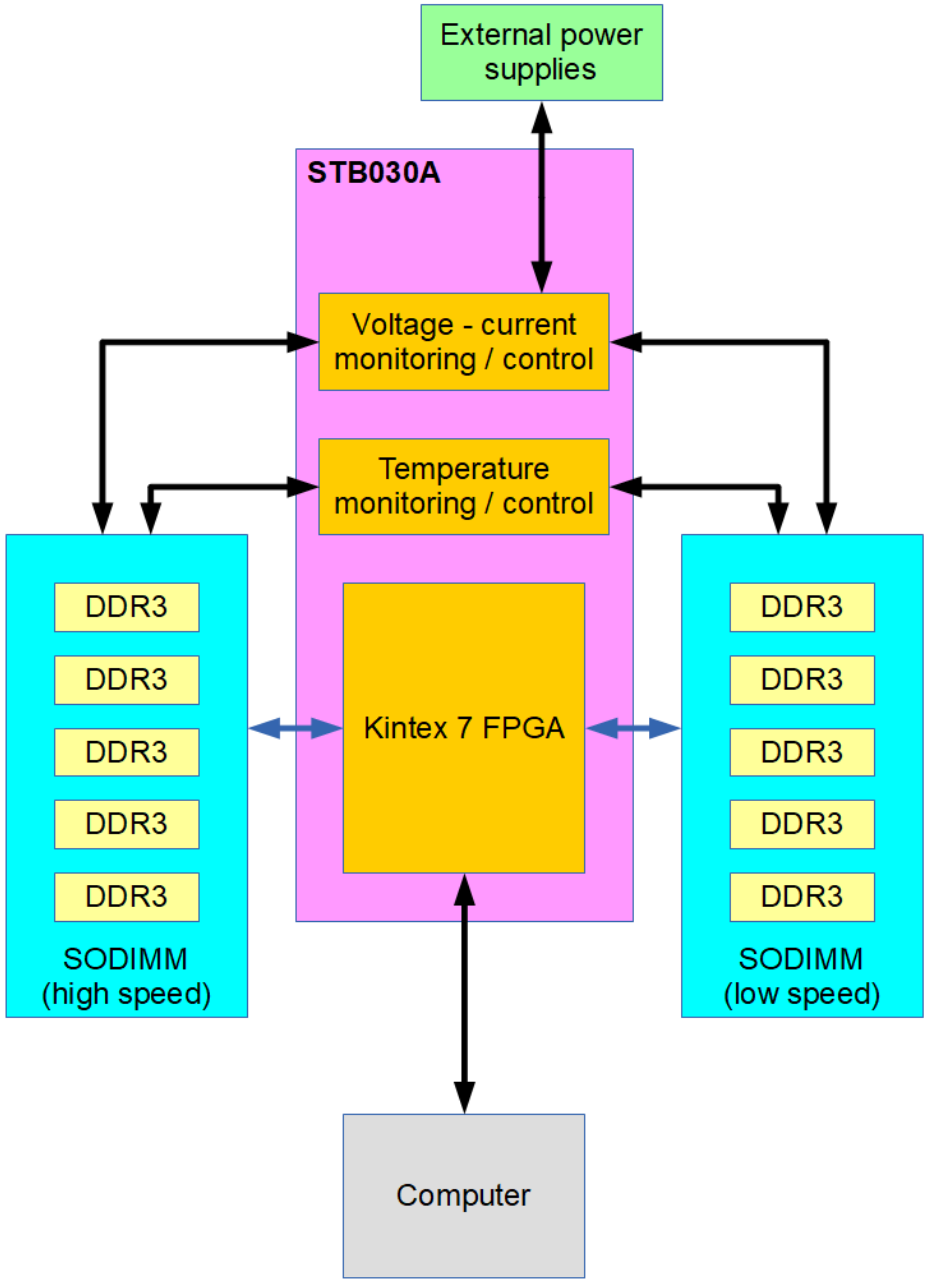


Figure 1 : In-situ test system overview

3 Test conditions

3.1 Test campaign

Read mode:
Campaign start date: 11/06/2018 10:40
Campaign end date: 19/09/2018 10:42

