TOTAL DOSE RADIATION TEST REPORT

Part Type : UC1825J

Package : DIL-16

Description : High Speed Pulse Width Modulator Controller

Manufacturer : Texas Instruments

Date Code: 0913A

Alter Technology - TUV Nord S.A.U. Purchase Order N° 5504769 dated 01/03/2012

Alter Technology - TUV Nord S.A.U. Technical Responsible: Jose Maria Montero Castillo

Hirex reference:	HRX/TID/1031	Issue: 02	Date:	August 10th, 2012
Written by:	G. VIDAL	Test Lab Support Technician		
Verified by:	O.PERROTIN	Test Lab Operations Manager		
Approved by:	J.F. PASCAL	Technical Director		

CHANGE RECORD

ISSUE	DATE	PAGE	DESCRIPTION OF CHANGES
01	March 6th, 2012	All	Original Issue
02	August 10th, 2012	8	Correction of typo error

TOTAL DOSE RADIATION TEST REPORT
on Texas Instruments
UC1825J
High Speed Pulse Width Modulator Controller

TABLE OF CONTENTS

List of figures:

LIST OF TABLES:

1 Introduction

A total dose radiation verification test of the Texas Instruments UC1825J, High Speed Pulse Width Modulator Controller has been performed with an accumulated dose of about 106 Krad(Si) at a dose rate of 330 rad(Si)/hour, in response to Alter Technology - TUV Nord S.A.U. purchase order reference 5504769.

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 Alter Technology - TUV Nord S.A.U..
Test has been performed in accordance with Hirex Engineering proposal reference HRX/PRO/3688 Issue 02 dated December 19th, 2011.

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/3688 Issue 02 dated December 19th, 2011
- Alter Technology - TUV Nord S.A.U. specification: ATGSP-RP-78 Issue 2.
- Hirex Engineering Detail Design Document: HRX/DDD/1544 Issue 01
- Hirex Engineering Test Conditions: HRX/TC/1210 Issue 01

2.2 Reference Documents

- Manufacturer Datasheet

3 Test Samples

11 samples of the UC1825J device were tested (5 ON + 5 OFF + 1 control sample).

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

Serial Number	Allocation
547	Control
548	Biased ON
550	Biased ON
551	Biased ON
552	Biased ON
553	Biased ON
554	Biased OFF
555	Biased OFF
556	Biased OFF
557	Biased OFF
559	Biased OFF

Identification of the UC1825J is given below:

Part Type: UC1825J

Part Number: 5962-8768104VEA

Top Marking: 8B-S 0913A 5962-8768104VEA UC1825J-SP THA Q logo serial

Date Code: 0913A

4 Experimental Conditions

4.1 Radiation Source Dose Rate and Annealing

The dose exposures were performed at UCL in Louvain (Belgium). In this irradiation facility, 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. The dose received by the devices has been controlled by the measurement of one Alanine pellet dosimeter placed onto the bias board.

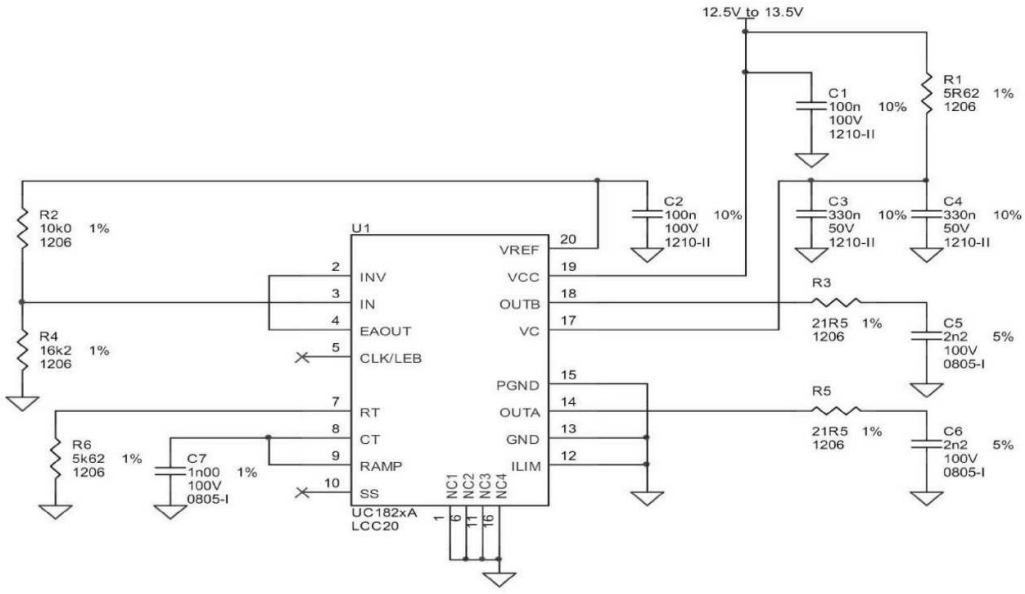
Resulting test conditions are provided below.

Irradiation Steps Requested	Pellet dosimetry data	Dose rate	Annealing steps	Temperature
krad	kRad	krad/h	Hours	°C
0	0	-	-	Room
5	6.3	0.33	-	Room
10	13.5	0.33	-	Room
20	20.5	0.33	-	Room
35	29.4	0.33	-	Room
50	51.2	0.33	-	Room
100	106	0.33	-	Room
-	-	-	24	Room
-	-	-	168	100

4.2 Bias during Dose Exposures and Measurements conditions

4.2.1 Bias conditions

During exposures test board allowed to bias 5 samples in accordance with the electrical circuit provided in Figure 1.
5 other samples were biased OFF with all pins connected to ground.
During annealing steps the same stress conditions were applied at room and 100°C temperatures.



Vcc = 13V

Figure 1 : Bias Conditions during Irradiation Exposures and Annealing

4.2.2 Electrical Measurements

Electrical parameters test program principle for UC1825J is provided in Figure 2.

One HP4142 DC tester, one signal generator HP33120 and one Infinium Scope were used to perform required measurements.

A dedicated test fixture was designed to ensure proper measurement conditions.

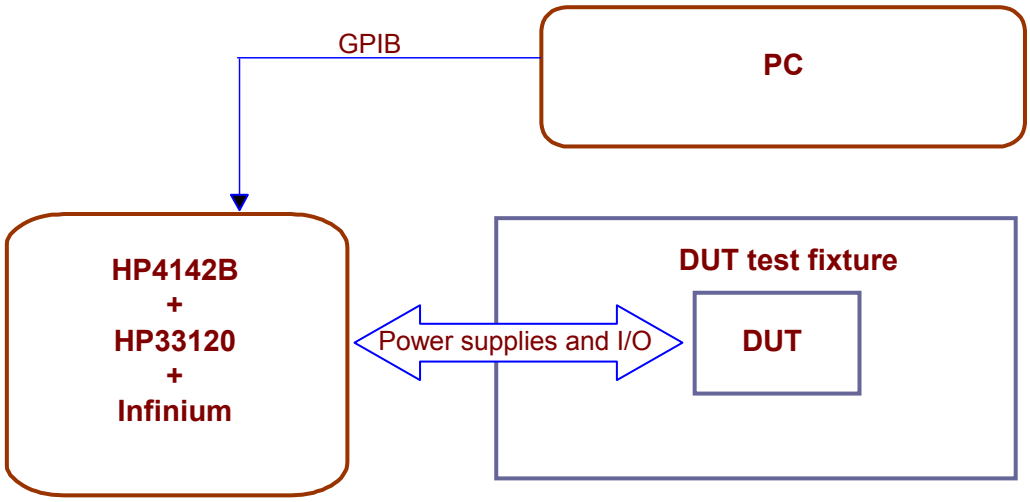


Figure 2 : UC1825J test program principle

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

PARAMETERS	SYMBOLS	TEST CONDITIONS (Note1)	MIN	MAX	UNITS
Supply Current Section					
Supply current	ICC	-	-	33	mA
Start up current	ISTART	VCC=8V	-	2.5	mA
Reference Voltage Section					
Output voltage	VREF	IO=1mA	5.05	5.15	V
Line regulation	VRLINE	10V<VCC<30V	-20	20	mV
Load regulation	VRLOAD	1mA<IO<10mA	-20	20	mV
Short-circuit current	ISC	VREF=0V	-100	-15	mA
Oscillator Section					
Initial accuracy	F0	TJ=25°C	360	440	kHz
Voltage stability	DeltaFO/DeltaV	10V<VCC<30V	-2	2	%
Ramp voltage. peak	VIM	-	2.6	3	V
Ramp voltage. valley	VIV	-	0.6	1.25	V
Error Amplifier Section					
input offset voltage	VOS	VCM=3V; VO=3V	-10	10	mV
Input offset current	IOS	VCM=3V; VO=3V	-1	1	µA
Input bias current	IIB+	VCM=3V; VO=3V	-	3	µA
Input bias current	IIB-	VCM=3V; VO=3V	-	3	µA
Open loop gain	AVOL	1V<VO<4V	60	-	dB
Common-mode rejection ratio	CMRR	1.5V<VCM<5.5V; VOUT=3V	75	-	dB
Power supply rejection ratio	PSRR	10V<VCC<30V; VOUT=3V	85	-	dB
Output sink current	IO(SINK)	VO=1V	1	-	mA
Output source current	IO(SRC)	VO=4V	-	-500	µA
Output high voltage	VOH1	IO=-0.5mA	4	5	V
Output low voltage	VOL1	IO=1mA	0	1	V
Slew rate	SR+		4	-	V/µs
Slew rate	SR-		4	-	V/µs
PWM Comparator Section					
RAMP bias current	IBRAMP	VRAMP=0V	-5	-	µA
Duty cycle range	DC(RANGE)_A		0	80	%
Duty cycle range	DC(RANGE)_B		0	80	%
Zero DC VTH. EAOUT	VTH	VRAMP=0V	1.1	-	V
Soft Start / Duty Cycle Clamp Section					
Charge current	ICHG	V(SS)=0.5V	3	20	µA
Discharge current	IDCHG	V(SS)=1V	1	-	mA
Output Section					
Output low level	VOL2(1)_A	IOUT=20mA	-	400	mV
Output low level	VOL2(1)_B	IOUT=20mA	-	400	mV
Output low level	VOL2(2)_A	IOUT=200mA	-	2.2	V
Output low level	VOL2(2)_B	IOUT=200mA	-	2.2	V
Output high level	VOH2(1)_A	IOUT=-20mA	13	-	V
Output high level	VOH2(1)_B	IOUT=-20mA	13	-	V
Output high level	VOH2(2)_A	IOUT=-200mA	12	-	V
Output high level	VOH2(2)_B	IOUT=-200mA	12	-	V
Under-Voltage Lockout Section					
Start threshold	VSTART	-	8.8	9.6	V
UVLO hysteresis	VHYS	-	0.4	1.2	V

Note 1: Unless otherwise specified: RT=3.65kΩ, CT=1.0nF, VCC=15V

Table 1 : Measured electrical parameters

5 Conclusion

A Total Ionizing Dose verification test was carried out by Hirex Engineering under Alter Technology - TUV Nord S.A.U. contract on the Texas Instruments UC1825J High Speed Pulse Width Modulator Controller in DIL-16 package.

10 samples plus one control sample were used during testing. They were exposed to radiation using a dose rate of 330 rad(Si)/hour at room temperature.

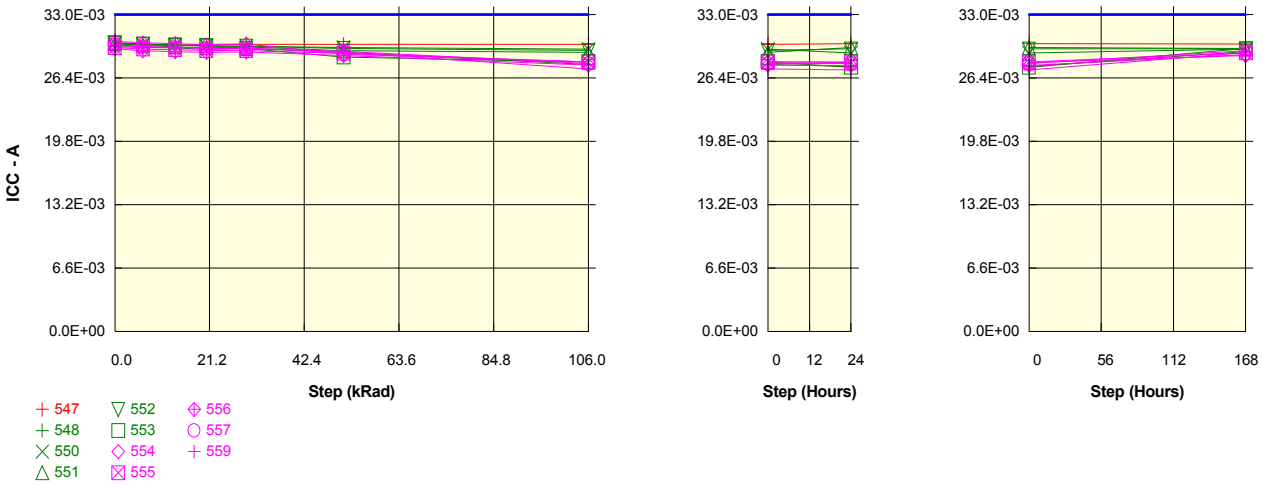
All parameters remained within specification limits all along testing.

6 Test Results

Test results including tables and graphics are provided in this section for each measured parameter.

Statistics are provided separately for Bias ON and Bias OFF samples.

Parameter : Supply current : ICC
Test conditions :
Unit : A
Spec Limit Max : 33.0E-03
Spec limits are represented in bold lines on the graphic.



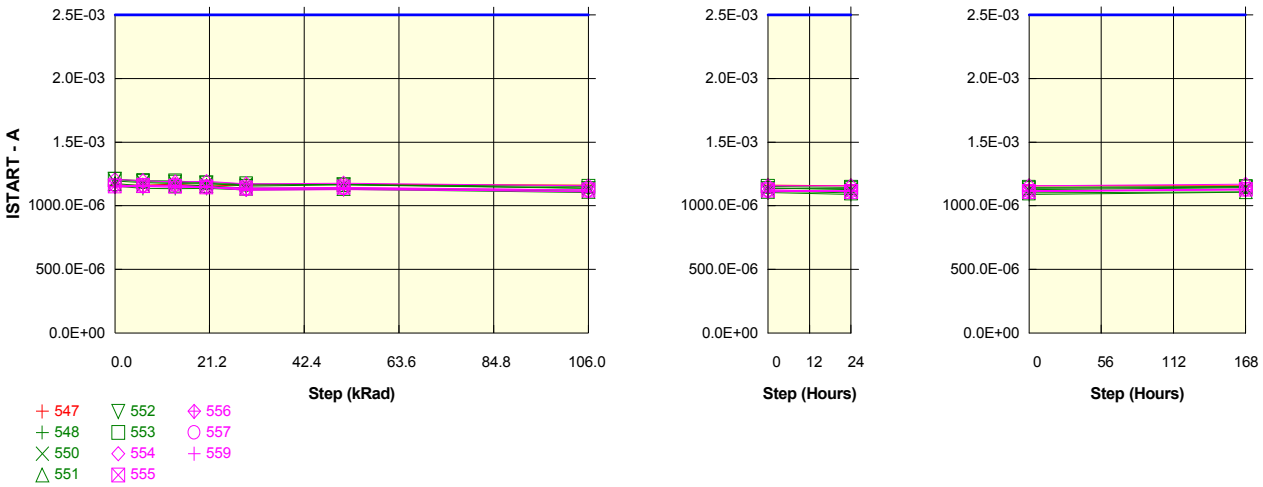
Measurements

ICC	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	29.7E-03	29.9E-03	29.8E-03	29.9E-03	29.9E-03	29.9E-03	29.9E-03	30.0E-03	29.9E-03
ON samples									
548	29.7E-03	29.6E-03	29.5E-03	29.4E-03	29.5E-03	29.1E-03	27.8E-03	27.6E-03	29.1E-03
550	30.0E-03	29.9E-03	29.8E-03	29.7E-03	29.7E-03	29.6E-03	29.4E-03	29.0E-03	29.4E-03
551	30.0E-03	29.8E-03	29.7E-03	29.5E-03	29.6E-03	29.2E-03	29.0E-03	29.5E-03	29.5E-03
552	30.0E-03	29.9E-03	29.8E-03	29.7E-03	29.7E-03	29.5E-03	29.3E-03	29.4E-03	29.4E-03
553	30.1E-03	29.9E-03	29.8E-03	29.8E-03	29.5E-03	28.6E-03	28.1E-03	27.5E-03	29.5E-03
Statistics									
Min	29.7E-03	29.6E-03	29.5E-03	29.4E-03	29.5E-03	28.6E-03	27.8E-03	27.5E-03	29.1E-03
Max	30.1E-03	29.9E-03	29.8E-03	29.8E-03	29.7E-03	29.6E-03	29.4E-03	29.5E-03	29.5E-03
Average	29.9E-03	29.8E-03	29.7E-03	29.6E-03	29.6E-03	29.2E-03	28.7E-03	28.6E-03	29.4E-03
Sigma	134.1E-06	134.4E-06	122.5E-06	156.8E-06	109.3E-06	350.9E-06	643.2E-06	881.1E-06	126.7E-06

Measurements

ICC	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	29.7E-03	29.9E-03	29.8E-03	29.9E-03	29.9E-03	29.9E-03	29.9E-03	30.0E-03	29.9E-03
OFF samples									
554	30.2E-03	30.1E-03	30.0E-03	29.9E-03	29.9E-03	28.9E-03	28.1E-03	28.0E-03	28.7E-03
555	29.6E-03	29.4E-03	29.3E-03	29.3E-03	29.2E-03	29.0E-03	28.1E-03	28.1E-03	29.0E-03
556	29.4E-03	29.2E-03	29.1E-03	29.1E-03	29.1E-03	28.7E-03	27.7E-03	27.7E-03	28.8E-03
557	29.8E-03	29.6E-03	29.6E-03	29.5E-03	29.5E-03	29.2E-03	27.9E-03	27.9E-03	29.2E-03
559	29.9E-03	29.7E-03	29.6E-03	29.6E-03	29.5E-03	29.1E-03	27.3E-03	27.2E-03	29.0E-03
Statistics									
Min	29.4E-03	29.2E-03	29.1E-03	29.1E-03	29.1E-03	28.7E-03	27.3E-03	27.2E-03	28.7E-03
Max	30.2E-03	30.1E-03	30.0E-03	29.9E-03	29.9E-03	29.2E-03	28.1E-03	28.1E-03	29.2E-03
Average	29.8E-03	29.6E-03	29.5E-03	29.4E-03	29.5E-03	29.0E-03	27.8E-03	27.8E-03	29.0E-03
Sigma	263.9E-06	275.5E-06	274.5E-06	270.3E-06	285.6E-06	156.4E-06	265.2E-06	292.8E-06	180.2E-06

Parameter : Start up current : ISTART
Test conditions : VCC=8V
Unit : A
Spec Limit Max : 2.5E-03
Spec limits are represented in bold lines on the graphic.



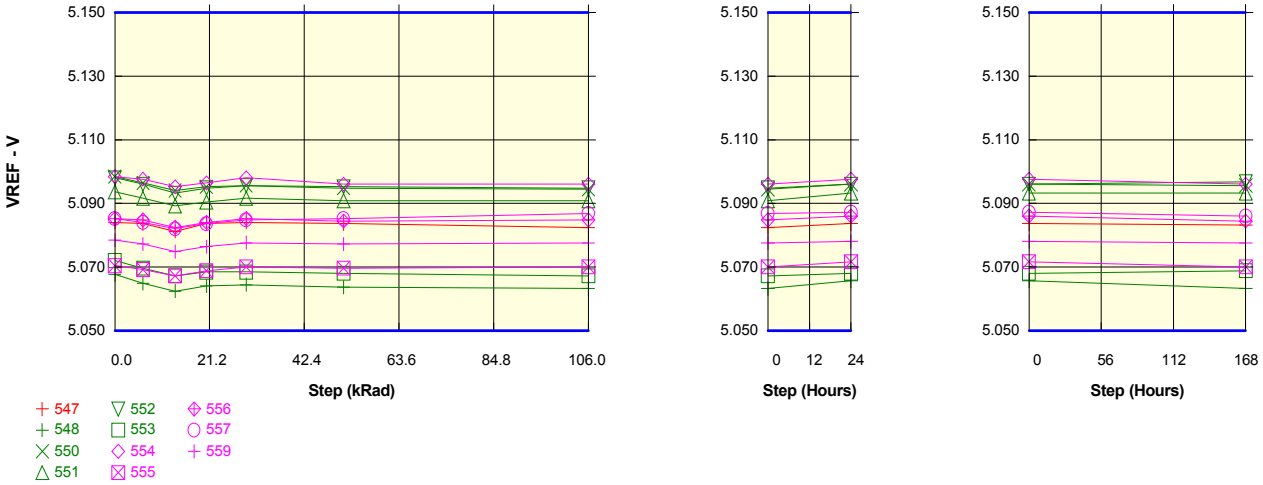
Measurements

ISTART	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03
ON samples									
548	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
550	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03
551	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
552	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03
553	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.2E-03
Statistics									
Min	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Max	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.2E-03
Average	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03
Sigma	20.9E-06	22.8E-06	20.5E-06	16.4E-06	17.5E-06	16.2E-06	17.6E-06	20.9E-06	19.3E-06

Measurements

ISTART	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03
OFF samples									
554	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03
555	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
556	1.1E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
557	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
559	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Statistics									
Min	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Max	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03
Average	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03	1.1E-03
Sigma	21.6E-06	17.3E-06	14.5E-06	17.8E-06	17.4E-06	17.8E-06	16.7E-06	17.3E-06	17.3E-06

Parameter : Output voltage : VREF
Test conditions : IO=1mA
Unit : V
Spec Limit Min : 5.050
Spec Limit Max : 5.150
Spec limits are represented in bold lines on the graphic.



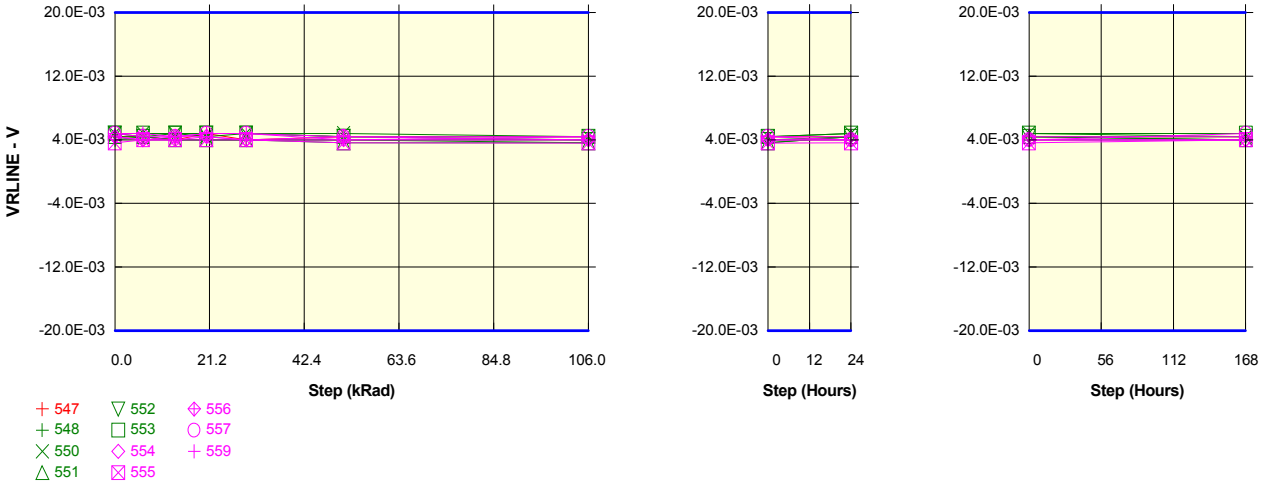
Measurements

VREF	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	5.084	5.084	5.081	5.084	5.084	5.084	5.082	5.084	5.083
ON samples									
548	5.068	5.065	5.062	5.064	5.064	5.064	5.063	5.066	5.063
550	5.098	5.096	5.094	5.095	5.096	5.095	5.094	5.096	5.096
551	5.094	5.092	5.089	5.090	5.092	5.091	5.091	5.093	5.093
552	5.098	5.096	5.093	5.095	5.096	5.095	5.095	5.096	5.097
553	5.072	5.070	5.067	5.068	5.068	5.068	5.067	5.068	5.069
Statistics									
Min	5.068	5.065	5.062	5.064	5.064	5.064	5.063	5.066	5.063
Max	5.098	5.096	5.094	5.095	5.096	5.095	5.095	5.096	5.097
Average	5.086	5.084	5.081	5.083	5.083	5.082	5.082	5.084	5.084
Sigma	0.013	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014

Measurements

VREF	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	5.084	5.084	5.081	5.084	5.084	5.084	5.082	5.084	5.083
OFF samples									
554	5.098	5.098	5.095	5.096	5.098	5.096	5.096	5.098	5.096
555	5.070	5.069	5.067	5.069	5.070	5.070	5.070	5.072	5.070
556	5.085	5.085	5.082	5.084	5.085	5.084	5.085	5.086	5.084
557	5.085	5.084	5.082	5.084	5.085	5.085	5.087	5.087	5.086
559	5.078	5.077	5.075	5.076	5.078	5.077	5.078	5.078	5.078
Statistics									
Min	5.070	5.069	5.067	5.069	5.070	5.070	5.070	5.072	5.070
Max	5.098	5.098	5.095	5.096	5.098	5.096	5.096	5.098	5.096
Average	5.084	5.083	5.080	5.082	5.083	5.082	5.083	5.084	5.083
Sigma	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009

Parameter : Line regulation : VRLINE
Test conditions : 10V<VCC<30V
Unit : V
Spec Limit Min : -20.0E-03
Spec Limit Max : 20.0E-03
Spec limits are represented in bold lines on the graphic.