Steps	Dose (krad)	Time (hours)
Step1	460	2047
Annealing 25°C		24
Annealing 85°C		168

Write mode:
Campaign start date: 11/06/2018 15:03
Campaign end date: 19/09/2018 10:43

Steps	Dose (krad)	Time (hours)
Step1	460	2047
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, wait 1 hour in idle mode, read 0x55, 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

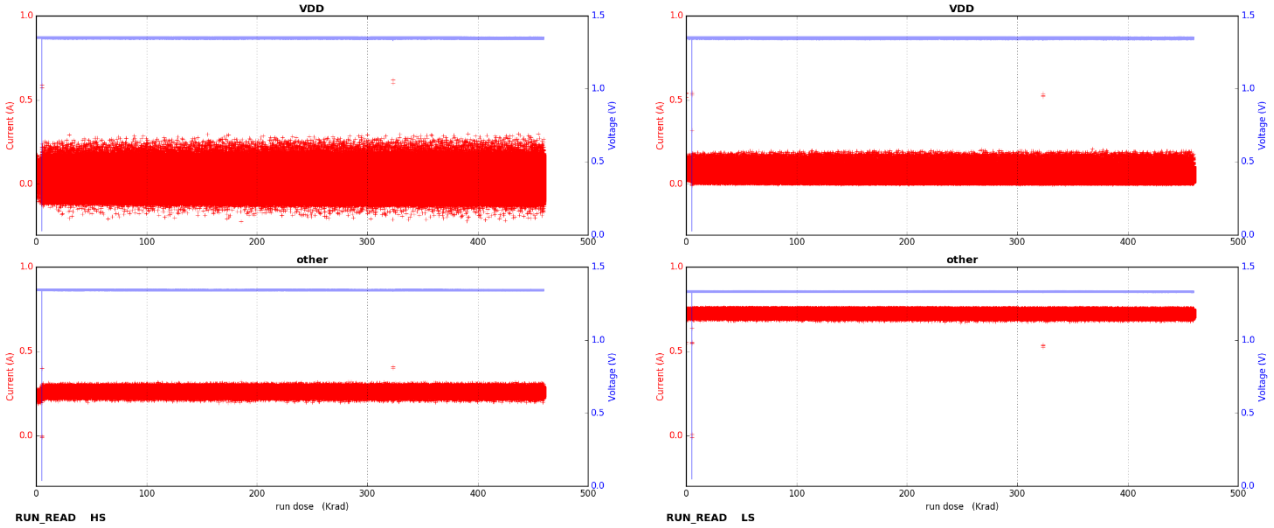
4.1.1 Read mode

Figure 2 present the SODIMMs supply currents for both High Speed (HS) and Low Speed (LS) test modules for the read mode.
For 85°C annealing, high speed SODDIM did not succeed calibration.

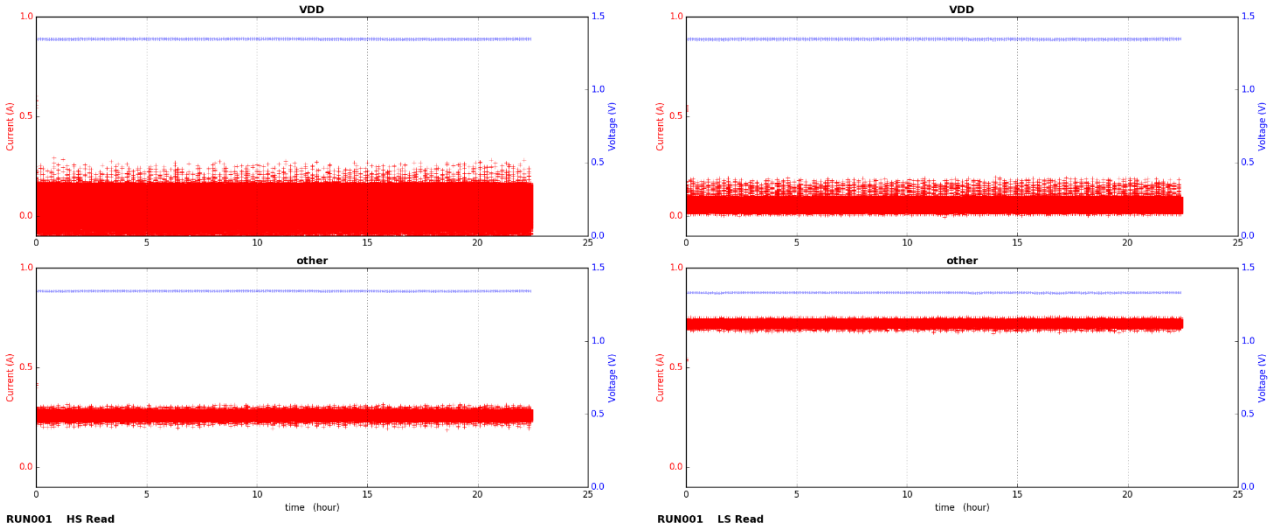
4.1.2 Write mode

Figure 3 present the SODIMMs supply currents for both High Speed (HS) and Low Speed (LS) test modules for the write mode.