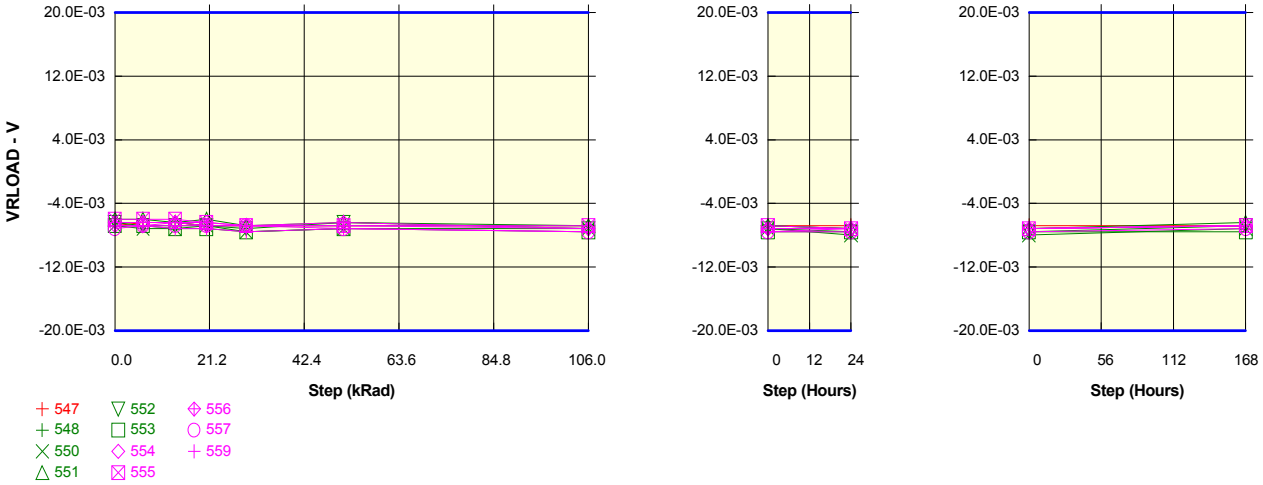
Measurements

VRLINE	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	4.4E-03	4.4E-03	4.0E-03	4.8E-03	4.0E-03	4.4E-03	4.4E-03	4.4E-03	4.4E-03
ON samples									
548	4.0E-03	4.4E-03	4.0E-03	4.0E-03	4.0E-03	4.0E-03	3.6E-03	4.4E-03	4.0E-03
550	4.8E-03	4.8E-03	4.8E-03	4.4E-03	4.8E-03	4.8E-03	4.4E-03	4.8E-03	4.4E-03
551	4.4E-03	4.4E-03	4.0E-03	4.0E-03	4.0E-03	3.6E-03	3.6E-03	4.4E-03	4.0E-03
552	4.8E-03	4.4E-03	4.8E-03	4.8E-03	4.8E-03	4.4E-03	4.0E-03	4.4E-03	4.4E-03
553	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.4E-03	4.4E-03	4.8E-03	4.8E-03
Statistics									
Min	4.0E-03	4.4E-03	4.0E-03	4.0E-03	4.0E-03	3.6E-03	3.6E-03	4.4E-03	4.0E-03
Max	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.8E-03	4.4E-03	4.8E-03	4.8E-03
Average	4.6E-03	4.6E-03	4.5E-03	4.4E-03	4.5E-03	4.2E-03	4.0E-03	4.6E-03	4.3E-03
Sigma	320.1E-06	195.9E-06	391.7E-06	357.9E-06	391.9E-06	407.9E-06	357.7E-06	195.9E-06	299.4E-06

Measurements

VRLINE	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	4.4E-03	4.4E-03	4.0E-03	4.8E-03	4.0E-03	4.4E-03	4.4E-03	4.4E-03	4.4E-03
OFF samples									
554	4.4E-03	4.0E-03	4.4E-03	4.4E-03	4.0E-03	4.0E-03	4.0E-03	4.0E-03	4.0E-03
555	3.6E-03	4.0E-03	4.0E-03	4.0E-03	4.0E-03	3.6E-03	3.6E-03	3.6E-03	4.0E-03
556	4.4E-03	4.0E-03	4.0E-03	4.4E-03	4.0E-03	4.4E-03	4.0E-03	4.0E-03	4.0E-03
557	4.8E-03	4.4E-03	4.4E-03	4.8E-03	4.8E-03	4.4E-03	4.4E-03	4.0E-03	4.8E-03
559	4.8E-03	4.8E-03	4.4E-03	4.8E-03	4.8E-03	4.0E-03	4.4E-03	4.4E-03	4.4E-03
Statistics									
Min	3.6E-03	4.0E-03	4.0E-03	4.0E-03	4.0E-03	3.6E-03	3.6E-03	3.6E-03	4.0E-03
Max	4.8E-03	4.8E-03	4.4E-03	4.8E-03	4.8E-03	4.4E-03	4.4E-03	4.4E-03	4.8E-03
Average	4.4E-03	4.2E-03	4.2E-03	4.5E-03	4.3E-03	4.1E-03	4.1E-03	4.0E-03	4.2E-03
Sigma	438.1E-06	320.1E-06	196.0E-06	299.2E-06	391.9E-06	299.2E-06	299.6E-06	252.9E-06	320.3E-06

Parameter : Load regulation : VRLOAD
Test conditions : 1mA<IO<10mA
Unit : V
Spec Limit Min : -20.0E-03
Spec Limit Max : 20.0E-03
Spec limits are represented in bold lines on the graphic.



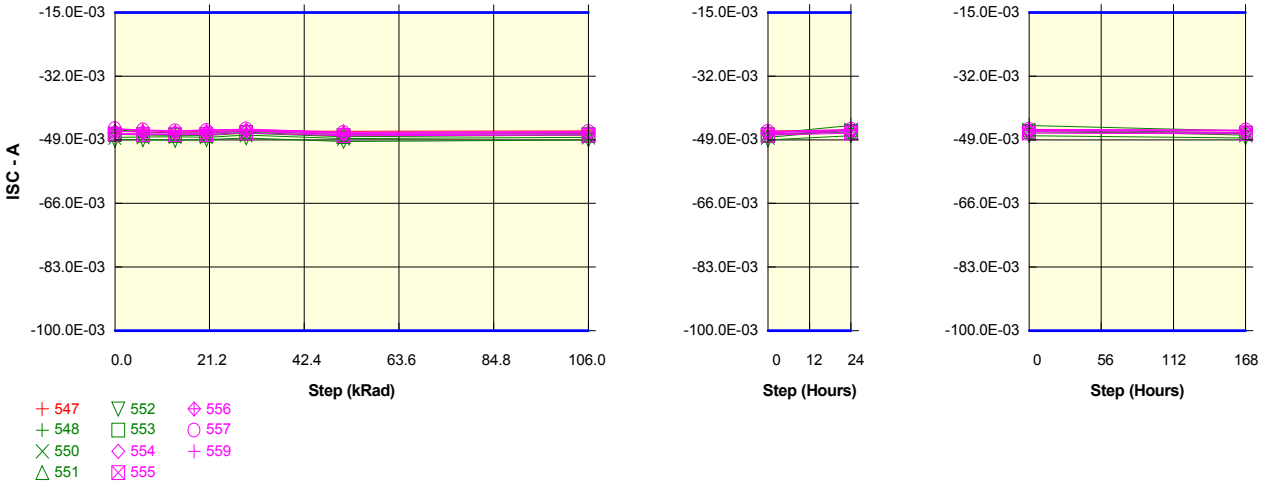
Measurements

VRLOAD	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-6.8E-03	-6.4E-03	-6.4E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03
ON samples									
548	-6.4E-03	-6.4E-03	-6.4E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-7.2E-03	-6.8E-03
550	-6.8E-03	-7.2E-03	-7.2E-03	-6.8E-03	-7.6E-03	-7.2E-03	-7.2E-03	-8.0E-03	-7.2E-03
551	-6.0E-03	-6.0E-03	-6.4E-03	-6.0E-03	-6.8E-03	-6.4E-03	-6.8E-03	-7.2E-03	-6.4E-03
552	-6.4E-03	-6.8E-03	-6.8E-03	-6.8E-03	-7.2E-03	-6.4E-03	-7.2E-03	-7.6E-03	-6.8E-03
553	-6.8E-03	-6.8E-03	-7.2E-03	-7.2E-03	-7.6E-03	-7.2E-03	-7.6E-03	-7.6E-03	-7.6E-03
Statistics									
Min	-6.8E-03	-7.2E-03	-7.2E-03	-7.2E-03	-7.6E-03	-7.2E-03	-7.6E-03	-8.0E-03	-7.6E-03
Max	-6.0E-03	-6.0E-03	-6.4E-03	-6.0E-03	-6.8E-03	-6.4E-03	-6.8E-03	-7.2E-03	-6.4E-03
Average	-6.5E-03	-6.6E-03	-6.8E-03	-6.7E-03	-7.2E-03	-6.8E-03	-7.1E-03	-7.5E-03	-7.0E-03
Sigma	299.6E-06	407.9E-06	357.8E-06	391.9E-06	357.7E-06	357.7E-06	299.4E-06	299.5E-06	407.9E-06

Measurements

VRLOAD	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-6.8E-03	-6.4E-03	-6.4E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03
OFF samples									
554	-6.8E-03	-6.8E-03	-6.4E-03	-6.4E-03	-6.8E-03	-6.8E-03	-7.2E-03	-7.2E-03	-6.8E-03
555	-6.0E-03	-6.0E-03	-6.0E-03	-6.4E-03	-6.8E-03	-6.8E-03	-6.8E-03	-7.2E-03	-6.8E-03
556	-6.4E-03	-6.4E-03	-6.4E-03	-6.8E-03	-6.8E-03	-6.4E-03	-7.2E-03	-7.2E-03	-6.8E-03
557	-7.2E-03	-6.8E-03	-6.8E-03	-6.8E-03	-6.8E-03	-7.2E-03	-7.6E-03	-7.6E-03	-7.2E-03
559	-6.8E-03	-6.8E-03	-7.2E-03	-7.2E-03	-7.6E-03	-7.2E-03	-7.6E-03	-7.2E-03	-6.8E-03
Statistics									
Min	-7.2E-03	-6.8E-03	-7.2E-03	-7.2E-03	-7.6E-03	-7.2E-03	-7.6E-03	-7.6E-03	-7.2E-03
Max	-6.0E-03	-6.0E-03	-6.0E-03	-6.4E-03	-6.8E-03	-6.4E-03	-6.8E-03	-7.2E-03	-6.8E-03
Average	-6.6E-03	-6.6E-03	-6.6E-03	-6.7E-03	-7.0E-03	-6.9E-03	-7.3E-03	-7.3E-03	-6.9E-03
Sigma	407.9E-06	320.0E-06	408.0E-06	299.3E-06	320.0E-06	299.2E-06	299.3E-06	160.2E-06	159.8E-06

Parameter : Short-circuit current : ISC
Test conditions : VREF=0V
Unit : A
Spec Limit Min : -100.0E-03
Spec Limit Max : -15.0E-03
Spec limits are represented in bold lines on the graphic.



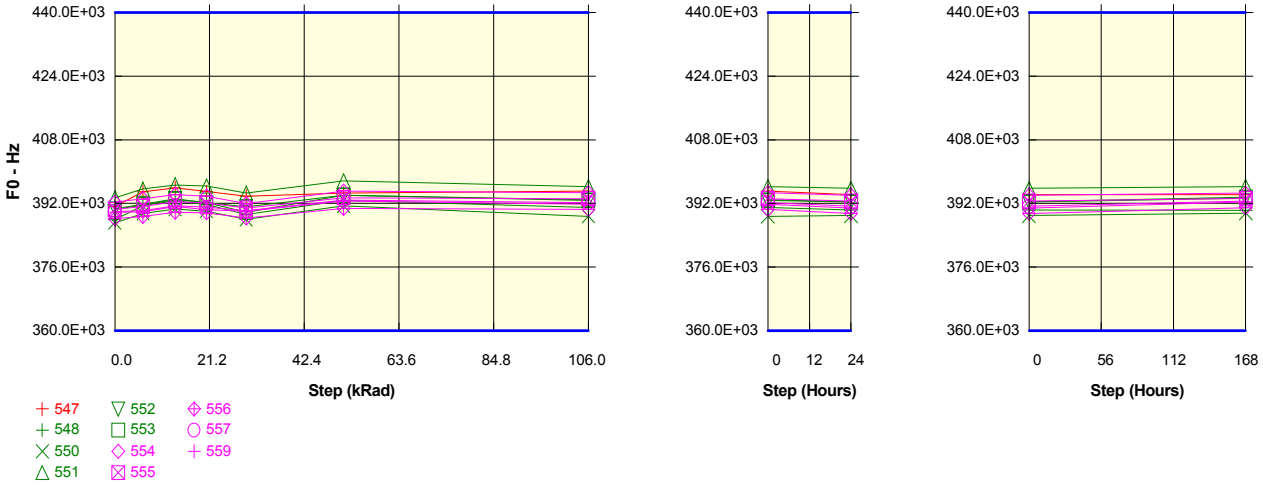
Measurements

ISC	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-47.0E-03	-46.4E-03	-47.0E-03	-46.7E-03	-46.6E-03	-46.7E-03	-46.7E-03	-46.5E-03	-46.5E-03
ON samples									
548	-46.3E-03	-47.1E-03	-47.1E-03	-47.3E-03	-46.7E-03	-47.6E-03	-47.3E-03	-45.2E-03	-46.7E-03
550	-48.4E-03	-48.3E-03	-48.2E-03	-48.3E-03	-47.8E-03	-48.7E-03	-48.4E-03	-46.4E-03	-47.8E-03
551	-47.4E-03	-47.7E-03	-47.8E-03	-47.8E-03	-47.3E-03	-48.2E-03	-47.8E-03	-46.3E-03	-47.2E-03
552	-49.1E-03	-49.0E-03	-49.1E-03	-48.9E-03	-48.5E-03	-49.4E-03	-49.0E-03	-47.9E-03	-48.5E-03
553	-47.6E-03	-47.7E-03	-47.8E-03	-47.7E-03	-47.0E-03	-48.0E-03	-47.7E-03	-46.9E-03	-47.3E-03
Statistics									
Min	-49.1E-03	-49.0E-03	-49.1E-03	-48.9E-03	-48.5E-03	-49.4E-03	-49.0E-03	-47.9E-03	-48.5E-03
Max	-46.3E-03	-47.1E-03	-47.1E-03	-47.3E-03	-46.7E-03	-47.6E-03	-47.3E-03	-45.2E-03	-46.7E-03
Average	-47.8E-03	-48.0E-03	-48.0E-03	-48.0E-03	-47.5E-03	-48.4E-03	-48.1E-03	-46.5E-03	-47.5E-03
Sigma	965.1E-06	638.4E-06	668.6E-06	575.5E-06	628.8E-06	625.6E-06	611.2E-06	892.3E-06	625.7E-06

Measurements

ISC	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-47.0E-03	-46.4E-03	-47.0E-03	-46.7E-03	-46.6E-03	-46.7E-03	-46.7E-03	-46.5E-03	-46.5E-03
OFF samples									
554	-47.3E-03	-47.3E-03	-47.2E-03	-47.3E-03	-46.6E-03	-47.7E-03	-47.4E-03	-46.8E-03	-47.1E-03
555	-47.5E-03	-47.7E-03	-47.6E-03	-47.7E-03	-47.2E-03	-47.9E-03	-47.8E-03	-47.2E-03	-47.4E-03
556	-46.8E-03	-46.9E-03	-47.0E-03	-46.9E-03	-46.5E-03	-47.3E-03	-47.1E-03	-46.5E-03	-46.7E-03
557	-46.0E-03	-46.4E-03	-46.6E-03	-46.5E-03	-46.1E-03	-47.0E-03	-46.8E-03	-46.2E-03	-46.4E-03
559	-46.1E-03	-46.6E-03	-46.7E-03	-46.3E-03	-46.3E-03	-47.2E-03	-47.0E-03	-46.4E-03	-46.6E-03
Statistics									
Min	-47.5E-03	-47.7E-03	-47.6E-03	-47.7E-03	-47.2E-03	-47.9E-03	-47.8E-03	-47.2E-03	-47.4E-03
Max	-46.0E-03	-46.4E-03	-46.6E-03	-46.3E-03	-46.1E-03	-47.0E-03	-46.8E-03	-46.2E-03	-46.4E-03
Average	-46.7E-03	-47.0E-03	-47.0E-03	-46.9E-03	-46.6E-03	-47.4E-03	-47.2E-03	-46.6E-03	-46.9E-03
Sigma	592.7E-06	454.2E-06	374.2E-06	488.0E-06	363.1E-06	330.3E-06	355.4E-06	370.9E-06	367.6E-06

Parameter : Initial accuracy : F0
Test conditions : TJ=25°C
Unit : Hz
Spec Limit Min : 360.0E+03
Spec Limit Max : 440.0E+03
Spec limits are represented in bold lines on the graphic.



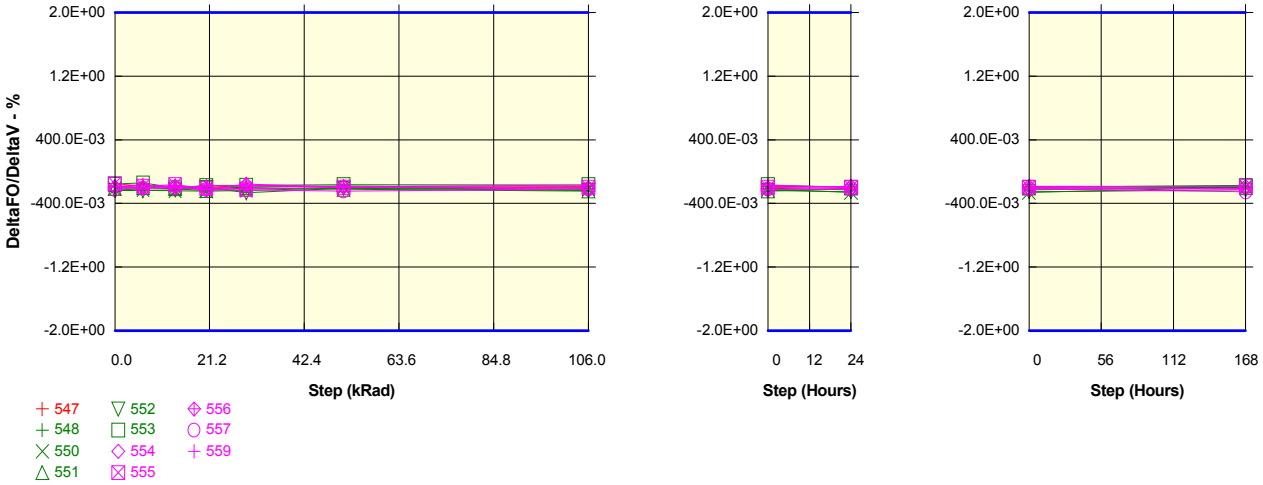
Measurements

F0	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	391.2E+03	394.9E+03	395.9E+03	394.9E+03	393.8E+03	394.5E+03	395.1E+03	394.2E+03	394.2E+03
ON samples									
548	387.9E+03	391.4E+03	392.6E+03	391.7E+03	389.2E+03	392.8E+03	391.0E+03	390.4E+03	390.3E+03
550	387.1E+03	389.4E+03	390.6E+03	390.0E+03	388.0E+03	391.3E+03	388.7E+03	388.9E+03	389.5E+03
551	393.4E+03	395.6E+03	396.7E+03	396.4E+03	394.6E+03	397.6E+03	396.2E+03	395.8E+03	396.2E+03
552	390.6E+03	391.8E+03	393.2E+03	392.1E+03	391.2E+03	394.0E+03	392.7E+03	392.3E+03	393.3E+03
553	390.5E+03	391.6E+03	393.0E+03	392.1E+03	389.7E+03	394.0E+03	392.9E+03	392.4E+03	393.5E+03
Statistics									
Min	387.1E+03	389.4E+03	390.6E+03	390.0E+03	388.0E+03	391.3E+03	388.7E+03	388.9E+03	389.5E+03
Max	393.4E+03	395.6E+03	396.7E+03	396.4E+03	394.6E+03	397.6E+03	396.2E+03	395.8E+03	396.2E+03
Average	389.9E+03	392.0E+03	393.2E+03	392.5E+03	390.5E+03	393.9E+03	392.3E+03	391.9E+03	392.6E+03
Sigma	2.2E+03	2.0E+03	2.0E+03	2.1E+03	2.3E+03	2.1E+03	2.5E+03	2.3E+03	2.4E+03

Measurements

F0	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	391.2E+03	394.9E+03	395.9E+03	394.9E+03	393.8E+03	394.5E+03	395.1E+03	394.2E+03	394.2E+03
OFF samples									
554	392.3E+03	393.2E+03	394.2E+03	393.8E+03	392.0E+03	395.1E+03	394.7E+03	394.1E+03	394.5E+03
555	390.5E+03	391.2E+03	392.4E+03	392.1E+03	390.8E+03	393.4E+03	393.2E+03	392.6E+03	393.3E+03
556	388.1E+03	388.7E+03	389.7E+03	389.6E+03	388.3E+03	390.7E+03	390.5E+03	389.4E+03	390.9E+03
557	389.9E+03	390.2E+03	391.3E+03	391.0E+03	390.1E+03	392.8E+03	392.1E+03	391.3E+03	392.6E+03
559	389.8E+03	389.8E+03	391.2E+03	390.4E+03	390.0E+03	392.6E+03	391.8E+03	390.8E+03	392.3E+03
Statistics									
Min	388.1E+03	388.7E+03	389.7E+03	389.6E+03	388.3E+03	390.7E+03	390.5E+03	389.4E+03	390.9E+03
Max	392.3E+03	393.2E+03	394.2E+03	393.8E+03	392.0E+03	395.1E+03	394.7E+03	394.1E+03	394.5E+03
Average	390.1E+03	390.6E+03	391.8E+03	391.4E+03	390.2E+03	392.9E+03	392.5E+03	391.6E+03	392.7E+03
Sigma	1.4E+03	1.5E+03	1.5E+03	1.5E+03	1.2E+03	1.4E+03	1.4E+03	1.6E+03	1.2E+03

Parameter : Voltage stability : DeltaFO/DeltaV
Test conditions : 10V<VCC<30V
Unit : %
Spec Limit Min : -2.0E+00
Spec Limit Max : 2.0E+00
Spec limits are represented in bold lines on the graphic.



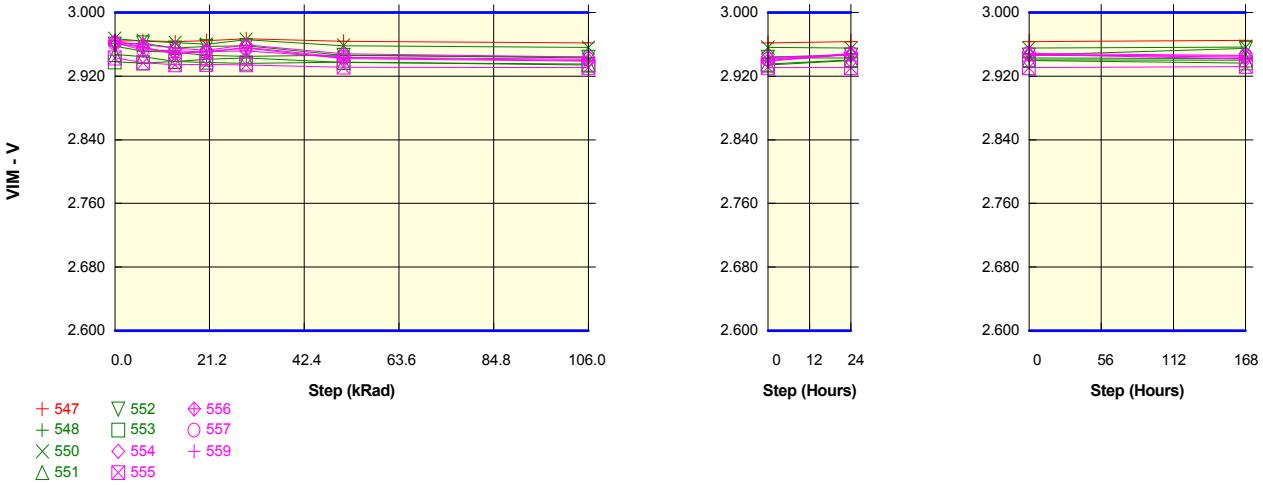
Measurements

DeltaFO/DeltaV	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-189.5E-03	-165.0E-03	-210.4E-03	-198.8E-03	-177.0E-03	-201.5E-03	-192.6E-03	-189.9E-03	-192.9E-03
ON samples									
548	-190.1E-03	-196.8E-03	-179.9E-03	-212.2E-03	-199.8E-03	-184.3E-03	-211.0E-03	-230.9E-03	-198.3E-03
550	-219.7E-03	-235.0E-03	-243.6E-03	-247.5E-03	-240.0E-03	-205.5E-03	-223.1E-03	-263.4E-03	-197.9E-03
551	-211.5E-03	-204.0E-03	-217.0E-03	-239.5E-03	-205.0E-03	-223.2E-03	-246.1E-03	-208.1E-03	-201.1E-03
552	-239.3E-03	-241.0E-03	-231.6E-03	-200.4E-03	-268.0E-03	-211.7E-03	-239.8E-03	-254.4E-03	-231.7E-03
553	-160.6E-03	-143.2E-03	-205.9E-03	-174.0E-03	-173.3E-03	-166.3E-03	-168.0E-03	-200.1E-03	-175.5E-03
Statistics									
Min	-239.3E-03	-241.0E-03	-243.6E-03	-247.5E-03	-268.0E-03	-223.2E-03	-246.1E-03	-263.4E-03	-231.7E-03
Max	-160.6E-03	-143.2E-03	-179.9E-03	-174.0E-03	-173.3E-03	-166.3E-03	-168.0E-03	-200.1E-03	-175.5E-03
Average	-204.2E-03	-204.0E-03	-215.6E-03	-214.7E-03	-217.2E-03	-198.2E-03	-217.6E-03	-231.4E-03	-200.9E-03
Sigma	26.9E-03	34.9E-03	22.0E-03	26.7E-03	33.1E-03	20.3E-03	27.7E-03	24.8E-03	18.0E-03

Measurements

DeltaFO/DeltaV	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-189.5E-03	-165.0E-03	-210.4E-03	-198.8E-03	-177.0E-03	-201.5E-03	-192.6E-03	-189.9E-03	-192.9E-03
OFF samples									
554	-191.8E-03	-198.4E-03	-188.3E-03	-231.2E-03	-159.5E-03	-196.1E-03	-203.2E-03	-186.9E-03	-186.1E-03
555	-152.9E-03	-184.0E-03	-166.4E-03	-213.9E-03	-221.7E-03	-199.4E-03	-198.3E-03	-195.3E-03	-185.8E-03
556	-193.4E-03	-204.1E-03	-182.6E-03	-216.0E-03	-175.5E-03	-190.7E-03	-227.6E-03	-218.0E-03	-215.1E-03
557	-224.3E-03	-210.1E-03	-204.5E-03	-228.6E-03	-230.0E-03	-245.6E-03	-222.2E-03	-218.9E-03	-255.5E-03
559	-185.8E-03	-202.2E-03	-213.1E-03	-179.7E-03	-182.2E-03	-190.3E-03	-169.7E-03	-204.4E-03	-224.0E-03
Statistics									
Min	-224.3E-03	-210.1E-03	-213.1E-03	-231.2E-03	-230.0E-03	-245.6E-03	-227.6E-03	-218.9E-03	-255.5E-03
Max	-152.9E-03	-184.0E-03	-166.4E-03	-179.7E-03	-159.5E-03	-190.3E-03	-169.7E-03	-186.9E-03	-185.8E-03
Average	-189.6E-03	-199.7E-03	-191.0E-03	-213.9E-03	-193.8E-03	-204.4E-03	-204.2E-03	-204.7E-03	-213.3E-03
Sigma	22.7E-03	8.7E-03	16.5E-03	18.4E-03	27.3E-03	20.9E-03	20.5E-03	12.5E-03	26.1E-03

Parameter : Ramp voltage. peak : VIM
Test conditions :
Unit : V
Spec Limit Min : 2.600
Spec Limit Max : 3.000
Spec limits are represented in bold lines on the graphic.



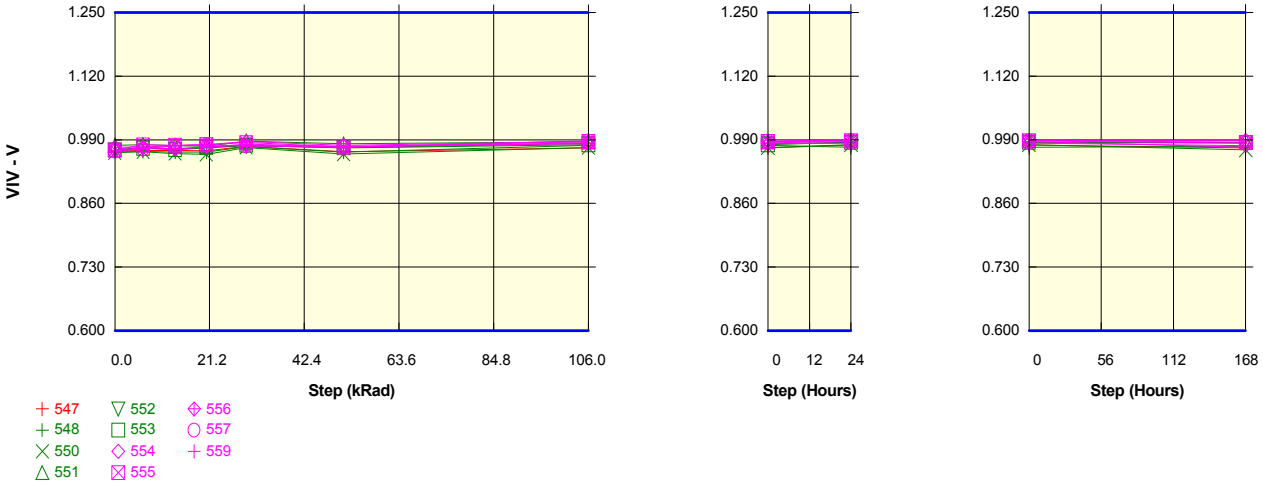
Measurements

VIM	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	2.964	2.964	2.963	2.964	2.967	2.964	2.962	2.964	2.965
ON samples									
548	2.958	2.951	2.950	2.946	2.945	2.947	2.943	2.943	2.942
550	2.967	2.964	2.962	2.960	2.966	2.958	2.956	2.955	2.957
551	2.947	2.945	2.938	2.941	2.943	2.937	2.935	2.941	2.940
552	2.960	2.961	2.955	2.957	2.958	2.946	2.944	2.946	2.955
553	2.938	2.936	2.938	2.937	2.936	2.938	2.934	2.940	2.937
Statistics									
Min	2.938	2.936	2.938	2.937	2.936	2.937	2.934	2.940	2.937
Max	2.967	2.964	2.962	2.960	2.966	2.958	2.956	2.955	2.957
Average	2.954	2.952	2.949	2.948	2.950	2.945	2.942	2.945	2.946
Sigma	0.010	0.010	0.009	0.009	0.011	0.008	0.008	0.006	0.008

Measurements

VIM	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	2.964	2.964	2.963	2.964	2.967	2.964	2.962	2.964	2.965
OFF samples									
554	2.963	2.960	2.955	2.953	2.959	2.948	2.944	2.946	2.945
555	2.943	2.937	2.934	2.935	2.934	2.931	2.931	2.931	2.932
556	2.961	2.956	2.948	2.951	2.952	2.943	2.940	2.947	2.944
557	2.962	2.953	2.952	2.950	2.956	2.944	2.941	2.949	2.946
559	2.965	2.956	2.949	2.951	2.955	2.942	2.939	2.947	2.941
Statistics									
Min	2.943	2.937	2.934	2.935	2.934	2.931	2.931	2.931	2.932
Max	2.965	2.960	2.955	2.953	2.959	2.948	2.944	2.949	2.946
Average	2.959	2.952	2.948	2.948	2.951	2.942	2.939	2.944	2.942
Sigma	0.008	0.008	0.007	0.007	0.009	0.006	0.004	0.007	0.005

Parameter : Ramp voltage. valley : VIV
Test conditions :
Unit : V
Spec Limit Min : 0.600
Spec Limit Max : 1.250
Spec limits are represented in bold lines on the graphic.



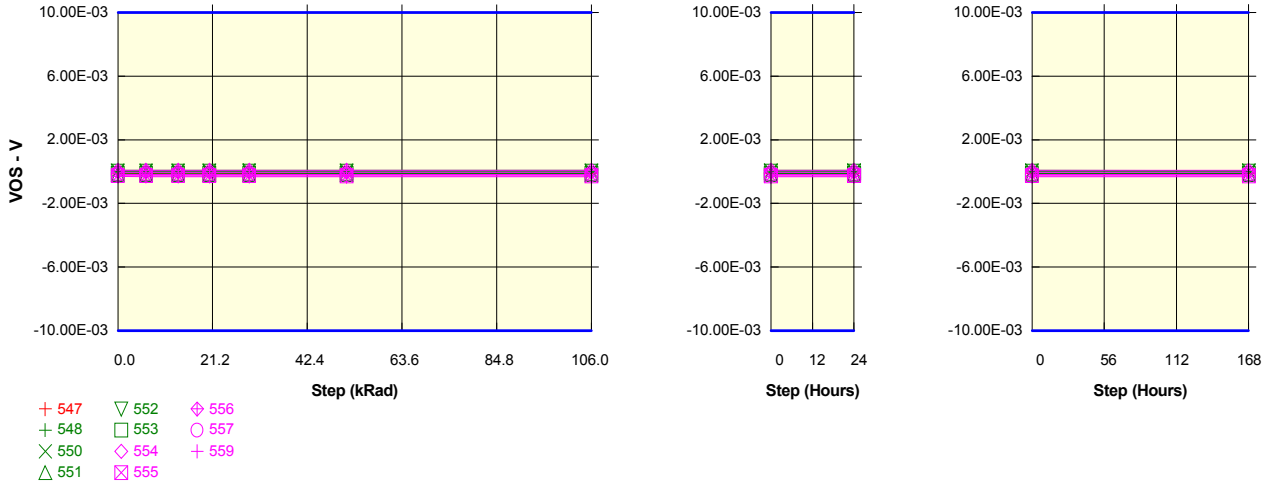
Measurements

VIV	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	0.967	0.968	0.968	0.967	0.976	0.965	0.973	0.979	0.973
ON samples									
548	0.967	0.966	0.965	0.965	0.976	0.965	0.978	0.974	0.977
550	0.963	0.965	0.962	0.960	0.974	0.961	0.974	0.980	0.969
551	0.979	0.980	0.978	0.976	0.987	0.981	0.986	0.989	0.988
552	0.969	0.974	0.970	0.973	0.978	0.974	0.982	0.984	0.984
553	0.969	0.973	0.970	0.974	0.979	0.974	0.980	0.985	0.984
Statistics									
Min	0.963	0.965	0.962	0.960	0.974	0.961	0.974	0.974	0.969
Max	0.979	0.980	0.978	0.976	0.987	0.981	0.986	0.989	0.988
Average	0.969	0.972	0.969	0.970	0.979	0.971	0.980	0.982	0.980
Sigma	0.005	0.005	0.006	0.006	0.004	0.007	0.004	0.005	0.007

Measurements

VIV	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	0.967	0.968	0.968	0.967	0.976	0.965	0.973	0.979	0.973
OFF samples									
554	0.975	0.975	0.978	0.979	0.986	0.978	0.987	0.988	0.988
555	0.969	0.979	0.979	0.980	0.984	0.975	0.986	0.988	0.985
556	0.968	0.974	0.971	0.976	0.979	0.977	0.982	0.983	0.978
557	0.966	0.971	0.978	0.979	0.977	0.975	0.987	0.988	0.983
559	0.967	0.974	0.972	0.974	0.981	0.975	0.984	0.986	0.975
Statistics									
Min	0.966	0.971	0.971	0.974	0.977	0.975	0.982	0.983	0.975
Max	0.975	0.979	0.979	0.980	0.986	0.978	0.987	0.988	0.988
Average	0.969	0.975	0.975	0.978	0.981	0.976	0.985	0.986	0.982
Sigma	0.003	0.003	0.003	0.002	0.003	0.001	0.002	0.002	0.005

Parameter : input offset voltage : VOS
Test conditions : VCM=3V; VO=3V
Unit : V
Spec Limit Min : -10.00E-03
Spec Limit Max : 10.00E-03
Spec limits are represented in bold lines on the graphic.



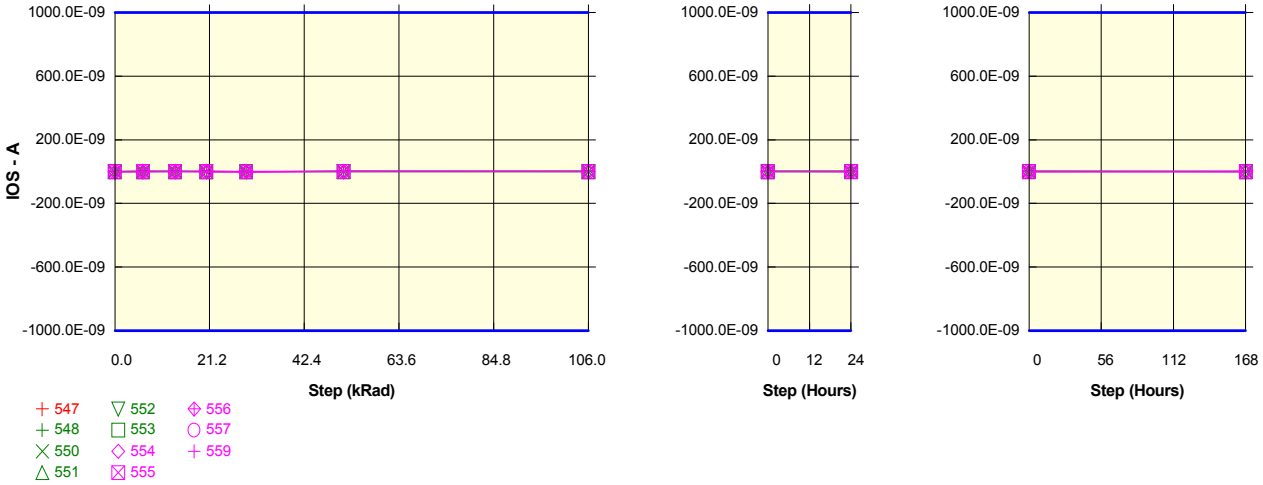
Measurements

VOS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-133.07E-06	-128.67E-06	-134.27E-06	-130.67E-06	-129.07E-06	-131.87E-06	-129.87E-06	-127.87E-06	-129.07E-06
ON samples									
548	-27.97E-06	-27.57E-06	-28.37E-06	-27.57E-06	-25.97E-06	-31.57E-06	-30.37E-06	-23.98E-06	-29.57E-06
550	64.34E-06	65.93E-06	65.93E-06	65.13E-06	66.73E-06	60.74E-06	61.94E-06	62.74E-06	56.34E-06
551	-192.61E-06	-191.41E-06	-192.21E-06	-191.01E-06	-186.21E-06	-194.61E-06	-192.21E-06	-182.22E-06	-194.21E-06
552	17.18E-06	17.58E-06	15.58E-06	17.58E-06	19.18E-06	13.59E-06	15.58E-06	17.58E-06	9.19E-06
553	-113.89E-06	-115.08E-06	-115.48E-06	-113.49E-06	-113.89E-06	-117.08E-06	-118.28E-06	-117.88E-06	-124.28E-06
Statistics									
Min	-192.61E-06	-191.41E-06	-192.21E-06	-191.01E-06	-186.21E-06	-194.61E-06	-192.21E-06	-182.22E-06	-194.21E-06
Max	64.34E-06	65.93E-06	65.93E-06	65.13E-06	66.73E-06	60.74E-06	61.94E-06	62.74E-06	56.34E-06
Average	-50.59E-06	-50.11E-06	-50.91E-06	-49.87E-06	-48.03E-06	-53.79E-06	-52.67E-06	-48.75E-06	-56.50E-06
Sigma	92.18E-06	92.46E-06	92.43E-06	91.91E-06	91.22E-06	91.64E-06	91.72E-06	89.48E-06	90.92E-06

Measurements

VOS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-133.07E-06	-128.67E-06	-134.27E-06	-130.67E-06	-129.07E-06	-131.87E-06	-129.87E-06	-127.87E-06	-129.07E-06
OFF samples									
554	-43.56E-06	-41.96E-06	-43.96E-06	-42.76E-06	-39.56E-06	-49.95E-06	-49.15E-06	-46.35E-06	-48.75E-06
555	-264.93E-06	-264.54E-06	-266.93E-06	-265.33E-06	-262.94E-06	-272.13E-06	-272.13E-06	-266.53E-06	-273.33E-06
556	83.12E-06	81.52E-06	80.32E-06	81.12E-06	80.32E-06	74.33E-06	70.73E-06	72.73E-06	71.53E-06
557	-186.21E-06	-188.61E-06	-191.81E-06	-191.41E-06	-189.41E-06	-199.00E-06	-199.00E-06	-193.81E-06	-194.61E-06
559	-316.08E-06	-317.68E-06	-319.68E-06	-317.68E-06	-318.88E-06	-328.47E-06	-327.27E-06	-325.27E-06	-326.07E-06
Statistics									
Min	-316.08E-06	-317.68E-06	-319.68E-06	-317.68E-06	-318.88E-06	-328.47E-06	-327.27E-06	-325.27E-06	-326.07E-06
Max	83.12E-06	81.52E-06	80.32E-06	81.12E-06	80.32E-06	74.33E-06	70.73E-06	72.73E-06	71.53E-06
Average	-145.53E-06	-146.25E-06	-148.41E-06	-147.21E-06	-146.09E-06	-155.04E-06	-155.36E-06	-151.85E-06	-154.25E-06
Sigma	146.75E-06	146.92E-06	147.30E-06	146.98E-06	146.97E-06	147.90E-06	146.62E-06	145.98E-06	146.59E-06

Parameter : Input offset current : IOS
Test conditions : VCM=3V; VO=3V
Unit : A
Spec Limit Min : -1.0E-06
Spec Limit Max : 1.0E-06
Spec limits are represented in bold lines on the graphic.



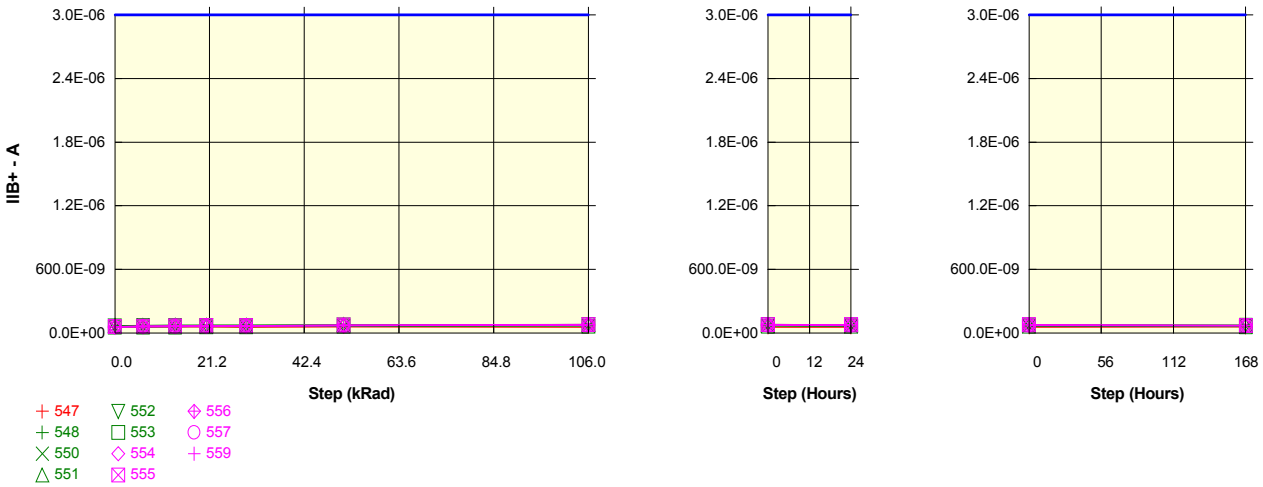
Measurements

IOS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-399.7E-12	0.0E+00	-399.7E-12	0.0E+00	-399.7E-12	399.4E-12	0.0E+00	0.0E+00	-399.4E-12
ON samples									
548	399.7E-12	399.7E-12	0.0E+00	-399.7E-12	-399.4E-12	399.7E-12	399.7E-12	799.1E-12	0.0E+00
550	-799.3E-12	-1.2E-09	-799.1E-12	-799.3E-12	-799.1E-12	-399.7E-12	-399.7E-12	-399.4E-12	-799.1E-12
551	-399.7E-12	0.0E+00	0.0E+00	0.0E+00	-399.7E-12	0.0E+00	0.0E+00	399.4E-12	-399.7E-12
552	-799.3E-12	-399.7E-12	0.0E+00	-799.1E-12	-799.3E-12	-399.7E-12	-799.3E-12	-399.7E-12	-799.3E-12
553	399.7E-12	0.0E+00	399.7E-12	399.7E-12	-399.7E-12	0.0E+00	399.7E-12	799.1E-12	0.0E+00
Statistics									
Min	-799.3E-12	-1.2E-09	-799.1E-12	-799.3E-12	-799.3E-12	-399.7E-12	-799.3E-12	-399.7E-12	-799.3E-12
Max	399.7E-12	399.7E-12	399.7E-12	399.7E-12	-399.4E-12	399.7E-12	399.7E-12	799.1E-12	0.0E+00
Average	-239.8E-12	-239.8E-12	-79.9E-12	-319.7E-12	-559.4E-12	-79.9E-12	-79.9E-12	239.7E-12	-399.6E-12
Sigma	542.1E-12	542.1E-12	391.5E-12	466.0E-12	195.8E-12	299.1E-12	466.1E-12	542.0E-12	357.4E-12

Measurements

IOS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-399.7E-12	0.0E+00	-399.7E-12	0.0E+00	-399.7E-12	399.4E-12	0.0E+00	0.0E+00	-399.4E-12
OFF samples									
554	-1.6E-09	-1.2E-09	-1.2E-09	-799.1E-12	-1.6E-09	-799.1E-12	-1.2E-09	-1.2E-09	-1.2E-09
555	-399.4E-12	-399.7E-12	-399.4E-12	-399.7E-12	-1.6E-09	799.3E-12	-399.4E-12	0.0E+00	0.0E+00
556	-2.0E-09	-1.6E-09	-1.2E-09	-1.6E-09	-1.6E-09	-1.2E-09	-1.2E-09	-1.6E-09	-1.6E-09
557	-799.1E-12	-399.7E-12	-399.7E-12	-799.3E-12	-1.2E-09	-399.4E-12	-1.2E-09	-799.1E-12	-799.3E-12
559	-399.7E-12	0.0E+00	0.0E+00	399.4E-12	0.0E+00	399.7E-12	799.1E-12	-399.7E-12	0.0E+00
Statistics									
Min	-2.0E-09	-1.6E-09	-1.2E-09	-1.6E-09	-1.6E-09	-1.2E-09	-1.2E-09	-1.6E-09	-1.6E-09
Max	-399.4E-12	0.0E+00	0.0E+00	399.4E-12	0.0E+00	799.3E-12	799.1E-12	0.0E+00	0.0E+00
Average	-1.0E-09	-719.3E-12	-639.3E-12	-639.4E-12	-1.2E-09	-239.7E-12	-639.4E-12	-799.1E-12	-719.3E-12
Sigma	649.3E-12	587.3E-12	479.5E-12	649.2E-12	619.1E-12	741.2E-12	783.0E-12	565.0E-12	639.4E-12

Parameter : Input bias current : IIB+
Test conditions : VCM=3V; VO=3V
Unit : A
Spec Limit Max : 3.0E-06
Spec limits are represented in bold lines on the graphic.