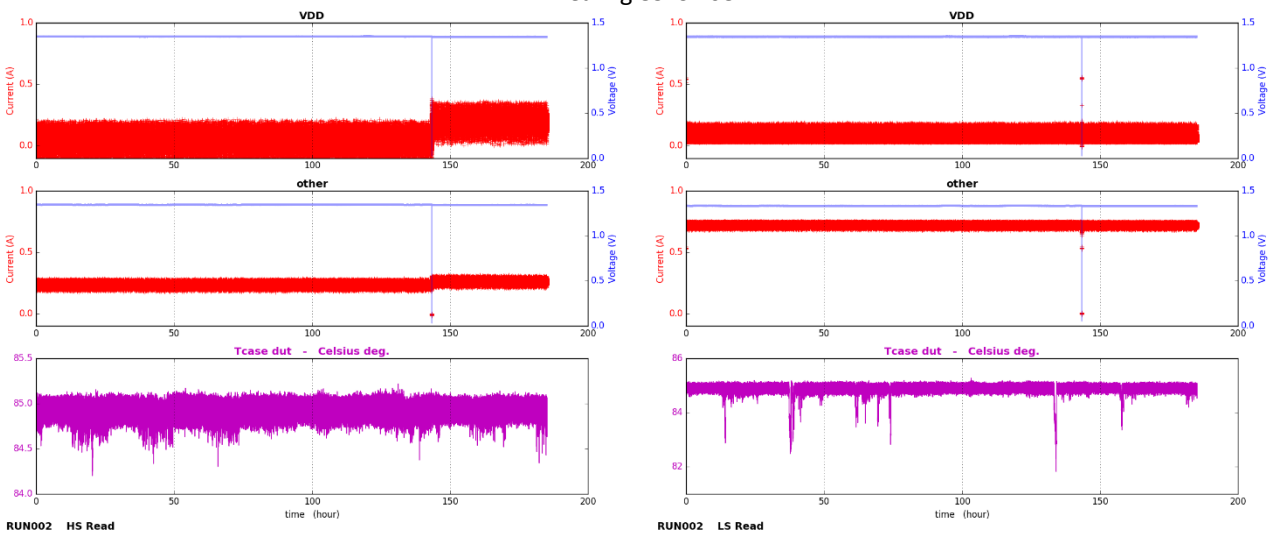
Step1 : Exposure



Annealing 25°C 24 hours



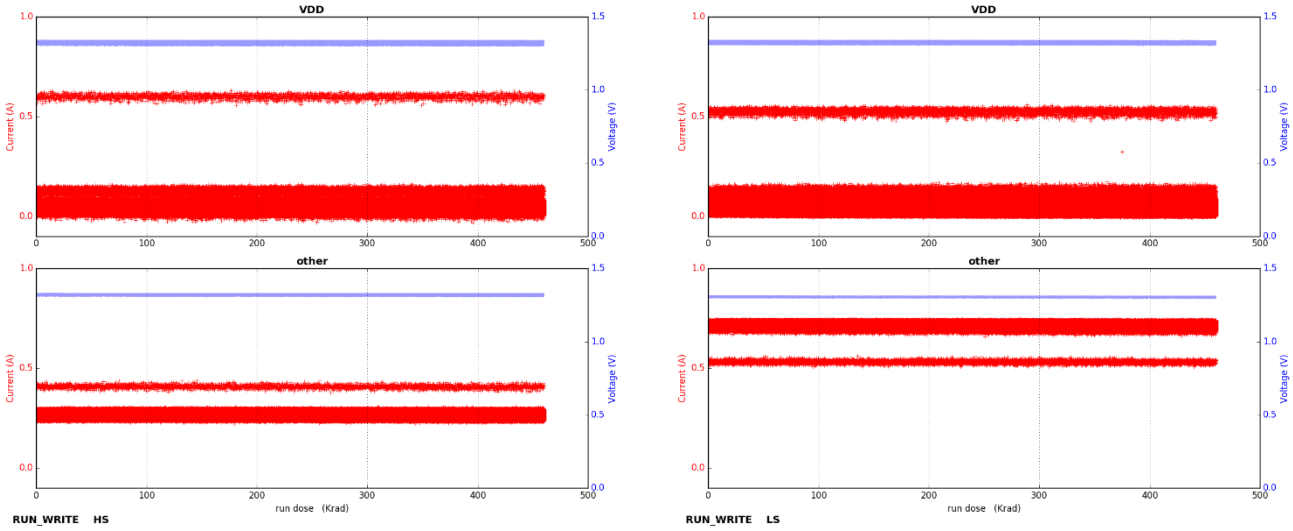
Annealing 85°C 168h



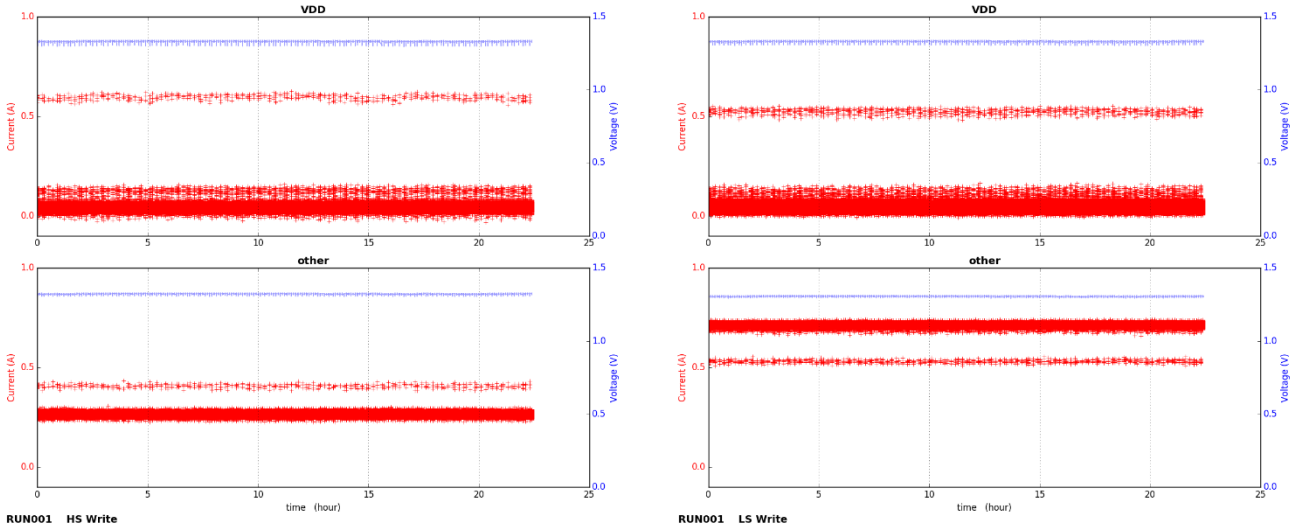
High speed: Samples did not calibrate

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

Step1 : Exposure



Annealing 25°C 24 hours



Annealing 85°C 168h

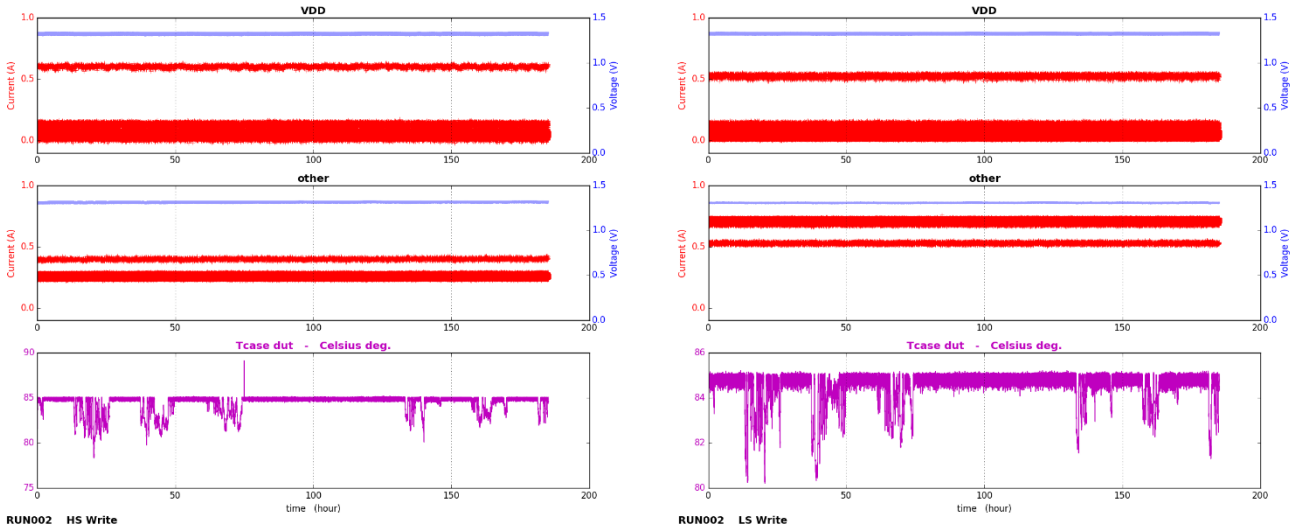


Figure 3 –Write mode, High Speed and Low Speed test modes, In situ monitoring

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 word error has been recorded up to a cumulated dose of 470 krad.

4.2.1 Write mode

No word error has been recorded up to a cumulated dose of 470 krad.

4.3 Annealing Test results

4.3.1 Read mode

25°C annealing:

- word LSB in error in many addresses on the 5 DUTs during the run; may likely be due to marginal calibration.

85°C annealing:

- Some random errors (less than 10 per bank and per DUT) have been recorded for low speed mode and are likely due to the testing at high temperature.
- For high speed, no word errors could be detected due to the absence of proper calibration at high temperature.

4.3.2 Write mode

85°C annealing:
Some random errors (less than 10 per bank and per DUT) have been recorded for both high speed and low speed mode and are likely due to the testing at high temperature.

4.4 Post Annealing test results

No word error was detected with both low-speed and high-speed modes during a sample verification test at room temperature performed in November 2018

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