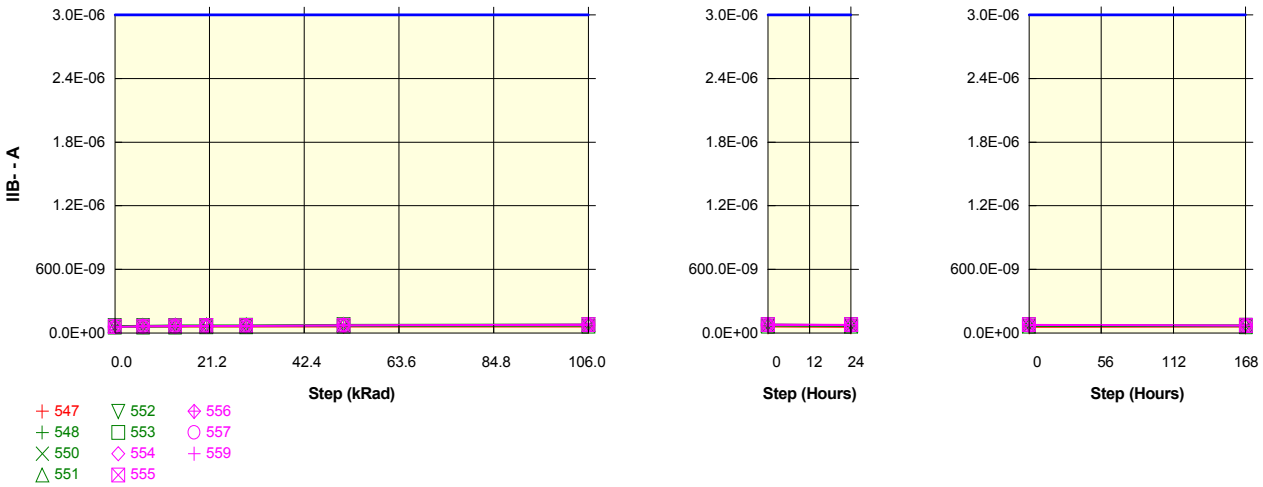
Measurements

IIB+	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	55.9E-09	53.9E-09	55.5E-09	54.7E-09	54.3E-09	55.9E-09	54.3E-09	54.3E-09	54.7E-09
ON samples									
548	57.9E-09	59.9E-09	60.3E-09	61.9E-09	61.5E-09	65.9E-09	67.9E-09	64.3E-09	62.7E-09
550	57.5E-09	58.7E-09	60.3E-09	61.1E-09	60.7E-09	65.1E-09	67.1E-09	63.5E-09	61.9E-09
551	68.3E-09	70.7E-09	71.9E-09	73.1E-09	73.1E-09	77.9E-09	80.3E-09	77.9E-09	74.3E-09
552	66.3E-09	67.9E-09	69.5E-09	69.9E-09	69.9E-09	75.1E-09	77.1E-09	75.1E-09	71.5E-09
553	53.5E-09	55.9E-09	57.1E-09	57.9E-09	57.9E-09	61.9E-09	63.9E-09	62.7E-09	59.1E-09
Statistics									
Min	53.5E-09	55.9E-09	57.1E-09	57.9E-09	57.9E-09	61.9E-09	63.9E-09	62.7E-09	59.1E-09
Max	68.3E-09	70.7E-09	71.9E-09	73.1E-09	73.1E-09	77.9E-09	80.3E-09	77.9E-09	74.3E-09
Average	60.7E-09	62.7E-09	63.9E-09	64.8E-09	64.7E-09	69.2E-09	71.3E-09	68.7E-09	65.9E-09
Sigma	5.6E-09	5.7E-09	5.8E-09	5.7E-09	5.8E-09	6.2E-09	6.3E-09	6.4E-09	5.9E-09

Measurements

IIB+	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	55.9E-09	53.9E-09	55.5E-09	54.7E-09	54.3E-09	55.9E-09	54.3E-09	54.3E-09	54.7E-09
OFF samples									
554	53.1E-09	56.3E-09	58.7E-09	59.9E-09	61.1E-09	65.9E-09	70.7E-09	69.1E-09	63.5E-09
555	59.9E-09	63.5E-09	65.1E-09	67.5E-09	67.9E-09	73.9E-09	78.3E-09	76.3E-09	70.7E-09
556	59.9E-09	63.9E-09	66.3E-09	67.5E-09	69.1E-09	73.9E-09	79.1E-09	77.1E-09	71.5E-09
557	54.7E-09	57.9E-09	60.3E-09	61.5E-09	62.7E-09	67.9E-09	72.3E-09	71.1E-09	65.5E-09
559	55.9E-09	59.5E-09	61.9E-09	63.1E-09	63.9E-09	69.5E-09	74.3E-09	72.3E-09	66.7E-09
Statistics									
Min	53.1E-09	56.3E-09	58.7E-09	59.9E-09	61.1E-09	65.9E-09	70.7E-09	69.1E-09	63.5E-09
Max	59.9E-09	63.9E-09	66.3E-09	67.5E-09	69.1E-09	73.9E-09	79.1E-09	77.1E-09	71.5E-09
Average	56.7E-09	60.3E-09	62.5E-09	63.9E-09	65.0E-09	70.2E-09	75.0E-09	73.2E-09	67.6E-09
Sigma	2.8E-09	3.0E-09	2.9E-09	3.1E-09	3.1E-09	3.2E-09	3.3E-09	3.1E-09	3.1E-09

Parameter : Input bias current : IIB-
Test conditions : VCM=3V; VO=3V
Unit : A
Spec Limit Max : 3.0E-06
Spec limits are represented in bold lines on the graphic.



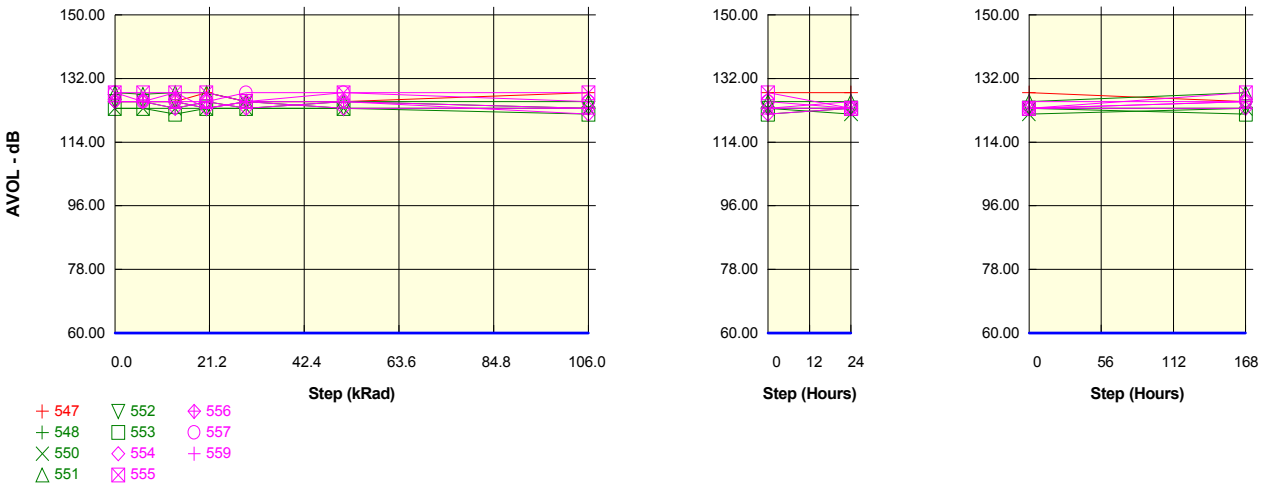
Measurements

IIB-	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	56.7E-09	54.7E-09	55.9E-09	55.1E-09	55.1E-09	55.5E-09	54.7E-09	54.3E-09	55.1E-09
ON samples									
548	57.5E-09	59.5E-09	60.7E-09	62.3E-09	61.9E-09	65.5E-09	67.5E-09	63.5E-09	63.1E-09
550	57.9E-09	59.9E-09	60.7E-09	61.9E-09	61.9E-09	65.5E-09	67.5E-09	64.3E-09	63.1E-09
551	68.7E-09	70.7E-09	72.3E-09	73.5E-09	73.5E-09	78.3E-09	80.7E-09	77.5E-09	74.7E-09
552	66.7E-09	68.3E-09	69.9E-09	70.7E-09	71.1E-09	75.5E-09	77.9E-09	75.9E-09	72.3E-09
553	53.9E-09	55.5E-09	57.1E-09	57.5E-09	58.3E-09	61.9E-09	63.5E-09	61.9E-09	59.5E-09
Statistics									
Min	53.9E-09	55.5E-09	57.1E-09	57.5E-09	58.3E-09	61.9E-09	63.5E-09	61.9E-09	59.5E-09
Max	68.7E-09	70.7E-09	72.3E-09	73.5E-09	73.5E-09	78.3E-09	80.7E-09	77.5E-09	74.7E-09
Average	61.0E-09	62.8E-09	64.2E-09	65.2E-09	65.4E-09	69.4E-09	71.4E-09	68.7E-09	66.6E-09
Sigma	5.7E-09	5.7E-09	5.9E-09	6.0E-09	5.9E-09	6.4E-09	6.7E-09	6.7E-09	5.9E-09

Measurements

IIB-	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	56.7E-09	54.7E-09	55.9E-09	55.1E-09	55.1E-09	55.5E-09	54.7E-09	54.3E-09	55.1E-09
OFF samples									
554	55.1E-09	57.5E-09	59.5E-09	61.5E-09	62.7E-09	66.7E-09	71.5E-09	70.7E-09	65.1E-09
555	60.3E-09	63.9E-09	65.9E-09	67.1E-09	69.5E-09	72.7E-09	78.7E-09	77.1E-09	71.1E-09
556	61.9E-09	65.1E-09	67.9E-09	69.5E-09	69.9E-09	75.9E-09	81.1E-09	79.5E-09	73.9E-09
557	55.5E-09	58.3E-09	60.7E-09	61.9E-09	63.5E-09	68.3E-09	73.9E-09	71.5E-09	65.9E-09
559	56.3E-09	59.9E-09	61.9E-09	62.3E-09	63.9E-09	69.1E-09	73.9E-09	72.7E-09	67.1E-09
Statistics									
Min	55.1E-09	57.5E-09	59.5E-09	61.5E-09	62.7E-09	66.7E-09	71.5E-09	70.7E-09	65.1E-09
Max	61.9E-09	65.1E-09	67.9E-09	69.5E-09	69.9E-09	75.9E-09	81.1E-09	79.5E-09	73.9E-09
Average	57.9E-09	61.0E-09	63.2E-09	64.5E-09	65.9E-09	70.6E-09	75.8E-09	74.3E-09	68.7E-09
Sigma	2.8E-09	3.0E-09	3.2E-09	3.2E-09	3.1E-09	3.3E-09	3.5E-09	3.4E-09	3.3E-09

Parameter : Open loop gain : AVOL
Test conditions : 1V<VO<4V
Unit : dB
Spec Limit Min : 60.00
Spec limits are represented in bold lines on the graphic.



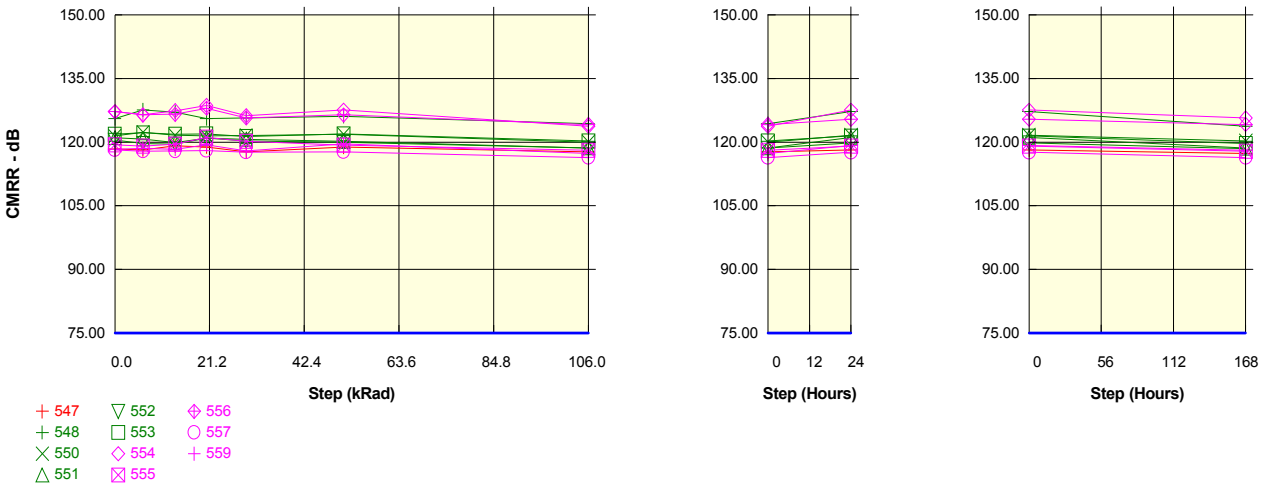
Measurements

AVOL	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	125.47	125.47	125.45	127.97	125.47	125.47	127.95	127.97	125.45
ON samples									
548	125.47	125.47	123.51	125.47	123.53	125.47	123.51	123.53	123.51
550	123.53	123.53	123.51	123.53	123.53	123.53	123.51	121.95	123.51
551	127.97	127.49	127.94	127.97	125.47	125.47	125.45	125.47	127.95
552	125.47	125.47	125.45	123.53	125.47	123.53	123.51	123.53	123.51
553	123.53	123.53	121.92	123.53	123.53	123.53	121.93	123.53	121.93
Statistics									
Min	123.53	123.53	121.92	123.53	123.53	123.53	121.93	121.95	121.93
Max	127.97	127.49	127.94	127.97	125.47	125.47	125.45	125.47	127.95
Average	125.20	125.10	124.47	124.81	124.31	124.31	123.58	123.60	124.08
Sigma	1.64	1.48	2.07	1.75	0.95	0.95	1.12	1.12	2.03

Measurements

AVOL	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	125.47	125.47	125.45	127.97	125.47	125.47	127.95	127.97	125.45
OFF samples									
554	125.47	125.47	125.45	123.53	125.47	123.53	123.51	123.53	125.45
555	127.97	127.97	127.94	127.97	125.47	127.97	127.95	123.53	127.95
556	125.47	125.47	123.51	125.47	123.53	125.47	121.93	123.53	123.51
557	127.97	125.47	125.45	125.47	127.97	127.97	125.45	123.53	125.45
559	125.47	125.47	127.94	123.53	125.47	125.47	123.51	125.47	125.45
Statistics									
Min	125.47	125.47	123.51	123.53	123.53	123.53	121.93	123.53	123.51
Max	127.97	127.97	127.94	127.97	127.97	127.97	127.95	125.47	127.95
Average	126.47	125.97	126.06	125.19	125.58	126.08	124.47	123.92	125.56
Sigma	1.22	1.00	1.70	1.64	1.41	1.69	2.07	0.78	1.41

Parameter : Common-mode rejection ratio : CMRR
Test conditions : 1.5V<VCM<5.5V; VOUT=3V
Unit : dB
Spec Limit Min : 75.00
Spec limits are represented in bold lines on the graphic.



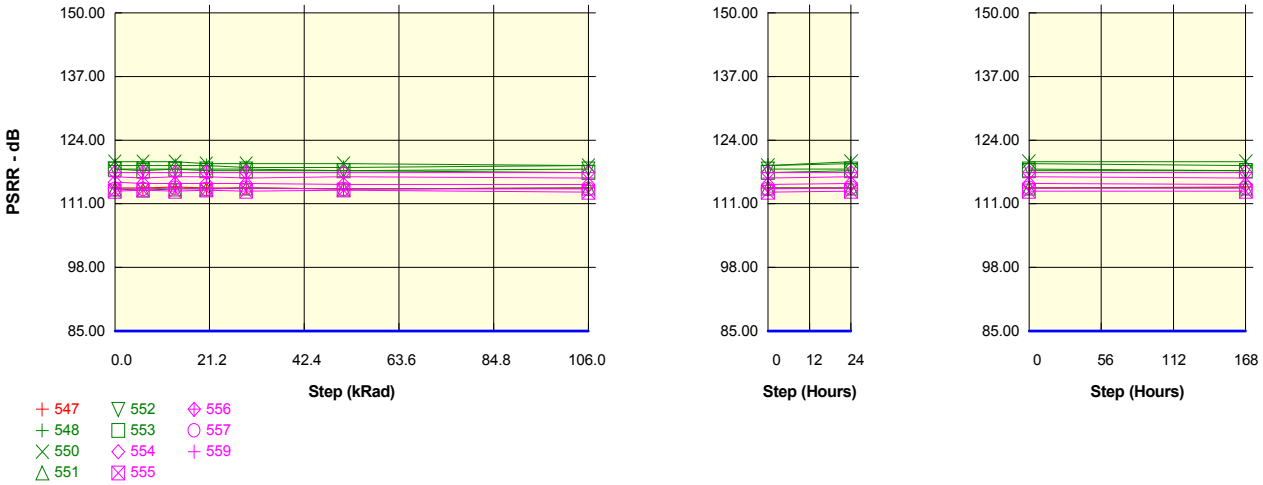
Measurements

CMRR	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	118.36	118.14	119.09	118.87	117.73	118.80	117.65	118.14	117.33
ON samples									
548	125.53	127.55	127.05	125.52	125.69	126.03	124.29	127.14	123.74
550	121.42	122.28	121.60	121.42	121.52	121.84	120.00	121.63	120.26
551	121.02	120.74	119.85	120.92	120.64	120.19	118.63	121.12	118.56
552	120.46	119.67	119.51	120.93	120.27	119.92	118.56	119.83	118.49
553	121.84	122.17	121.84	121.95	121.32	121.95	120.26	121.42	119.66
Statistics									
Min	120.46	119.67	119.51	120.92	120.27	119.92	118.56	119.83	118.49
Max	125.53	127.55	127.05	125.52	125.69	126.03	124.29	127.14	123.74
Average	122.05	122.48	121.97	122.15	121.89	121.99	120.35	122.23	120.14
Sigma	1.80	2.71	2.70	1.73	1.95	2.18	2.09	2.53	1.92

Measurements

CMRR	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	118.36	118.14	119.09	118.87	117.73	118.80	117.65	118.14	117.33
OFF samples									
554	127.14	126.39	127.39	128.64	126.20	127.55	123.74	127.54	125.68
555	119.34	119.03	119.51	121.12	120.18	119.26	118.06	119.02	117.85
556	127.14	126.39	126.55	127.97	125.69	126.38	124.15	125.36	124.15
557	118.14	117.87	117.91	118.00	117.60	117.66	116.36	117.60	116.30
559	118.28	118.50	118.30	119.34	117.93	119.59	117.26	119.18	118.06
Statistics									
Min	118.14	117.87	117.91	118.00	117.60	117.66	116.36	117.60	116.30
Max	127.14	126.39	127.39	128.64	126.20	127.55	124.15	127.54	125.68
Average	122.01	121.63	121.93	123.02	121.52	122.09	119.91	121.74	120.41
Sigma	4.21	3.90	4.15	4.44	3.72	4.05	3.34	3.95	3.76

Parameter : Power supply rejection ratio : PSRR
Test conditions : 10V<VCC<30V; VOUT=3V
Unit : dB
Spec Limit Min : 85.00
Spec limits are represented in bold lines on the graphic.



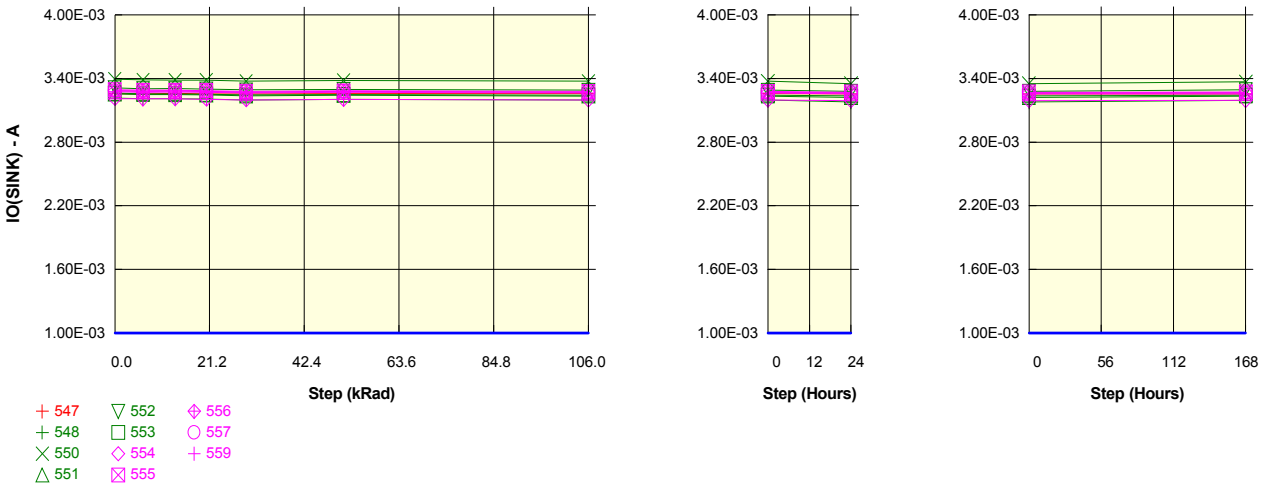
Measurements

PSRR	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	114.21	114.21	114.43	114.21	114.21	113.99	114.21	114.21	114.43
ON samples									
548	118.79	118.79	118.79	118.79	118.42	118.43	118.79	119.18	118.79
550	119.58	119.58	119.58	119.18	119.18	119.18	118.79	119.58	119.58
551	113.99	113.77	113.99	113.99	114.21	113.99	114.21	114.21	114.21
552	118.07	118.07	118.07	118.07	118.07	117.73	118.07	118.07	117.73
553	118.07	117.73	118.07	117.73	117.73	117.73	117.40	117.73	117.73
Statistics									
Min	113.99	113.77	113.99	113.99	114.21	113.99	114.21	114.21	114.21
Max	119.58	119.58	119.58	119.18	119.18	119.18	118.79	119.58	119.58
Average	117.70	117.59	117.70	117.55	117.52	117.41	117.45	117.75	117.61
Sigma	1.94	2.01	1.94	1.85	1.73	1.79	1.70	1.90	1.84

Measurements

PSRR	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	114.21	114.21	114.43	114.21	114.21	113.99	114.21	114.21	114.43
OFF samples									
554	115.40	115.15	115.15	115.15	115.15	114.90	114.90	115.15	114.90
555	113.56	113.77	113.56	113.77	113.56	113.77	113.36	113.56	113.56
556	117.40	117.40	117.40	117.40	117.40	117.40	117.40	117.40	117.40
557	113.99	113.99	114.21	113.99	114.21	113.99	113.99	114.21	114.21
559	116.49	116.20	116.49	116.49	116.20	116.49	116.20	116.49	116.20
Statistics									
Min	113.56	113.77	113.56	113.77	113.56	113.77	113.36	113.56	113.56
Max	117.40	117.40	117.40	117.40	117.40	117.40	117.40	117.40	117.40
Average	115.37	115.30	115.36	115.36	115.30	115.31	115.17	115.36	115.26
Sigma	1.45	1.36	1.42	1.41	1.38	1.42	1.47	1.42	1.38

Parameter : Output sink current : IO(SINK)
Test conditions : VO=1V
Unit : A
Spec Limit Min : 1.00E-03
Spec limits are represented in bold lines on the graphic.



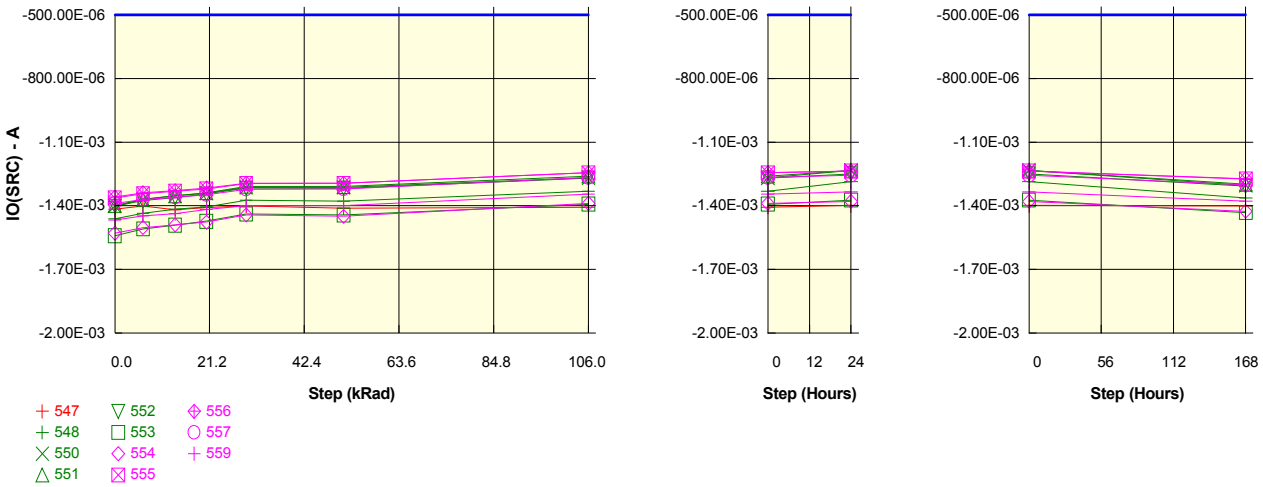
Measurements

IO(SINK)	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	3.26E-03	3.25E-03	3.26E-03	3.26E-03	3.25E-03	3.26E-03	3.26E-03	3.25E-03	3.25E-03
ON samples									
548	3.21E-03	3.21E-03	3.21E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.18E-03	3.19E-03
550	3.39E-03	3.39E-03	3.39E-03	3.38E-03	3.37E-03	3.38E-03	3.37E-03	3.35E-03	3.37E-03
551	3.25E-03	3.25E-03	3.25E-03	3.24E-03	3.24E-03	3.24E-03	3.23E-03	3.22E-03	3.23E-03
552	3.31E-03	3.30E-03	3.30E-03	3.30E-03	3.29E-03	3.30E-03	3.29E-03	3.28E-03	3.29E-03
553	3.26E-03	3.26E-03	3.25E-03	3.25E-03	3.24E-03	3.25E-03	3.24E-03	3.24E-03	3.24E-03
Statistics									
Min	3.21E-03	3.21E-03	3.21E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.18E-03	3.19E-03
Max	3.39E-03	3.39E-03	3.39E-03	3.38E-03	3.37E-03	3.38E-03	3.37E-03	3.35E-03	3.37E-03
Average	3.29E-03	3.28E-03	3.28E-03	3.28E-03	3.27E-03	3.27E-03	3.27E-03	3.25E-03	3.27E-03
Sigma	61.93E-06	61.28E-06	61.15E-06	61.25E-06	60.36E-06	61.34E-06	60.85E-06	58.52E-06	59.58E-06

Measurements

IO(SINK)	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	3.26E-03	3.25E-03	3.26E-03	3.26E-03	3.25E-03	3.26E-03	3.26E-03	3.25E-03	3.25E-03
OFF samples									
554	3.28E-03	3.28E-03	3.28E-03	3.28E-03	3.27E-03	3.28E-03	3.27E-03	3.26E-03	3.27E-03
555	3.29E-03	3.29E-03	3.29E-03	3.29E-03	3.28E-03	3.28E-03	3.28E-03	3.27E-03	3.27E-03
556	3.21E-03	3.21E-03	3.21E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.19E-03	3.19E-03
557	3.28E-03	3.28E-03	3.28E-03	3.28E-03	3.27E-03	3.28E-03	3.27E-03	3.26E-03	3.26E-03
559	3.27E-03	3.27E-03	3.27E-03	3.27E-03	3.26E-03	3.27E-03	3.26E-03	3.25E-03	3.26E-03
Statistics									
Min	3.21E-03	3.21E-03	3.21E-03	3.20E-03	3.20E-03	3.20E-03	3.20E-03	3.19E-03	3.19E-03
Max	3.29E-03	3.29E-03	3.29E-03	3.29E-03	3.28E-03	3.28E-03	3.28E-03	3.27E-03	3.27E-03
Average	3.27E-03	3.27E-03	3.27E-03	3.26E-03	3.26E-03	3.26E-03	3.25E-03	3.25E-03	3.25E-03
Sigma	30.00E-06	29.88E-06	29.85E-06	29.90E-06	29.42E-06	29.76E-06	29.73E-06	29.44E-06	29.55E-06

Parameter : Output source current : IO(SRC)
Test conditions : VO=4V
Unit : A
Spec Limit Max : -500.00E-06
Spec limits are represented in bold lines on the graphic.



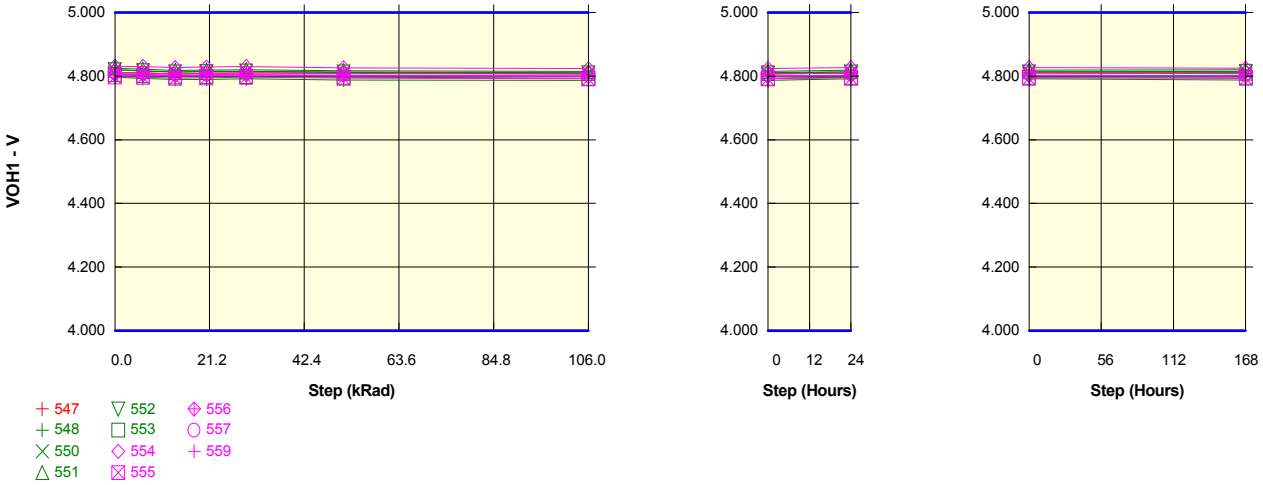
Measurements

IO(SRC)	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-1.42E-03	-1.40E-03	-1.42E-03	-1.41E-03	-1.40E-03	-1.41E-03	-1.41E-03	-1.40E-03	-1.40E-03
ON samples									
548	-1.46E-03	-1.44E-03	-1.42E-03	-1.41E-03	-1.38E-03	-1.38E-03	-1.33E-03	-1.29E-03	-1.36E-03
550	-1.40E-03	-1.37E-03	-1.35E-03	-1.34E-03	-1.31E-03	-1.31E-03	-1.27E-03	-1.23E-03	-1.30E-03
551	-1.40E-03	-1.37E-03	-1.35E-03	-1.34E-03	-1.31E-03	-1.31E-03	-1.26E-03	-1.23E-03	-1.30E-03
552	-1.40E-03	-1.38E-03	-1.36E-03	-1.34E-03	-1.32E-03	-1.32E-03	-1.27E-03	-1.25E-03	-1.31E-03
553	-1.54E-03	-1.51E-03	-1.49E-03	-1.47E-03	-1.44E-03	-1.44E-03	-1.39E-03	-1.37E-03	-1.43E-03
Statistics									
Min	-1.54E-03	-1.51E-03	-1.49E-03	-1.47E-03	-1.44E-03	-1.44E-03	-1.39E-03	-1.37E-03	-1.43E-03
Max	-1.40E-03	-1.37E-03	-1.35E-03	-1.34E-03	-1.31E-03	-1.31E-03	-1.26E-03	-1.23E-03	-1.30E-03
Average	-1.44E-03	-1.41E-03	-1.40E-03	-1.38E-03	-1.35E-03	-1.35E-03	-1.31E-03	-1.28E-03	-1.34E-03
Sigma	55.63E-06	54.39E-06	53.94E-06	52.53E-06	50.17E-06	52.04E-06	51.10E-06	52.98E-06	51.23E-06

Measurements

IO(SRC)	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-1.42E-03	-1.40E-03	-1.42E-03	-1.41E-03	-1.40E-03	-1.41E-03	-1.41E-03	-1.40E-03	-1.40E-03
OFF samples									
554	-1.53E-03	-1.50E-03	-1.49E-03	-1.48E-03	-1.44E-03	-1.45E-03	-1.39E-03	-1.38E-03	-1.43E-03
555	-1.36E-03	-1.34E-03	-1.33E-03	-1.32E-03	-1.30E-03	-1.29E-03	-1.25E-03	-1.24E-03	-1.27E-03
556	-1.36E-03	-1.34E-03	-1.33E-03	-1.32E-03	-1.29E-03	-1.29E-03	-1.25E-03	-1.24E-03	-1.27E-03
557	-1.39E-03	-1.37E-03	-1.36E-03	-1.35E-03	-1.32E-03	-1.32E-03	-1.27E-03	-1.26E-03	-1.30E-03
559	-1.47E-03	-1.45E-03	-1.44E-03	-1.42E-03	-1.40E-03	-1.40E-03	-1.35E-03	-1.33E-03	-1.38E-03
Statistics									
Min	-1.53E-03	-1.50E-03	-1.49E-03	-1.48E-03	-1.44E-03	-1.45E-03	-1.39E-03	-1.38E-03	-1.43E-03
Max	-1.36E-03	-1.34E-03	-1.33E-03	-1.32E-03	-1.29E-03	-1.29E-03	-1.25E-03	-1.24E-03	-1.27E-03
Average	-1.42E-03	-1.40E-03	-1.39E-03	-1.38E-03	-1.35E-03	-1.35E-03	-1.30E-03	-1.29E-03	-1.33E-03
Sigma	66.32E-06	64.21E-06	63.85E-06	62.21E-06	60.00E-06	62.35E-06	58.50E-06	57.95E-06	61.29E-06

Parameter : Output high voltage : VOH1
Test conditions : IO=-0.5mA
Unit : V
Spec Limit Min : 4.000
Spec Limit Max : 5.000
Spec limits are represented in bold lines on the graphic.



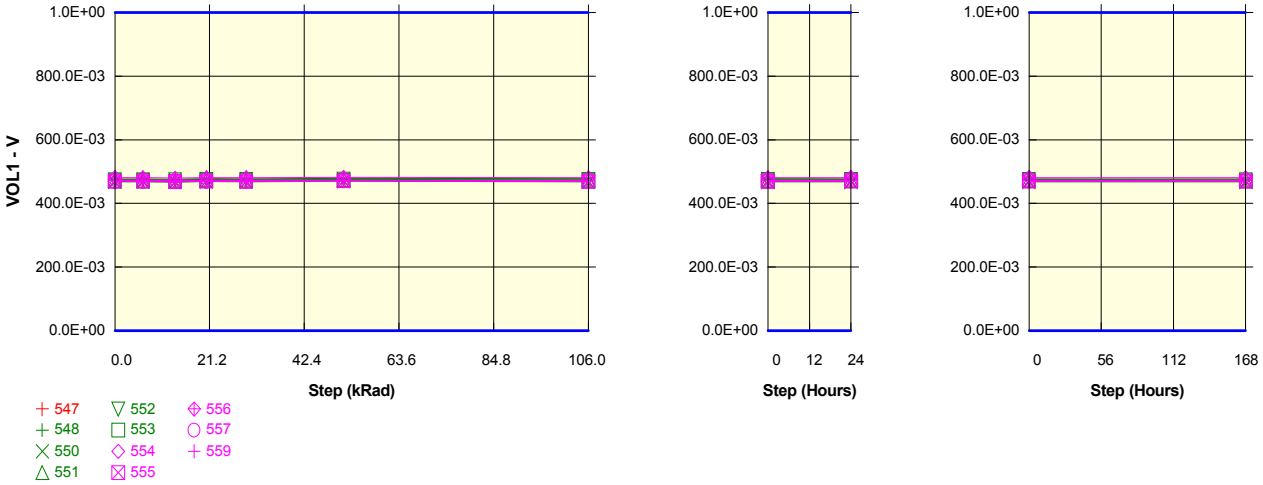
Measurements

VOH1	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	4.809	4.810	4.806	4.809	4.810	4.809	4.807	4.810	4.809
ON samples									
548	4.796	4.792	4.789	4.790	4.791	4.788	4.786	4.791	4.788
550	4.819	4.816	4.813	4.814	4.814	4.811	4.809	4.813	4.812
551	4.825	4.821	4.818	4.819	4.820	4.817	4.815	4.818	4.820
552	4.820	4.817	4.813	4.814	4.815	4.813	4.810	4.814	4.815
553	4.805	4.801	4.798	4.799	4.799	4.796	4.794	4.796	4.797
Statistics									
Min	4.796	4.792	4.789	4.790	4.791	4.788	4.786	4.791	4.788
Max	4.825	4.821	4.818	4.819	4.820	4.817	4.815	4.818	4.820
Average	4.813	4.810	4.806	4.807	4.808	4.805	4.803	4.806	4.806
Sigma	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.012

Measurements

VOH1	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	4.809	4.810	4.806	4.809	4.810	4.809	4.807	4.810	4.809
OFF samples									
554	4.831	4.830	4.827	4.828	4.830	4.826	4.824	4.827	4.825
555	4.798	4.796	4.793	4.794	4.796	4.793	4.791	4.794	4.793
556	4.805	4.804	4.801	4.802	4.804	4.801	4.799	4.802	4.800
557	4.812	4.810	4.807	4.809	4.810	4.808	4.807	4.809	4.808
559	4.808	4.806	4.802	4.804	4.805	4.803	4.800	4.803	4.802
Statistics									
Min	4.798	4.796	4.793	4.794	4.796	4.793	4.791	4.794	4.793
Max	4.831	4.830	4.827	4.828	4.830	4.826	4.824	4.827	4.825
Average	4.811	4.809	4.806	4.808	4.809	4.806	4.804	4.807	4.806
Sigma	0.011	0.012	0.011	0.011	0.012	0.011	0.011	0.011	0.011

Parameter : Output low voltage : VOL1
Test conditions : IO=1mA
Unit : V
Spec Limit Min : 0.0E+00
Spec Limit Max : 1.0E+00
Spec limits are represented in bold lines on the graphic.



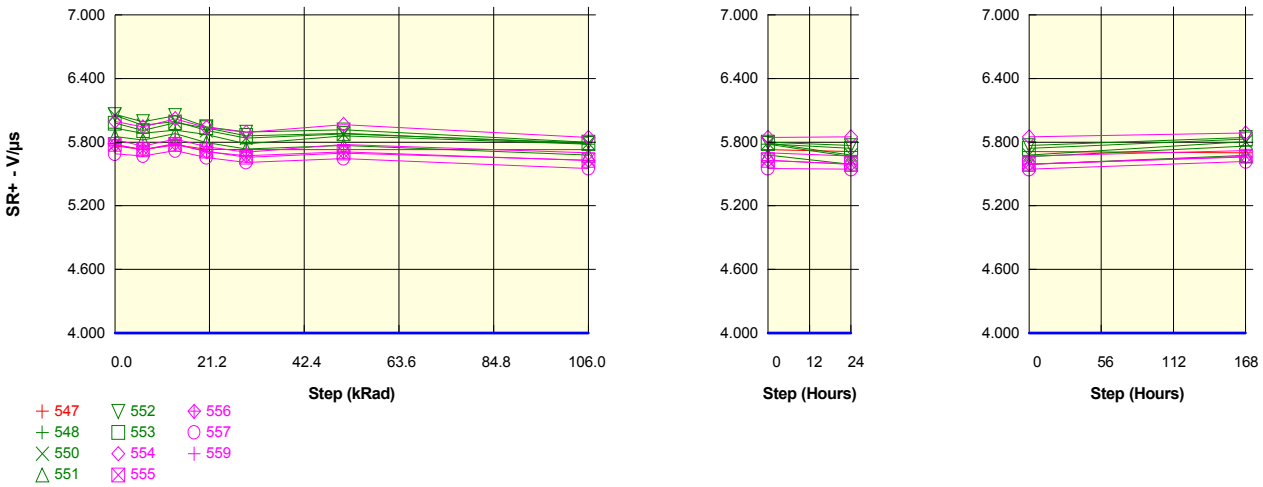
Measurements

VOL1	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	474.0E-03	472.8E-03	472.0E-03	473.6E-03	472.8E-03	473.2E-03	471.6E-03	472.8E-03	472.0E-03
ON samples									
548	476.8E-03	476.8E-03	475.2E-03	477.2E-03	476.8E-03	478.4E-03	477.2E-03	476.4E-03	476.4E-03
550	467.6E-03	468.0E-03	466.4E-03	468.4E-03	468.0E-03	469.2E-03	467.6E-03	467.6E-03	467.6E-03
551	472.8E-03	472.8E-03	471.6E-03	473.6E-03	473.2E-03	474.8E-03	473.2E-03	473.2E-03	472.4E-03
552	474.0E-03	474.4E-03	473.2E-03	474.8E-03	474.8E-03	476.4E-03	474.8E-03	475.2E-03	473.6E-03
553	470.4E-03	470.4E-03	469.2E-03	470.8E-03	470.4E-03	472.0E-03	470.4E-03	470.8E-03	470.0E-03
Statistics									
Min	467.6E-03	468.0E-03	466.4E-03	468.4E-03	468.0E-03	469.2E-03	467.6E-03	467.6E-03	467.6E-03
Max	476.8E-03	476.8E-03	475.2E-03	477.2E-03	476.8E-03	478.4E-03	477.2E-03	476.4E-03	476.4E-03
Average	472.3E-03	472.5E-03	471.1E-03	473.0E-03	472.6E-03	474.2E-03	472.6E-03	472.6E-03	472.0E-03
Sigma	3.1E-03	3.1E-03	3.1E-03	3.1E-03	3.1E-03	3.2E-03	3.4E-03	3.2E-03	3.0E-03

Measurements

VOL1	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	474.0E-03	472.8E-03	472.0E-03	473.6E-03	472.8E-03	473.2E-03	471.6E-03	472.8E-03	472.0E-03
OFF samples									
554	470.8E-03	470.4E-03	468.8E-03	470.8E-03	470.0E-03	471.6E-03	470.0E-03	470.8E-03	470.4E-03
555	470.0E-03	470.0E-03	468.4E-03	470.0E-03	469.6E-03	470.8E-03	469.6E-03	470.4E-03	470.0E-03
556	481.2E-03	480.8E-03	479.2E-03	480.8E-03	480.8E-03	481.6E-03	480.8E-03	481.2E-03	480.8E-03
557	469.2E-03	468.8E-03	467.6E-03	469.2E-03	468.8E-03	470.0E-03	468.8E-03	469.6E-03	470.0E-03
559	472.0E-03	472.0E-03	470.8E-03	472.0E-03	472.0E-03	473.2E-03	471.6E-03	472.8E-03	472.4E-03
Statistics									
Min	469.2E-03	468.8E-03	467.6E-03	469.2E-03	468.8E-03	470.0E-03	468.8E-03	469.6E-03	470.0E-03
Max	481.2E-03	480.8E-03	479.2E-03	480.8E-03	480.8E-03	481.6E-03	480.8E-03	481.2E-03	480.8E-03
Average	472.6E-03	472.4E-03	471.0E-03	472.6E-03	472.2E-03	473.4E-03	472.2E-03	473.0E-03	472.7E-03
Sigma	4.4E-03	4.3E-03	4.3E-03	4.2E-03	4.4E-03	4.2E-03	4.4E-03	4.3E-03	4.1E-03

Parameter : Slew rate : SR+
Test conditions :
Unit : V/µs
Spec Limit Min : 4.000
Spec limits are represented in bold lines on the graphic.



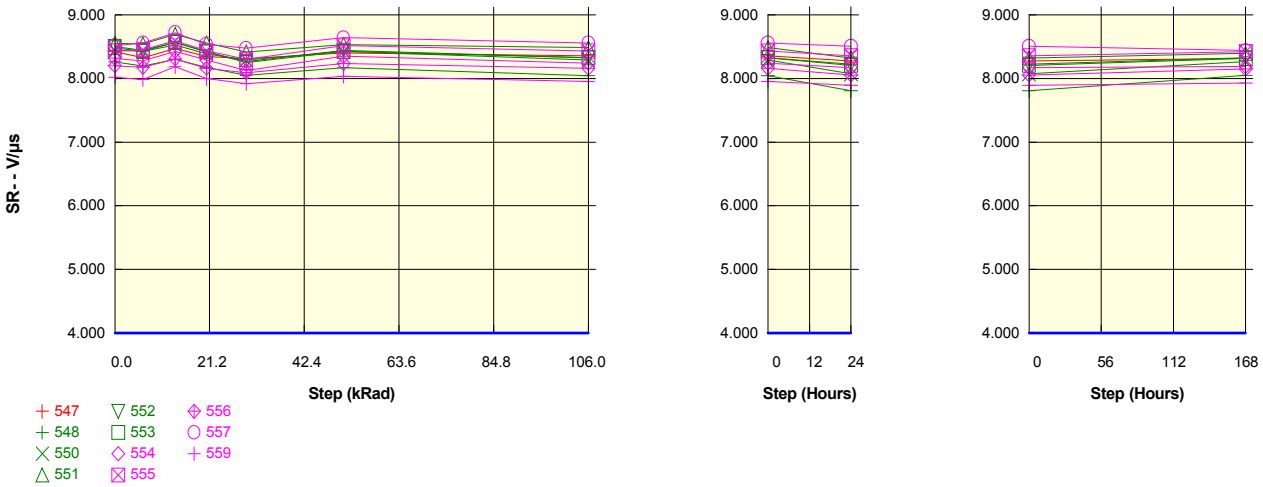
Measurements

SR+	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	5.764	5.730	5.774	5.731	5.731	5.730	5.728	5.710	5.700
ON samples									
548	5.931	5.881	5.912	5.870	5.783	5.857	5.780	5.663	5.763
550	6.051	5.956	5.995	5.910	5.838	5.876	5.791	5.678	5.803
551	5.852	5.819	5.878	5.795	5.735	5.766	5.676	5.591	5.673
552	6.060	5.991	6.049	5.944	5.893	5.915	5.797	5.767	5.845
553	5.977	5.909	5.983	5.935	5.860	5.880	5.785	5.740	5.830
Statistics									
Min	5.852	5.819	5.878	5.795	5.735	5.766	5.676	5.591	5.673
Max	6.060	5.991	6.049	5.944	5.893	5.915	5.797	5.767	5.845
Average	5.974	5.911	5.963	5.891	5.822	5.859	5.766	5.688	5.783
Sigma	0.078	0.060	0.061	0.054	0.056	0.050	0.045	0.062	0.061

Measurements

SR+	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	5.764	5.730	5.774	5.731	5.731	5.730	5.728	5.710	5.700
OFF samples									
554	5.994	5.944	6.020	5.937	5.891	5.966	5.844	5.850	5.886
555	5.778	5.727	5.778	5.715	5.657	5.695	5.629	5.591	5.666
556	5.774	5.729	5.787	5.708	5.671	5.708	5.627	5.593	5.659
557	5.689	5.669	5.719	5.653	5.609	5.645	5.551	5.544	5.615
559	5.821	5.763	5.828	5.756	5.704	5.775	5.697	5.668	5.719
Statistics									
Min	5.689	5.669	5.719	5.653	5.609	5.645	5.551	5.544	5.615
Max	5.994	5.944	6.020	5.937	5.891	5.966	5.844	5.850	5.886
Average	5.811	5.766	5.826	5.754	5.706	5.758	5.670	5.649	5.709
Sigma	0.101	0.094	0.103	0.097	0.097	0.112	0.099	0.108	0.095

Parameter : Slew rate : SR-
Test conditions :
Unit : V/µs
Spec Limit Min : 4.000
Spec limits are represented in bold lines on the graphic.



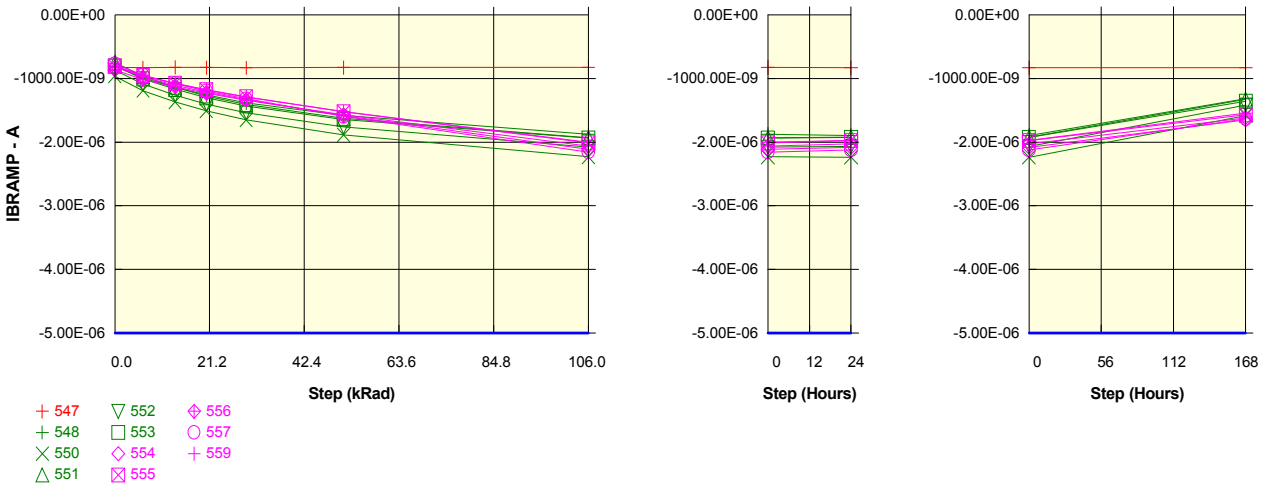
Measurements

SR-	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	8.422	8.323	8.472	8.346	8.309	8.401	8.355	8.276	8.318
ON samples									
548	8.258	8.195	8.299	8.177	8.049	8.170	8.043	7.805	8.046
550	8.445	8.427	8.525	8.386	8.291	8.426	8.287	8.071	8.266
551	8.549	8.540	8.693	8.559	8.415	8.533	8.485	8.321	8.395
552	8.502	8.439	8.568	8.417	8.267	8.442	8.327	8.226	8.327
553	8.482	8.426	8.567	8.422	8.250	8.425	8.326	8.205	8.314
Statistics									
Min	8.258	8.195	8.299	8.177	8.049	8.170	8.043	7.805	8.046
Max	8.549	8.540	8.693	8.559	8.415	8.533	8.485	8.321	8.395
Average	8.447	8.406	8.530	8.392	8.254	8.399	8.294	8.126	8.270
Sigma	0.100	0.114	0.129	0.123	0.118	0.121	0.143	0.179	0.119

Measurements

SR-	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	8.422	8.323	8.472	8.346	8.309	8.401	8.355	8.276	8.318
OFF samples									
554	8.313	8.276	8.424	8.287	8.123	8.349	8.241	8.169	8.188
555	8.429	8.452	8.588	8.436	8.301	8.513	8.431	8.355	8.422
556	8.201	8.172	8.306	8.162	8.091	8.235	8.157	8.053	8.150
557	8.518	8.557	8.722	8.537	8.474	8.641	8.559	8.507	8.439
559	8.017	7.981	8.185	7.994	7.916	8.033	7.951	7.893	7.928
Statistics									
Min	8.017	7.981	8.185	7.994	7.916	8.033	7.951	7.893	7.928
Max	8.518	8.557	8.722	8.537	8.474	8.641	8.559	8.507	8.439
Average	8.296	8.288	8.445	8.283	8.181	8.354	8.268	8.196	8.225
Sigma	0.175	0.203	0.192	0.193	0.191	0.212	0.212	0.217	0.190

Parameter : RAMP bias current : IBRAMP
Test conditions : VRAMP=0V
Unit : A
Spec Limit Min : -5.00E-06
Spec limits are represented in bold lines on the graphic.



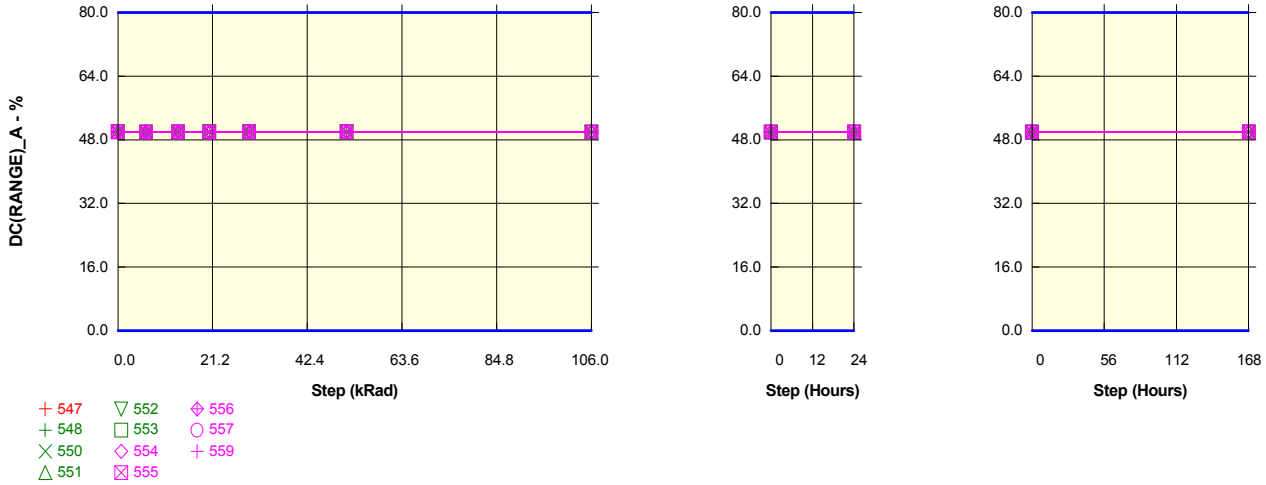
Measurements

IBRAMP	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-827.88E-09	-831.02E-09	-826.72E-09	-828.94E-09	-830.94E-09	-828.38E-09	-829.20E-09	-831.80E-09	-830.96E-09
ON samples									
548	-811.70E-09	-994.42E-09	-1.14E-06	-1.26E-06	-1.38E-06	-1.58E-06	-1.88E-06	-1.90E-06	-1.32E-06
550	-963.38E-09	-1.19E-06	-1.37E-06	-1.51E-06	-1.65E-06	-1.89E-06	-2.23E-06	-2.24E-06	-1.58E-06
551	-750.56E-09	-967.10E-09	-1.14E-06	-1.28E-06	-1.41E-06	-1.63E-06	-1.93E-06	-1.92E-06	-1.33E-06
552	-872.30E-09	-1.09E-06	-1.26E-06	-1.40E-06	-1.54E-06	-1.76E-06	-2.08E-06	-2.07E-06	-1.42E-06
553	-803.90E-09	-1.01E-06	-1.17E-06	-1.30E-06	-1.43E-06	-1.64E-06	-1.94E-06	-1.93E-06	-1.36E-06
Statistics									
Min	-963.38E-09	-1.19E-06	-1.37E-06	-1.51E-06	-1.65E-06	-1.89E-06	-2.23E-06	-2.24E-06	-1.58E-06
Max	-750.56E-09	-967.10E-09	-1.14E-06	-1.26E-06	-1.38E-06	-1.58E-06	-1.88E-06	-1.90E-06	-1.32E-06
Average	-840.37E-09	-1.05E-06	-1.22E-06	-1.35E-06	-1.48E-06	-1.70E-06	-2.01E-06	-2.01E-06	-1.40E-06
Sigma	72.62E-09	80.78E-09	88.63E-09	94.15E-09	100.03E-09	111.00E-09	129.09E-09	128.50E-09	97.30E-09

Measurements

IBRAMP	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	-827.88E-09	-831.02E-09	-826.72E-09	-828.94E-09	-830.94E-09	-828.38E-09	-829.20E-09	-831.80E-09	-830.96E-09
OFF samples									
554	-817.66E-09	-979.38E-09	-1.11E-06	-1.22E-06	-1.33E-06	-1.59E-06	-2.11E-06	-2.08E-06	-1.65E-06
555	-803.34E-09	-955.96E-09	-1.08E-06	-1.18E-06	-1.29E-06	-1.53E-06	-2.01E-06	-1.98E-06	-1.57E-06
556	-865.70E-09	-1.02E-06	-1.13E-06	-1.24E-06	-1.34E-06	-1.57E-06	-2.06E-06	-2.03E-06	-1.62E-06
557	-771.32E-09	-945.12E-09	-1.08E-06	-1.20E-06	-1.32E-06	-1.60E-06	-2.16E-06	-2.13E-06	-1.64E-06
559	-805.44E-09	-959.12E-09	-1.08E-06	-1.18E-06	-1.29E-06	-1.52E-06	-2.00E-06	-1.97E-06	-1.55E-06
Statistics									
Min	-865.70E-09	-1.02E-06	-1.13E-06	-1.24E-06	-1.34E-06	-1.60E-06	-2.16E-06	-2.13E-06	-1.65E-06
Max	-771.32E-09	-945.12E-09	-1.08E-06	-1.18E-06	-1.29E-06	-1.52E-06	-2.00E-06	-1.97E-06	-1.55E-06
Average	-812.69E-09	-970.96E-09	-1.10E-06	-1.20E-06	-1.32E-06	-1.56E-06	-2.07E-06	-2.04E-06	-1.60E-06
Sigma	30.61E-09	24.74E-09	22.60E-09	21.93E-09	22.50E-09	31.11E-09	58.64E-09	59.85E-09	40.61E-09

Parameter : Duty cycle range : DC(RANGE)_A
Test conditions :
Unit : %
Spec Limit Min : 0.0
Spec Limit Max : 80.0
Spec limits are represented in bold lines on the graphic.



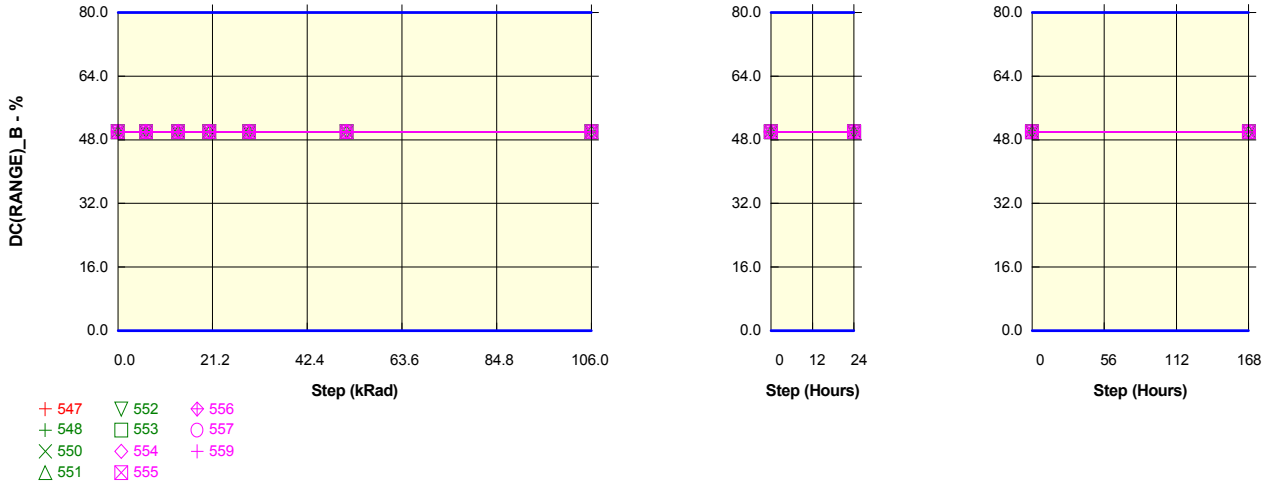
Measurements

DC(RANGE)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	50.0	49.9	49.9	50.0	50.0	50.0	49.9	50.0	50.0
ON samples									
548	50.0	49.9	49.9	49.9	50.0	50.0	49.9	49.9	50.0
550	50.0	49.9	49.9	49.9	50.0	49.9	49.9	49.9	49.9
551	50.0	50.0	50.0	50.0	50.0	50.0	50.0	49.9	50.0
552	50.0	49.9	49.9	50.0	49.9	50.0	49.9	49.9	49.9
553	50.0	49.9	49.9	50.0	50.0	49.9	49.9	49.9	49.9
Statistics									
Min	50.0	49.9	49.9	49.9	49.9	49.9	49.9	49.9	49.9
Max	50.0	50.0	50.0	50.0	50.0	50.0	50.0	49.9	50.0
Average	50.0	49.9	49.9	50.0	50.0	50.0	49.9	49.9	49.9
Sigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Measurements

DC(RANGE)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	50.0	49.9	49.9	50.0	50.0	50.0	49.9	50.0	50.0
OFF samples									
554	50.0	49.9	49.9	49.9	50.0	50.0	49.9	49.9	49.9
555	50.0	49.9	50.0	49.9	50.0	50.0	49.9	49.9	50.0
556	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
557	50.0	50.0	49.9	50.0	50.0	50.0	50.0	50.0	50.0
559	50.0	49.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Statistics									
Min	50.0	49.9	49.9	49.9	50.0	50.0	49.9	49.9	49.9
Max	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Average	50.0	49.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Sigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Parameter : Duty cycle range : DC(RANGE)_B
Test conditions :
Unit : %
Spec Limit Min : 0.0
Spec Limit Max : 80.0
Spec limits are represented in bold lines on the graphic.



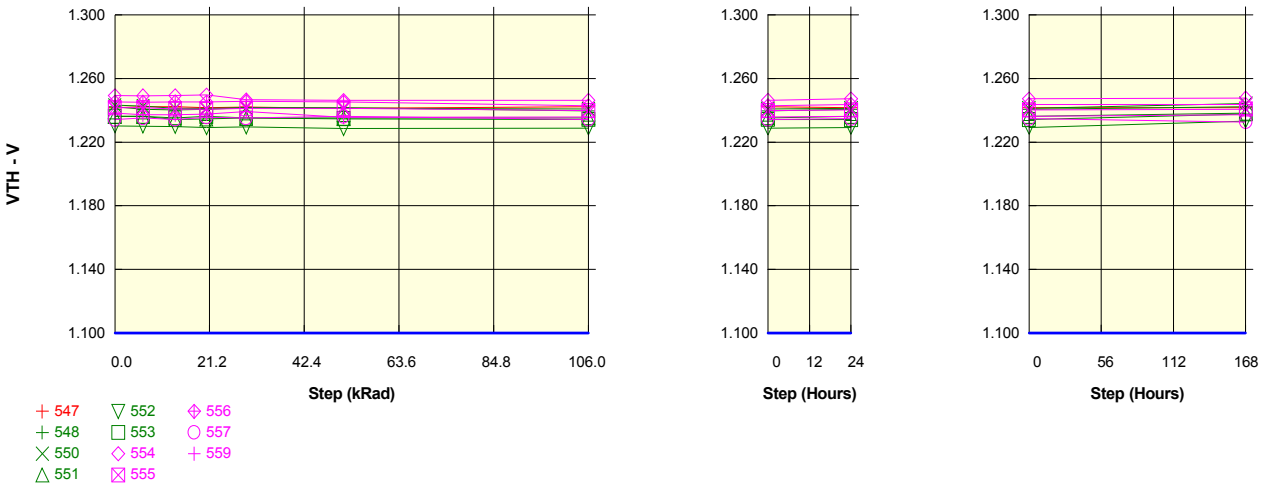
Measurements

DC(RANGE)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
ON samples									
548	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
550	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
551	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
552	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
553	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Statistics									
Min	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Max	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Average	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Sigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Measurements

DC(RANGE)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
OFF samples									
554	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
555	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
556	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
557	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
559	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Statistics									
Min	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Max	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Average	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Sigma	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Parameter : Zero DC VTH. EAOUT : VTH
Test conditions : VRAMP=0V
Unit : V
Spec Limit Min : 1.100
Spec limits are represented in bold lines on the graphic.



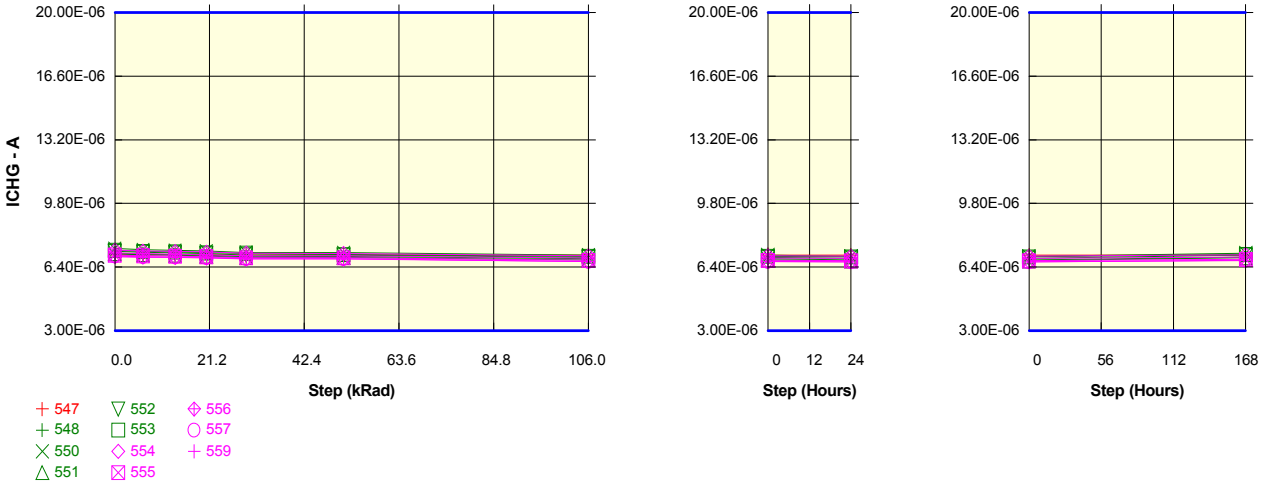
Measurements

VTH	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	1.242	1.242	1.242	1.242	1.242	1.241	1.242	1.242	1.242
ON samples									
548	1.242	1.241	1.240	1.241	1.242	1.242	1.240	1.241	1.242
550	1.243	1.243	1.241	1.241	1.242	1.241	1.241	1.241	1.244
551	1.236	1.236	1.234	1.235	1.235	1.235	1.235	1.236	1.238
552	1.230	1.230	1.230	1.229	1.229	1.229	1.229	1.229	1.233
553	1.236	1.236	1.235	1.236	1.235	1.235	1.234	1.234	1.238
Statistics									
Min	1.230	1.230	1.230	1.229	1.229	1.229	1.229	1.229	1.233
Max	1.243	1.243	1.241	1.241	1.242	1.242	1.241	1.241	1.244
Average	1.238	1.237	1.236	1.236	1.237	1.236	1.236	1.236	1.239
Sigma	0.005	0.004	0.004	0.004	0.005	0.005	0.004	0.004	0.004

Measurements

VTH	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	1.242	1.242	1.242	1.242	1.242	1.241	1.242	1.242	1.242
OFF samples									
554	1.249	1.249	1.249	1.250	1.247	1.246	1.246	1.247	1.248
555	1.242	1.242	1.241	1.241	1.241	1.241	1.240	1.240	1.241
556	1.245	1.245	1.245	1.245	1.246	1.245	1.243	1.244	1.244
557	1.234	1.235	1.234	1.236	1.235	1.236	1.234	1.235	1.233
559	1.238	1.237	1.237	1.238	1.239	1.236	1.236	1.236	1.237
Statistics									
Min	1.234	1.235	1.234	1.236	1.235	1.236	1.234	1.235	1.233
Max	1.249	1.249	1.249	1.250	1.247	1.246	1.246	1.247	1.248
Average	1.242	1.242	1.241	1.242	1.241	1.241	1.240	1.240	1.240
Sigma	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.005	0.005

Parameter : Charge current : ICHG
Test conditions : V(SS)=0.5V
Unit : A
Spec Limit Min : 3.00E-06
Spec Limit Max : 20.00E-06
Spec limits are represented in bold lines on the graphic.



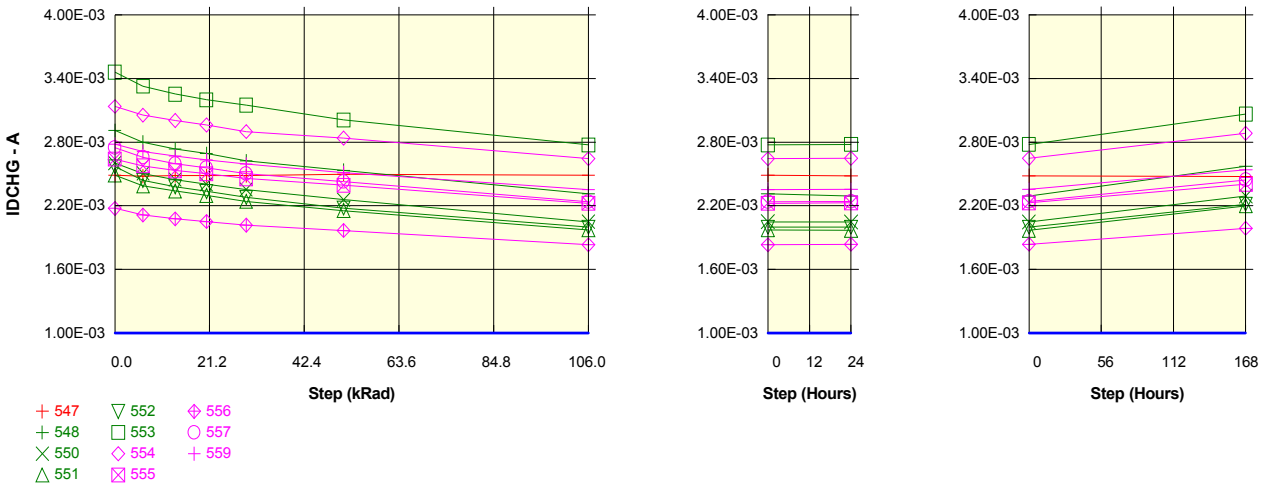
Measurements

ICHG	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	7.05E-06	7.03E-06	7.07E-06	7.04E-06	7.03E-06	7.05E-06	7.04E-06	7.02E-06	7.03E-06
ON samples									
548	7.13E-06	7.09E-06	7.05E-06	7.03E-06	6.96E-06	6.96E-06	6.84E-06	6.77E-06	6.93E-06
550	7.38E-06	7.31E-06	7.28E-06	7.24E-06	7.17E-06	7.16E-06	7.03E-06	6.97E-06	7.14E-06
551	7.10E-06	7.05E-06	7.02E-06	6.98E-06	6.91E-06	6.90E-06	6.78E-06	6.73E-06	6.89E-06
552	7.23E-06	7.18E-06	7.15E-06	7.11E-06	7.04E-06	7.03E-06	6.91E-06	6.87E-06	7.03E-06
553	7.28E-06	7.23E-06	7.20E-06	7.16E-06	7.13E-06	7.06E-06	6.97E-06	6.94E-06	7.06E-06
Statistics									
Min	7.10E-06	7.05E-06	7.02E-06	6.98E-06	6.91E-06	6.90E-06	6.78E-06	6.73E-06	6.89E-06
Max	7.38E-06	7.31E-06	7.28E-06	7.24E-06	7.17E-06	7.16E-06	7.03E-06	6.97E-06	7.14E-06
Average	7.22E-06	7.17E-06	7.14E-06	7.10E-06	7.04E-06	7.02E-06	6.91E-06	6.85E-06	7.01E-06
Sigma	99.40E-09	94.37E-09	94.48E-09	92.57E-09	98.45E-09	87.51E-09	88.64E-09	92.46E-09	91.33E-09

Measurements

ICHG	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	7.05E-06	7.03E-06	7.07E-06	7.04E-06	7.03E-06	7.05E-06	7.04E-06	7.02E-06	7.03E-06
OFF samples									
554	7.29E-06	7.24E-06	7.23E-06	7.20E-06	7.13E-06	7.12E-06	6.99E-06	6.97E-06	7.05E-06
555	7.03E-06	6.99E-06	6.98E-06	6.95E-06	6.89E-06	6.89E-06	6.75E-06	6.73E-06	6.80E-06
556	6.96E-06	6.92E-06	6.90E-06	6.87E-06	6.82E-06	6.82E-06	6.70E-06	6.67E-06	6.74E-06
557	6.98E-06	6.95E-06	6.93E-06	6.90E-06	6.84E-06	6.84E-06	6.69E-06	6.67E-06	6.76E-06
559	7.14E-06	7.11E-06	7.09E-06	7.05E-06	7.00E-06	6.99E-06	6.88E-06	6.85E-06	6.93E-06
Statistics									
Min	6.96E-06	6.92E-06	6.90E-06	6.87E-06	6.82E-06	6.82E-06	6.69E-06	6.67E-06	6.74E-06
Max	7.29E-06	7.24E-06	7.23E-06	7.20E-06	7.13E-06	7.12E-06	6.99E-06	6.97E-06	7.05E-06
Average	7.08E-06	7.04E-06	7.03E-06	6.99E-06	6.94E-06	6.93E-06	6.80E-06	6.78E-06	6.86E-06
Sigma	122.57E-09	120.68E-09	120.50E-09	118.77E-09	114.94E-09	110.15E-09	116.61E-09	117.25E-09	118.96E-09

Parameter : Discharge current : IDCHG
Test conditions : V(SS)=1V
Unit : A
Spec Limit Min : 1.00E-03
Spec limits are represented in bold lines on the graphic.



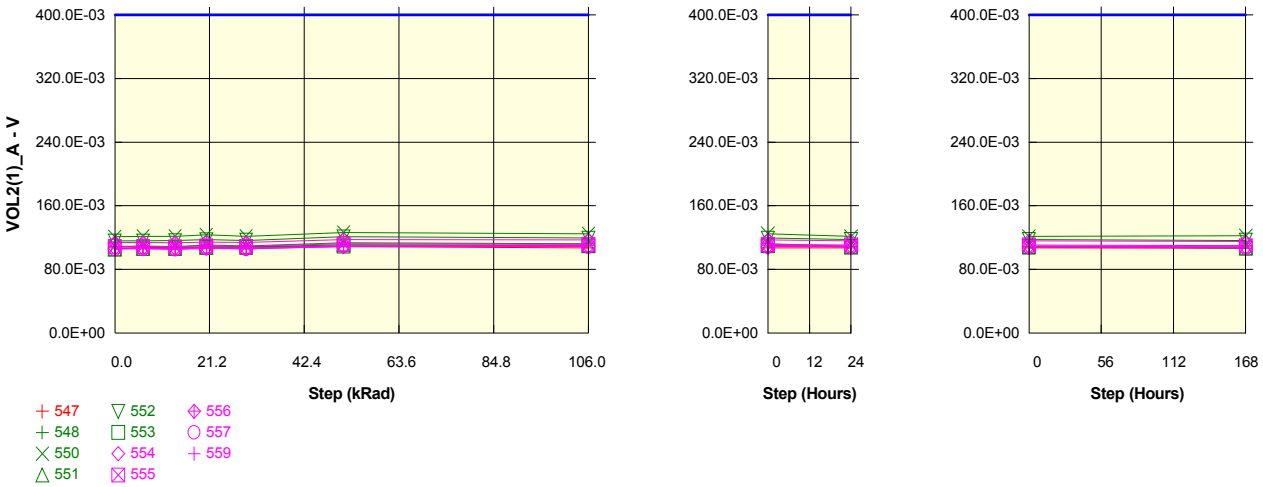
Measurements

IDCHG	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	2.49E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.50E-03	2.49E-03	2.48E-03	2.47E-03
ON samples									
548	2.91E-03	2.80E-03	2.73E-03	2.69E-03	2.62E-03	2.53E-03	2.31E-03	2.29E-03	2.57E-03
550	2.60E-03	2.50E-03	2.45E-03	2.40E-03	2.35E-03	2.26E-03	2.05E-03	2.05E-03	2.29E-03
551	2.49E-03	2.39E-03	2.34E-03	2.30E-03	2.24E-03	2.15E-03	1.97E-03	1.97E-03	2.20E-03
552	2.57E-03	2.44E-03	2.38E-03	2.33E-03	2.28E-03	2.18E-03	2.00E-03	2.00E-03	2.21E-03
553	3.46E-03	3.33E-03	3.25E-03	3.20E-03	3.15E-03	3.01E-03	2.77E-03	2.78E-03	3.06E-03
Statistics									
Min	2.49E-03	2.39E-03	2.34E-03	2.30E-03	2.24E-03	2.15E-03	1.97E-03	1.97E-03	2.20E-03
Max	3.46E-03	3.33E-03	3.25E-03	3.20E-03	3.15E-03	3.01E-03	2.77E-03	2.78E-03	3.06E-03
Average	2.81E-03	2.69E-03	2.63E-03	2.58E-03	2.53E-03	2.43E-03	2.22E-03	2.22E-03	2.47E-03
Sigma	357.11E-06	348.11E-06	340.72E-06	336.31E-06	337.69E-06	321.18E-06	301.40E-06	303.17E-06	326.82E-06

Measurements

IDCHG	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	2.49E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.50E-03	2.49E-03	2.48E-03	2.47E-03
OFF samples									
554	3.14E-03	3.05E-03	3.00E-03	2.96E-03	2.90E-03	2.84E-03	2.64E-03	2.65E-03	2.88E-03
555	2.64E-03	2.58E-03	2.53E-03	2.50E-03	2.46E-03	2.39E-03	2.22E-03	2.23E-03	2.40E-03
556	2.17E-03	2.11E-03	2.08E-03	2.05E-03	2.02E-03	1.97E-03	1.83E-03	1.84E-03	1.99E-03
557	2.75E-03	2.66E-03	2.60E-03	2.56E-03	2.50E-03	2.43E-03	2.24E-03	2.24E-03	2.44E-03
559	2.78E-03	2.71E-03	2.67E-03	2.63E-03	2.59E-03	2.51E-03	2.35E-03	2.35E-03	2.54E-03
Statistics									
Min	2.17E-03	2.11E-03	2.08E-03	2.05E-03	2.02E-03	1.97E-03	1.83E-03	1.84E-03	1.99E-03
Max	3.14E-03	3.05E-03	3.00E-03	2.96E-03	2.90E-03	2.84E-03	2.64E-03	2.65E-03	2.88E-03
Average	2.70E-03	2.62E-03	2.57E-03	2.54E-03	2.49E-03	2.43E-03	2.26E-03	2.26E-03	2.45E-03
Sigma	309.35E-06	302.77E-06	297.89E-06	292.47E-06	284.31E-06	278.92E-06	260.85E-06	260.66E-06	286.81E-06

Parameter : Output low level : VOL2(1)_A
Test conditions : IOUT=20mA
Unit : V
Spec Limit Max : 400.0E-03
Spec limits are represented in bold lines on the graphic.



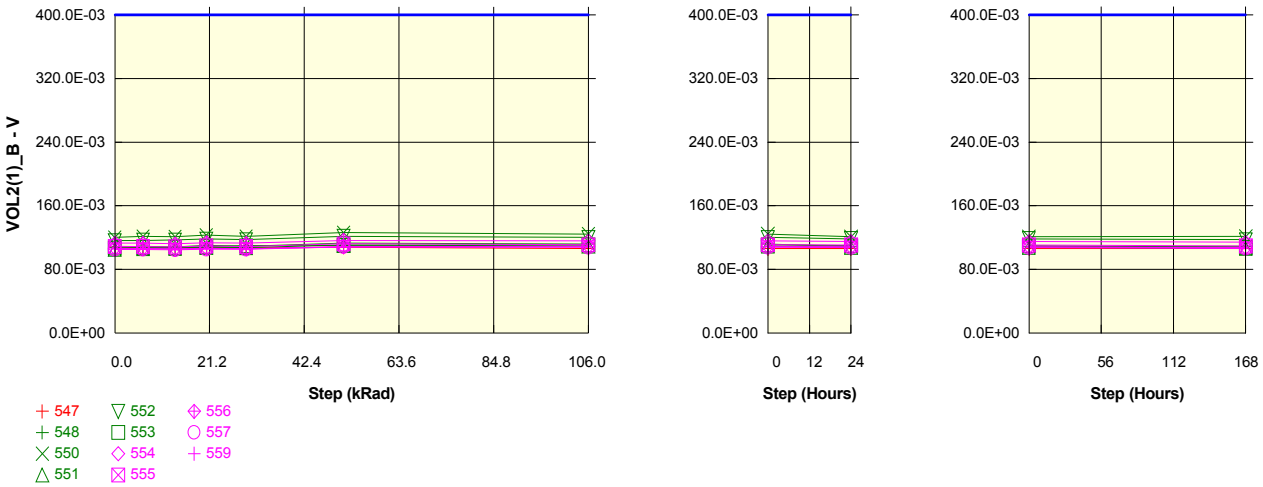
Measurements

VOL2(1)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	108.8E-03	107.2E-03	107.6E-03	108.0E-03	107.6E-03	108.4E-03	106.8E-03	106.8E-03	106.4E-03
ON samples									
548	108.0E-03	109.2E-03	108.4E-03	110.4E-03	109.2E-03	113.2E-03	112.0E-03	108.8E-03	109.2E-03
550	120.8E-03	121.6E-03	121.6E-03	123.2E-03	121.6E-03	126.4E-03	124.8E-03	121.2E-03	122.0E-03
551	105.6E-03	106.4E-03	106.4E-03	108.0E-03	107.6E-03	110.8E-03	110.0E-03	108.0E-03	106.8E-03
552	115.6E-03	115.6E-03	116.0E-03	117.2E-03	116.4E-03	120.8E-03	119.2E-03	117.6E-03	116.4E-03
553	105.6E-03	106.4E-03	106.4E-03	107.6E-03	108.4E-03	109.2E-03	109.6E-03	108.4E-03	106.8E-03
Statistics									
Min	105.6E-03	106.4E-03	106.4E-03	107.6E-03	107.6E-03	109.2E-03	109.6E-03	108.0E-03	106.8E-03
Max	120.8E-03	121.6E-03	121.6E-03	123.2E-03	121.6E-03	126.4E-03	124.8E-03	121.2E-03	122.0E-03
Average	111.1E-03	111.8E-03	111.8E-03	113.3E-03	112.6E-03	116.1E-03	115.1E-03	112.8E-03	112.2E-03
Sigma	6.1E-03	5.9E-03	6.1E-03	6.0E-03	5.5E-03	6.5E-03	5.9E-03	5.5E-03	6.0E-03

Measurements

VOL2(1)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	108.8E-03	107.2E-03	107.6E-03	108.0E-03	107.6E-03	108.4E-03	106.8E-03	106.8E-03	106.4E-03
OFF samples									
554	106.4E-03	106.0E-03	106.0E-03	106.8E-03	105.6E-03	108.4E-03	108.8E-03	108.4E-03	107.6E-03
555	108.8E-03	108.8E-03	108.0E-03	109.6E-03	108.8E-03	112.0E-03	111.2E-03	110.4E-03	109.6E-03
556	113.6E-03	113.6E-03	113.2E-03	114.0E-03	113.6E-03	117.2E-03	116.8E-03	115.6E-03	114.8E-03
557	105.6E-03	105.6E-03	104.8E-03	106.0E-03	105.6E-03	108.8E-03	108.4E-03	108.0E-03	106.8E-03
559	106.8E-03	106.8E-03	106.4E-03	107.2E-03	106.8E-03	109.2E-03	109.6E-03	109.2E-03	108.0E-03
Statistics									
Min	105.6E-03	105.6E-03	104.8E-03	106.0E-03	105.6E-03	108.4E-03	108.4E-03	108.0E-03	106.8E-03
Max	113.6E-03	113.6E-03	113.2E-03	114.0E-03	113.6E-03	117.2E-03	116.8E-03	115.6E-03	114.8E-03
Average	108.2E-03	108.2E-03	107.7E-03	108.7E-03	108.1E-03	111.1E-03	111.0E-03	110.3E-03	109.4E-03
Sigma	2.9E-03	2.9E-03	2.9E-03	2.9E-03	3.0E-03	3.3E-03	3.1E-03	2.8E-03	2.9E-03

Parameter : Output low level : VOL2(1)_B
Test conditions : IOUT=20mA
Unit : V
Spec Limit Max : 400.0E-03
Spec limits are represented in bold lines on the graphic.



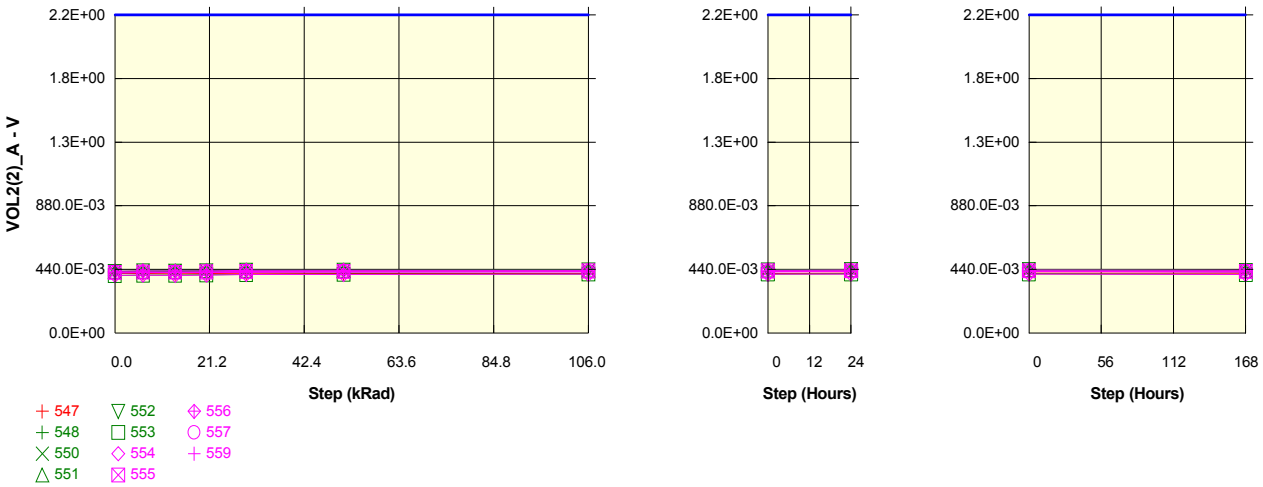
Measurements

VOL2(1)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	108.0E-03	106.8E-03	107.2E-03	107.2E-03	106.8E-03	107.6E-03	106.0E-03	106.0E-03	106.0E-03
ON samples									
548	107.6E-03	108.8E-03	108.0E-03	110.0E-03	108.8E-03	112.8E-03	111.6E-03	108.4E-03	108.8E-03
550	120.0E-03	121.2E-03	120.8E-03	122.8E-03	121.2E-03	126.0E-03	124.4E-03	120.8E-03	121.2E-03
551	105.2E-03	106.0E-03	106.4E-03	107.6E-03	107.2E-03	110.4E-03	109.2E-03	107.6E-03	106.4E-03
552	116.0E-03	116.4E-03	116.8E-03	118.0E-03	117.2E-03	121.6E-03	120.0E-03	118.4E-03	117.2E-03
553	106.8E-03	107.2E-03	107.2E-03	108.4E-03	109.6E-03	110.0E-03	110.8E-03	109.6E-03	107.6E-03
Statistics									
Min	105.2E-03	106.0E-03	106.4E-03	107.6E-03	107.2E-03	110.0E-03	109.2E-03	107.6E-03	106.4E-03
Max	120.0E-03	121.2E-03	120.8E-03	122.8E-03	121.2E-03	126.0E-03	124.4E-03	120.8E-03	121.2E-03
Average	111.1E-03	111.9E-03	111.8E-03	113.4E-03	112.8E-03	116.2E-03	115.2E-03	113.0E-03	112.2E-03
Sigma	5.8E-03	5.9E-03	5.8E-03	6.0E-03	5.4E-03	6.5E-03	5.9E-03	5.5E-03	5.9E-03

Measurements

VOL2(1)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	108.0E-03	106.8E-03	107.2E-03	107.2E-03	106.8E-03	107.6E-03	106.0E-03	106.0E-03	106.0E-03
OFF samples									
554	106.4E-03	106.0E-03	105.6E-03	106.4E-03	105.6E-03	108.4E-03	108.8E-03	108.0E-03	107.2E-03
555	108.8E-03	108.4E-03	108.0E-03	109.2E-03	108.4E-03	112.0E-03	110.8E-03	110.4E-03	109.2E-03
556	112.8E-03	112.8E-03	112.0E-03	113.2E-03	112.8E-03	116.4E-03	115.6E-03	114.8E-03	114.0E-03
557	104.8E-03	104.8E-03	104.4E-03	105.2E-03	105.2E-03	108.0E-03	107.6E-03	107.2E-03	106.0E-03
559	105.6E-03	106.0E-03	105.2E-03	106.0E-03	105.6E-03	108.0E-03	108.4E-03	108.0E-03	106.8E-03
Statistics									
Min	104.8E-03	104.8E-03	104.4E-03	105.2E-03	105.2E-03	108.0E-03	107.6E-03	107.2E-03	106.0E-03
Max	112.8E-03	112.8E-03	112.0E-03	113.2E-03	112.8E-03	116.4E-03	115.6E-03	114.8E-03	114.0E-03
Average	107.7E-03	107.6E-03	107.0E-03	108.0E-03	107.5E-03	110.6E-03	110.2E-03	109.7E-03	108.6E-03
Sigma	2.9E-03	2.9E-03	2.8E-03	2.9E-03	2.9E-03	3.3E-03	2.9E-03	2.8E-03	2.9E-03

Parameter : Output low level : VOL2(2)_A
Test conditions : IOUT=200mA
Unit : V
Spec Limit Max : 2.2E+00
Spec limits are represented in bold lines on the graphic.



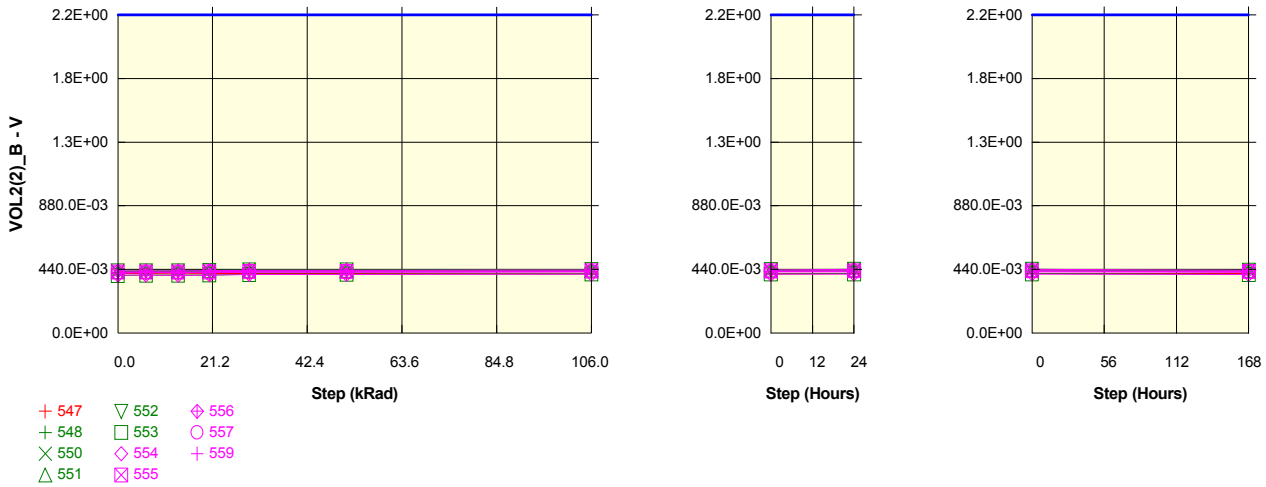
Measurements

VOL2(2)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	410.8E-03	410.8E-03	408.8E-03	410.8E-03	412.8E-03	411.2E-03	410.4E-03	412.4E-03	412.4E-03
ON samples									
548	415.2E-03	416.8E-03	416.4E-03	418.8E-03	422.4E-03	421.6E-03	423.6E-03	426.8E-03	422.0E-03
550	423.2E-03	425.2E-03	425.2E-03	427.6E-03	430.4E-03	430.0E-03	433.2E-03	434.8E-03	430.4E-03
551	424.0E-03	426.4E-03	426.0E-03	428.8E-03	432.0E-03	432.0E-03	434.4E-03	436.8E-03	430.8E-03
552	425.6E-03	427.6E-03	427.2E-03	429.6E-03	432.4E-03	432.8E-03	435.2E-03	437.6E-03	431.6E-03
553	397.2E-03	399.6E-03	398.8E-03	401.6E-03	404.0E-03	405.2E-03	407.2E-03	408.0E-03	403.2E-03
Statistics									
Min	397.2E-03	399.6E-03	398.8E-03	401.6E-03	404.0E-03	405.2E-03	407.2E-03	408.0E-03	403.2E-03
Max	425.6E-03	427.6E-03	427.2E-03	429.6E-03	432.4E-03	432.8E-03	435.2E-03	437.6E-03	431.6E-03
Average	417.0E-03	419.1E-03	418.7E-03	421.3E-03	424.2E-03	424.3E-03	426.7E-03	428.8E-03	423.6E-03
Sigma	10.6E-03	10.5E-03	10.7E-03	10.6E-03	10.7E-03	10.4E-03	10.6E-03	11.1E-03	10.8E-03

Measurements

VOL2(2)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	410.8E-03	410.8E-03	408.8E-03	410.8E-03	412.8E-03	411.2E-03	410.4E-03	412.4E-03	412.4E-03
OFF samples									
554	397.6E-03	398.8E-03	398.0E-03	400.0E-03	403.2E-03	403.6E-03	404.8E-03	406.4E-03	403.2E-03
555	418.8E-03	420.4E-03	419.6E-03	422.0E-03	424.8E-03	425.2E-03	427.6E-03	429.2E-03	425.2E-03
556	426.0E-03	427.6E-03	426.8E-03	429.2E-03	432.4E-03	432.4E-03	434.4E-03	436.0E-03	432.4E-03
557	414.8E-03	416.4E-03	416.0E-03	418.4E-03	420.8E-03	422.4E-03	423.6E-03	426.0E-03	422.4E-03
559	414.0E-03	416.4E-03	416.0E-03	418.0E-03	420.0E-03	420.4E-03	422.4E-03	424.0E-03	421.2E-03
Statistics									
Min	397.6E-03	398.8E-03	398.0E-03	400.0E-03	403.2E-03	403.6E-03	404.8E-03	406.4E-03	403.2E-03
Max	426.0E-03	427.6E-03	426.8E-03	429.2E-03	432.4E-03	432.4E-03	434.4E-03	436.0E-03	432.4E-03
Average	414.2E-03	415.9E-03	415.3E-03	417.5E-03	420.2E-03	420.8E-03	422.6E-03	424.3E-03	420.9E-03
Sigma	9.3E-03	9.5E-03	9.5E-03	9.6E-03	9.6E-03	9.5E-03	9.8E-03	9.8E-03	9.7E-03

Parameter : Output low level : VOL2(2)_B
Test conditions : IOUT=200mA
Unit : V
Spec Limit Max : 2.2E+00
Spec limits are represented in bold lines on the graphic.



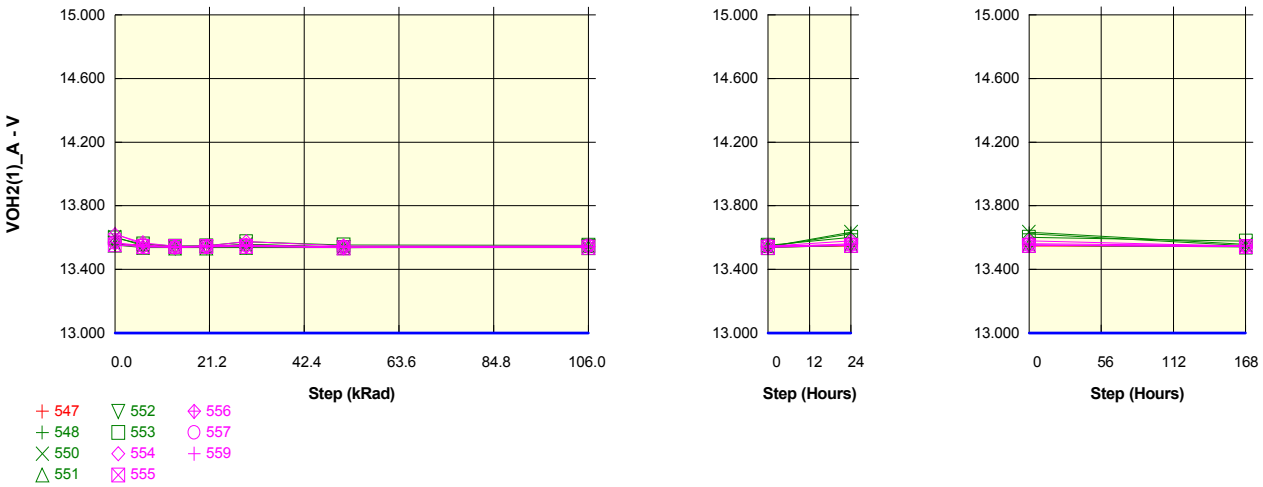
Measurements

VOL2(2)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	409.6E-03	410.0E-03	407.6E-03	409.2E-03	411.6E-03	410.0E-03	408.8E-03	411.6E-03	411.2E-03
ON samples									
548	415.6E-03	417.2E-03	417.2E-03	419.2E-03	422.8E-03	423.2E-03	424.0E-03	427.2E-03	422.0E-03
550	424.0E-03	425.6E-03	425.6E-03	427.6E-03	431.2E-03	430.4E-03	433.6E-03	435.2E-03	430.8E-03
551	424.0E-03	426.4E-03	426.0E-03	428.8E-03	432.0E-03	432.0E-03	434.4E-03	436.4E-03	430.8E-03
552	427.6E-03	429.6E-03	429.2E-03	432.0E-03	434.8E-03	435.2E-03	437.6E-03	439.6E-03	433.6E-03
553	398.0E-03	399.6E-03	399.6E-03	401.2E-03	404.8E-03	405.6E-03	408.0E-03	409.2E-03	404.0E-03
Statistics									
Min	398.0E-03	399.6E-03	399.6E-03	401.2E-03	404.8E-03	405.6E-03	408.0E-03	409.2E-03	404.0E-03
Max	427.6E-03	429.6E-03	429.2E-03	432.0E-03	434.8E-03	435.2E-03	437.6E-03	439.6E-03	433.6E-03
Average	417.8E-03	419.7E-03	419.5E-03	421.8E-03	425.1E-03	425.3E-03	427.5E-03	429.5E-03	424.2E-03
Sigma	10.7E-03	10.8E-03	10.7E-03	11.1E-03	10.9E-03	10.6E-03	10.8E-03	10.9E-03	10.8E-03

Measurements

VOL2(2)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	409.6E-03	410.0E-03	407.6E-03	409.2E-03	411.6E-03	410.0E-03	408.8E-03	411.6E-03	411.2E-03
OFF samples									
554	398.4E-03	399.2E-03	398.0E-03	400.4E-03	403.2E-03	403.6E-03	404.8E-03	406.8E-03	403.6E-03
555	420.0E-03	421.2E-03	420.0E-03	422.0E-03	425.2E-03	425.2E-03	428.0E-03	429.2E-03	425.6E-03
556	428.0E-03	429.6E-03	428.8E-03	431.2E-03	434.0E-03	434.0E-03	436.0E-03	438.0E-03	434.0E-03
557	416.0E-03	417.6E-03	416.8E-03	418.8E-03	422.0E-03	422.4E-03	424.4E-03	427.2E-03	423.2E-03
559	413.2E-03	415.6E-03	414.8E-03	416.8E-03	419.2E-03	419.6E-03	421.6E-03	423.2E-03	420.0E-03
Statistics									
Min	398.4E-03	399.2E-03	398.0E-03	400.4E-03	403.2E-03	403.6E-03	404.8E-03	406.8E-03	403.6E-03
Max	428.0E-03	429.6E-03	428.8E-03	431.2E-03	434.0E-03	434.0E-03	436.0E-03	438.0E-03	434.0E-03
Average	415.1E-03	416.6E-03	415.7E-03	417.8E-03	420.7E-03	421.0E-03	423.0E-03	424.9E-03	421.3E-03
Sigma	9.7E-03	9.9E-03	10.1E-03	10.0E-03	10.1E-03	9.9E-03	10.3E-03	10.3E-03	10.0E-03

Parameter : Output high level : VOH2(1)_A
Test conditions : IOUT=-20mA
Unit : V
Spec Limit Min : 13.000
Spec limits are represented in bold lines on the graphic.



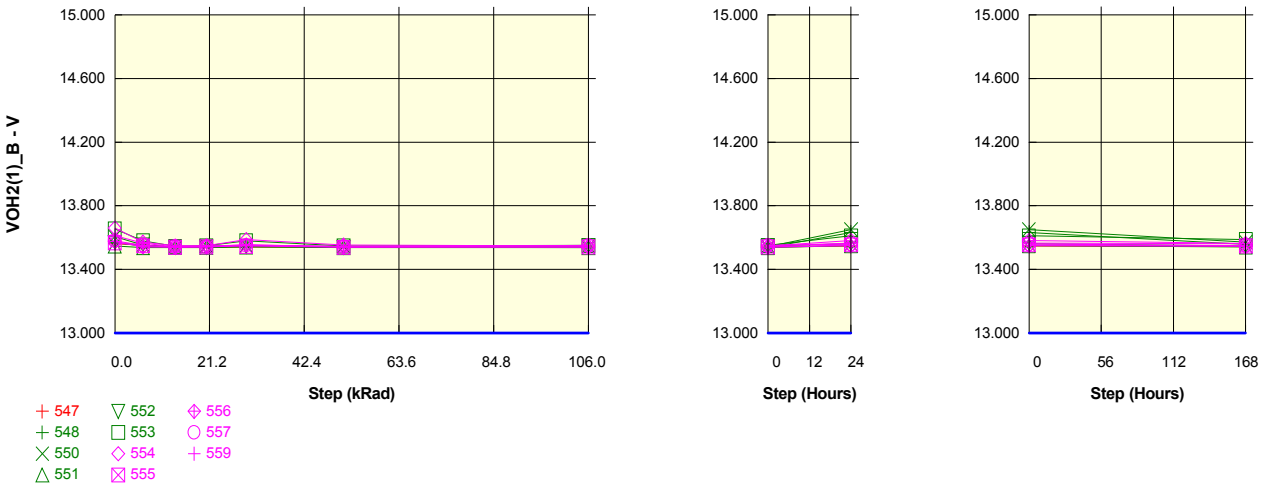
Measurements

VOH2(1)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.552	13.555	13.538	13.539	13.544	13.538	13.540	13.547	13.544
ON samples									
548	13.559	13.545	13.539	13.540	13.555	13.537	13.541	13.624	13.548
550	13.603	13.548	13.542	13.543	13.557	13.541	13.540	13.634	13.555
551	13.552	13.537	13.535	13.535	13.537	13.536	13.536	13.551	13.540
552	13.562	13.545	13.535	13.538	13.540	13.537	13.542	13.550	13.544
553	13.598	13.559	13.545	13.548	13.573	13.552	13.551	13.601	13.576
Statistics									
Min	13.552	13.537	13.535	13.535	13.537	13.536	13.536	13.550	13.540
Max	13.603	13.559	13.545	13.548	13.573	13.552	13.551	13.634	13.576
Average	13.575	13.547	13.539	13.541	13.552	13.541	13.542	13.592	13.553
Sigma	0.021	0.007	0.004	0.004	0.013	0.006	0.005	0.036	0.013

Measurements

VOH2(1)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.552	13.555	13.538	13.539	13.544	13.538	13.540	13.547	13.544
OFF samples									
554	13.619	13.567	13.544	13.546	13.574	13.546	13.544	13.578	13.544
555	13.553	13.542	13.543	13.543	13.545	13.535	13.539	13.551	13.544
556	13.567	13.541	13.538	13.540	13.543	13.536	13.542	13.552	13.542
557	13.567	13.548	13.537	13.544	13.550	13.537	13.548	13.553	13.544
559	13.623	13.557	13.537	13.548	13.552	13.540	13.539	13.560	13.548
Statistics									
Min	13.553	13.541	13.537	13.540	13.543	13.535	13.539	13.551	13.542
Max	13.623	13.567	13.544	13.548	13.574	13.546	13.548	13.578	13.548
Average	13.586	13.551	13.540	13.544	13.553	13.539	13.542	13.559	13.544
Sigma	0.029	0.010	0.003	0.003	0.011	0.004	0.003	0.010	0.002

Parameter : Output high level : VOH2(1)_B
Test conditions : IOUT=-20mA
Unit : V
Spec Limit Min : 13.000
Spec limits are represented in bold lines on the graphic.



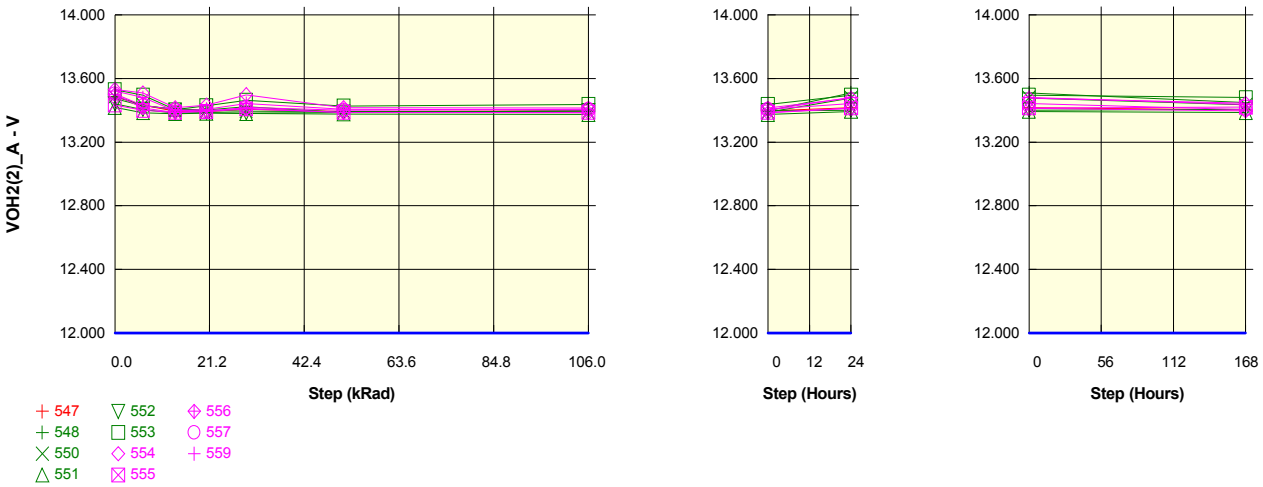
Measurements

VOH2(1)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.562	13.553	13.538	13.539	13.540	13.538	13.541	13.547	13.543
ON samples									
548	13.565	13.546	13.541	13.540	13.551	13.538	13.536	13.632	13.555
550	13.605	13.553	13.538	13.546	13.550	13.543	13.542	13.649	13.571
551	13.546	13.536	13.537	13.537	13.540	13.536	13.536	13.548	13.541
552	13.567	13.553	13.538	13.539	13.545	13.538	13.546	13.562	13.546
553	13.653	13.579	13.544	13.548	13.579	13.546	13.550	13.610	13.588
Statistics									
Min	13.546	13.536	13.537	13.537	13.540	13.536	13.536	13.548	13.541
Max	13.653	13.579	13.544	13.548	13.579	13.546	13.550	13.649	13.588
Average	13.587	13.553	13.540	13.542	13.553	13.540	13.542	13.600	13.560
Sigma	0.038	0.014	0.003	0.004	0.014	0.004	0.006	0.039	0.017

Measurements

VOH2(1)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.562	13.553	13.538	13.539	13.540	13.538	13.541	13.547	13.543
OFF samples									
554	13.659	13.571	13.548	13.549	13.587	13.552	13.545	13.581	13.563
555	13.566	13.548	13.539	13.541	13.545	13.538	13.540	13.553	13.546
556	13.575	13.540	13.538	13.542	13.554	13.540	13.539	13.548	13.544
557	13.579	13.550	13.542	13.540	13.550	13.540	13.550	13.558	13.548
559	13.612	13.564	13.540	13.547	13.552	13.544	13.546	13.564	13.562
Statistics									
Min	13.566	13.540	13.538	13.540	13.545	13.538	13.539	13.548	13.544
Max	13.659	13.571	13.548	13.549	13.587	13.552	13.550	13.581	13.563
Average	13.598	13.555	13.541	13.544	13.558	13.543	13.544	13.561	13.553
Sigma	0.034	0.011	0.004	0.004	0.015	0.005	0.004	0.011	0.008

Parameter : Output high level : VOH2(2)_A
Test conditions : IOUT=-200mA
Unit : V
Spec Limit Min : 12.000
Spec limits are represented in bold lines on the graphic.



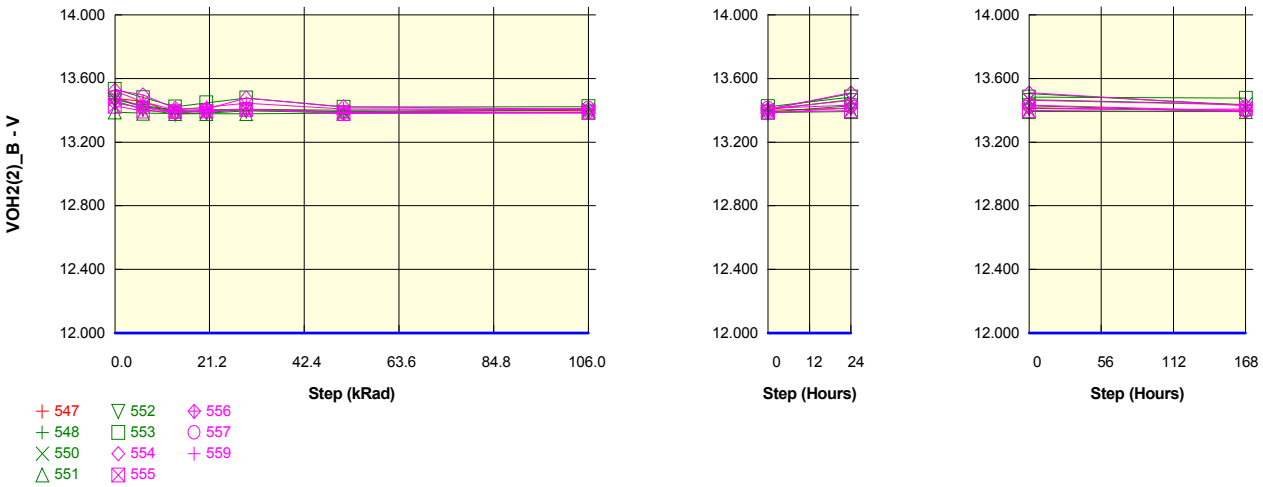
Measurements

VOH2(2)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.488	13.432	13.394	13.392	13.405	13.393	13.396	13.415	13.401
ON samples									
548	13.471	13.429	13.409	13.403	13.423	13.387	13.395	13.507	13.449
550	13.486	13.432	13.403	13.398	13.394	13.392	13.388	13.478	13.434
551	13.418	13.384	13.378	13.382	13.380	13.377	13.374	13.393	13.386
552	13.440	13.404	13.383	13.385	13.383	13.387	13.397	13.400	13.405
553	13.529	13.494	13.404	13.428	13.463	13.427	13.436	13.494	13.480
Statistics									
Min	13.418	13.384	13.378	13.382	13.380	13.377	13.374	13.393	13.386
Max	13.529	13.494	13.409	13.428	13.463	13.427	13.436	13.507	13.480
Average	13.469	13.429	13.395	13.399	13.409	13.394	13.398	13.454	13.431
Sigma	0.038	0.037	0.012	0.016	0.031	0.017	0.021	0.048	0.033

Measurements

VOH2(2)_A	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.488	13.432	13.394	13.392	13.405	13.393	13.396	13.415	13.401
OFF samples									
554	13.531	13.508	13.417	13.432	13.498	13.417	13.414	13.476	13.444
555	13.433	13.399	13.387	13.392	13.409	13.387	13.387	13.414	13.420
556	13.499	13.414	13.387	13.398	13.411	13.385	13.384	13.411	13.396
557	13.503	13.430	13.404	13.392	13.418	13.400	13.407	13.442	13.404
559	13.521	13.480	13.395	13.407	13.443	13.405	13.403	13.480	13.437
Statistics									
Min	13.433	13.399	13.387	13.392	13.409	13.385	13.384	13.411	13.396
Max	13.531	13.508	13.417	13.432	13.498	13.417	13.414	13.480	13.444
Average	13.497	13.446	13.398	13.404	13.436	13.399	13.399	13.445	13.420
Sigma	0.034	0.041	0.011	0.015	0.033	0.012	0.012	0.029	0.018

Parameter : Output high level : VOH2(2)_B
Test conditions : IOUT=-200mA
Unit : V
Spec Limit Min : 12.000
Spec limits are represented in bold lines on the graphic.



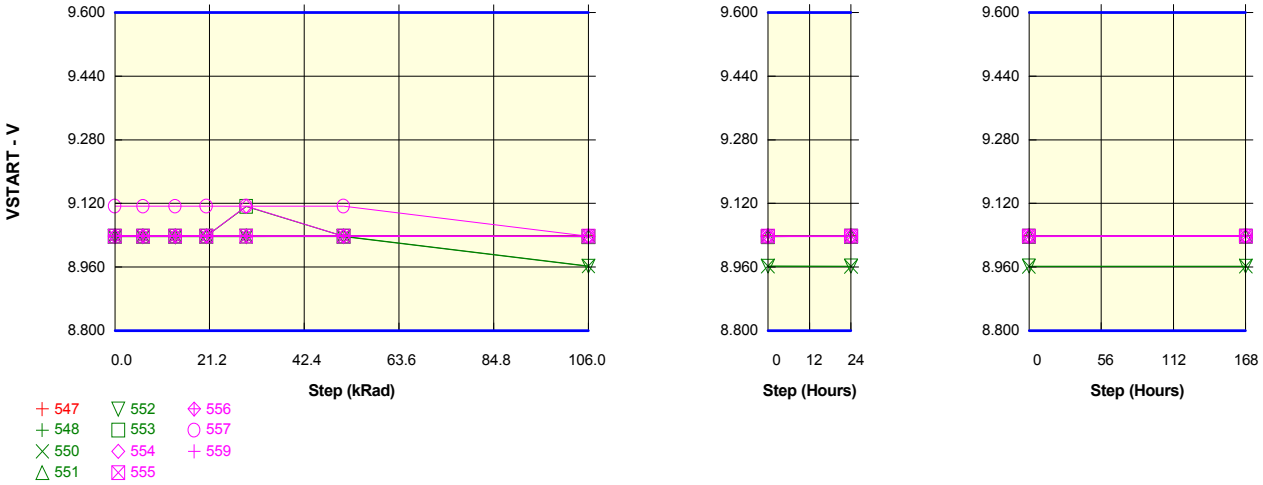
Measurements

VOH2(2)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.475	13.456	13.380	13.400	13.401	13.390	13.400	13.413	13.399
ON samples									
548	13.470	13.421	13.400	13.401	13.407	13.399	13.407	13.505	13.432
550	13.469	13.430	13.399	13.387	13.405	13.390	13.404	13.467	13.436
551	13.388	13.381	13.379	13.378	13.378	13.381	13.387	13.391	13.391
552	13.458	13.406	13.376	13.381	13.396	13.385	13.388	13.429	13.390
553	13.532	13.480	13.421	13.447	13.477	13.420	13.422	13.482	13.476
Statistics									
Min	13.388	13.381	13.376	13.378	13.378	13.381	13.387	13.391	13.390
Max	13.532	13.480	13.421	13.447	13.477	13.420	13.422	13.505	13.476
Average	13.463	13.424	13.395	13.399	13.413	13.395	13.402	13.455	13.425
Sigma	0.046	0.033	0.016	0.025	0.034	0.014	0.013	0.040	0.032

Measurements

VOH2(2)_B	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	13.475	13.456	13.380	13.400	13.401	13.390	13.400	13.413	13.399
OFF samples									
554	13.527	13.497	13.412	13.409	13.478	13.422	13.406	13.510	13.429
555	13.426	13.396	13.391	13.394	13.405	13.380	13.388	13.398	13.409
556	13.445	13.417	13.385	13.393	13.406	13.382	13.381	13.415	13.392
557	13.482	13.420	13.389	13.398	13.407	13.386	13.413	13.432	13.397
559	13.521	13.452	13.401	13.420	13.444	13.409	13.408	13.463	13.434
Statistics									
Min	13.426	13.396	13.385	13.393	13.405	13.380	13.381	13.398	13.392
Max	13.527	13.497	13.412	13.420	13.478	13.422	13.413	13.510	13.434
Average	13.480	13.436	13.396	13.403	13.428	13.396	13.399	13.444	13.412
Sigma	0.040	0.035	0.010	0.010	0.029	0.017	0.012	0.040	0.017

Parameter : Start threshold : VSTART
Test conditions :
Unit : V
Spec Limit Min : 8.800
Spec Limit Max : 9.600
Spec limits are represented in bold lines on the graphic.



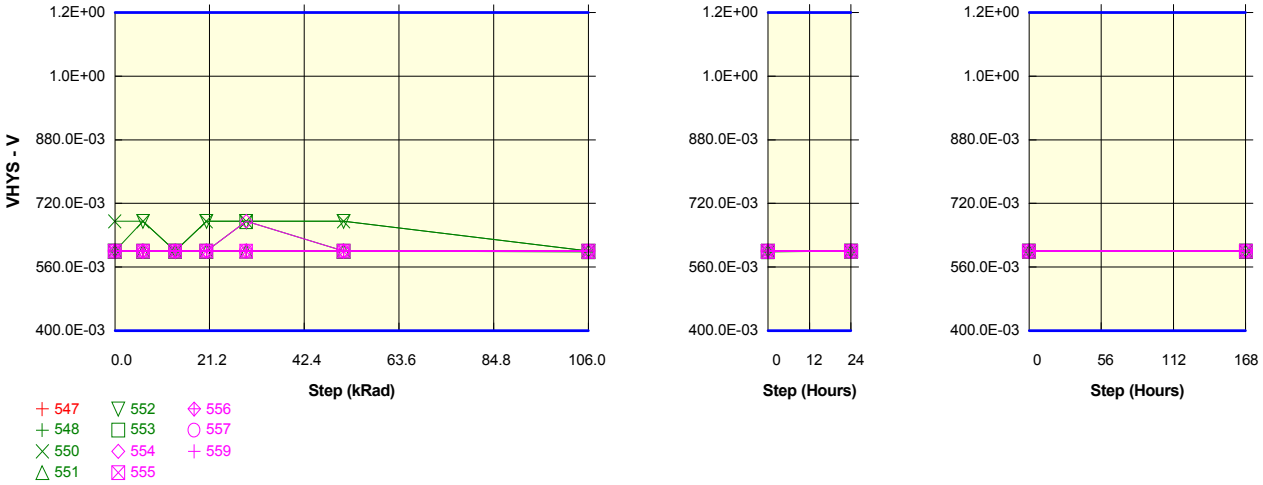
Measurements

VSTART	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038
ON samples									
548	9.038	9.038	9.038	9.038	9.038	9.038	9.037	9.037	9.038
550	9.037	9.037	9.037	9.037	9.037	9.037	8.962	8.962	8.962
551	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038
552	9.037	9.037	9.037	9.037	9.037	9.037	8.962	8.962	8.962
553	9.038	9.038	9.038	9.038	9.112	9.037	9.036	9.037	9.038
Statistics									
Min	9.037	9.037	9.037	9.037	9.037	9.037	8.962	8.962	8.962
Max	9.038	9.038	9.038	9.038	9.112	9.038	9.038	9.038	9.038
Average	9.037	9.037	9.037	9.037	9.052	9.037	9.007	9.007	9.007
Sigma	0.001	0.001	0.001	0.001	0.030	0.000	0.037	0.037	0.037

Measurements

VSTART	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038	9.038
OFF samples									
554	9.038	9.038	9.038	9.038	9.113	9.037	9.037	9.037	9.037
555	9.038	9.038	9.038	9.038	9.038	9.038	9.037	9.038	9.038
556	9.038	9.037	9.037	9.037	9.037	9.037	9.037	9.037	9.037
557	9.113	9.113	9.113	9.113	9.113	9.113	9.037	9.037	9.038
559	9.038	9.038	9.038	9.038	9.038	9.038	9.037	9.037	9.038
Statistics									
Min	9.038	9.037	9.037	9.037	9.037	9.037	9.037	9.037	9.037
Max	9.113	9.113	9.113	9.113	9.113	9.113	9.037	9.038	9.038
Average	9.053	9.053	9.053	9.053	9.068	9.053	9.037	9.037	9.038
Sigma	0.030	0.030	0.030	0.030	0.037	0.030	0.000	0.000	0.000

Parameter : UVLO hysteresis : VHYS
Test conditions :
Unit : V
Spec Limit Min : 400.0E-03
Spec Limit Max : 1.2E+00
Spec limits are represented in bold lines on the graphic.



Measurements

VHYS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.8E-03
ON samples									
548	599.8E-03	599.7E-03	599.7E-03	599.7E-03	599.8E-03	599.6E-03	599.3E-03	599.7E-03	599.8E-03
550	674.7E-03	674.7E-03	599.7E-03	674.7E-03	674.7E-03	674.7E-03	599.7E-03	599.7E-03	599.7E-03
551	599.7E-03	599.7E-03	599.7E-03	599.8E-03	599.8E-03	599.8E-03	599.7E-03	599.7E-03	599.7E-03
552	599.7E-03	674.6E-03	599.7E-03	674.6E-03	674.6E-03	674.7E-03	599.7E-03	599.7E-03	599.7E-03
553	599.7E-03	599.7E-03	599.6E-03	599.6E-03	674.5E-03	599.6E-03	598.3E-03	599.7E-03	599.6E-03
Statistics									
Min	599.7E-03	599.7E-03	599.6E-03	599.6E-03	599.8E-03	599.6E-03	598.3E-03	599.7E-03	599.6E-03
Max	674.7E-03	674.7E-03	599.7E-03	674.7E-03	674.7E-03	674.7E-03	599.7E-03	599.7E-03	599.8E-03
Average	614.7E-03	629.7E-03	599.7E-03	629.7E-03	644.7E-03	629.7E-03	599.4E-03	599.7E-03	599.7E-03
Sigma	30.0E-03	36.7E-03	61.1E-06	36.7E-03	36.7E-03	36.8E-03	556.9E-06	30.0E-06	50.0E-06

Measurements

VHYS	0 kRad	6.3 kRad	13.5 kRad	20.5 kRad	29.4 kRad	51.2 kRad	106 kRad	24 Hours	168 Hours
547_REF	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.8E-03
OFF samples									
554	599.7E-03	599.7E-03	599.8E-03	599.7E-03	674.7E-03	599.8E-03	599.7E-03	599.7E-03	599.6E-03
555	599.7E-03	599.8E-03	599.7E-03	599.8E-03	599.8E-03	599.8E-03	599.3E-03	599.8E-03	599.7E-03
556	599.7E-03	599.7E-03	599.8E-03	599.7E-03	599.8E-03	599.7E-03	599.7E-03	599.7E-03	599.8E-03
557	599.8E-03	599.8E-03	599.8E-03	599.8E-03	599.8E-03	599.7E-03	599.6E-03	599.6E-03	599.7E-03
559	599.8E-03	599.8E-03	599.8E-03	599.8E-03	599.8E-03	599.7E-03	599.7E-03	599.6E-03	599.8E-03
Statistics									
Min	599.7E-03	599.7E-03	599.7E-03	599.7E-03	599.8E-03	599.7E-03	599.3E-03	599.6E-03	599.6E-03
Max	599.8E-03	599.8E-03	599.8E-03	599.8E-03	674.7E-03	599.8E-03	599.7E-03	599.8E-03	599.8E-03
Average	599.8E-03	599.7E-03	599.8E-03	599.8E-03	614.8E-03	599.8E-03	599.6E-03	599.7E-03	599.7E-03
Sigma	45.4E-06	39.5E-06	25.1E-06	54.8E-06	30.0E-03	49.2E-06	139.2E-06	80.0E-06	76.5E-06