RIR IN:- 72957

RIR OUT:- 72957

PARTS HISTORY LOG

Radiation Testing

PROGRAMME:- XMM

PART TYPE:- UC1825J

RADIATION REPORT:- RD 219

IGG TASK NUMBER:- 1500

SUMMARY OF TEST RESULTS

All parts remained within the specified limits up to the total dose of 100KRad(Si) and the only parameter affected significantly by the irradiation was I_{IB1}.

Radiation Report Number:- RD 219

Project:- XMM

Part Type:- UC1825J Date Code:- 9213

Manufacturer:- Unitrode IGG Task No:- 1500

Project Approval of Lot Traveller:-

Signed..... Date.....

Position.....

Serial Number Range:-

16 through 26 (not inclusive)

I certify that the subject component has been tested in accordance with the following radiation specifications:-

Test Method - ESA/SCC22900 ISSUE- 4 DATE- Jan '95

Irradiation Test Plan- XM-PL-IGG-0053 ISSUE- 2 DATE- Dec '96

Closed/Approved NCR No:- N n/a

Approved Waiver No:- WAR N/A

Signed....P.A.Lucas..... Date.20/2/97.

Upscreening Engineer

Signed...D.G.C..... Date.21/2/97.

Upscreening Manager

RADIATION REPORT NUMBER:- RD 219 DATE:- 19.2.97

PROJECT:- XMM RIR IN:- 72957

PART NUMBER:- UC1825J MANUFACTURER:- Unitrode

PROCUREMENT LEVEL:- ST-BAS-PS-0983 DATE CODE:- 9213

TEST METHOD:- ESA/SCC22900 ISSUE- 4 DATE- Jan '95

TEST PLAN:- XM-PL-IGG-0053 ISSUE- 2 DATE- Dec '96

START QUANTITY:- 5

No.	Test (Sample Size)	XM-PL-IGG-0053 Test Method and Conditions	Date in	Qty in	Date out	Qty out	SIGNED Op/QA
1	Serialisation and Selection of Control Sample (100%)	Control Sample= SN 16	28/1/97	5	28/1/97	4 + CONTROL SAMPLE	P.A.R. IGG 16 CT
2	Initial Electrical Measurements (100% read and record)	Table A Testing at IGG	28/1/97	4	28/1/97	4	P.A.R. IGG 16 CT
3	Initial Electrical Measurements (100% read and record)	Table A Testing at ERA	29/1/97	4	29/1/97	4	P.A.R. IGG 16 CT
4	Set-up and apply Bias per Figure 1	Verify Bias Circuit and conditions (in-situ) for all 4 test samples	29/1/97	4	29/1/97	4	P.A.R. IGG 16 CT
5	Irradiation 1 (4 samples)	Dose= 10kRAD(Si) Rate= 10RAD(Si) per second Time= 1000secs	29/1/97	4	29/1/97	4	P.A.R. IGG 16 CT
6	Interim 1 Electrical Measurements (100% read and record)	Table A. Bias to be maintained until testing is performed. Tdwell=10mins maximum	29/1/97	4	29/1/97	4	P.A.R. IGG 16 CT

Report No: RD 219	Part Type: UC1825J	Date: 19.2.97

No.	Test (Sample Size)	XM-PL-IGG-0053 Test Method and Conditions	Date in	Qty in	Date out	Qty out	SIGNED Op/QA
7	Irradiation 2 (4 samples)	As Test 5	29/1/97	4	29/1/97	4	IGG 16 CT
8	Interim 2 Electrical Measurements (100% read and record)	As Test 6	29/1/97	4	29/1/97	4	IGG 16 CT
9	Irradiation 3 (4 samples)	As Test 5	29/1/97	4	29/1/97	4	IGG 16 CT
10	Interim 3 Electrical Measurements (100% read and record)	As Test 6	29/1/97	4	29/1/97	4	IGG 16 CT
11	Irradiation 4 (4 samples)	Dose= 20kRAD(Si) Rate= 10RAD(Si) per second Time=2000secs	29/1/97	4	29/1/97	4	IGG 16 CT
12	Interim 4 Electrical Measurements (100% read and record)	As Test 6	29/1/97	4	29/1/97	4	IGG 16 CT
13	Irradiation 5 (4 samples)	Dose= 25kRAD(Si) Rate= 10RAD(Si) per second Time=2500secs	29/1/97	4	29/1/97	4	IGG 16 CT
14	Interim 5 Electrical Measurements (100% read and record)	As Test 6	29/1/97	4	29/1/97	4	IGG 16 CT
15	Irradiation 6 (4 samples)	As Test 13	29/1/97	4	29/1/97	4	IGG 16 CT

Report No: RD 219	Part Type: UC1825J	Date: 19.2.97

No.	Test (Sample Size)	XM-PL-IGG-0053 Test Method and Conditions	Date in	Qty in	Date out	Qty out	SIGNED Op/QA
16	Final Electrical Measurements (100% read and record)	As Test 6 At ERA	29/1/97	4	29/1/97	4	IGG 16 CT
17	Annealing Test (4 samples)	Bias for 24hrs min at +25°C (record exact time)	29/1/97	4	30/1/97	4	IGG 16 CT
18	Post Annealing Electrical Measurements (100% read and record)	Table A	30/1/97	4	30/1/97	4	IGG 16 CT
19	Accelerated Aging under bias (4 samples)	168 hours bias at +100±5°C	30/1/97	4	6/2/97	4	IGG 16 CT
20	Post Aging Electrical Measurements (100% read and record)	Table A	6/2/97	4	6/2/97	4	IGG 16 CT
21	Test Report Collation				21/2/97		IGG 2 CT
22	Test Report Approval				21/2/97		IGG 2 CT
23	NOTES:-						

Report No: RD 219 Part Type: UC1825J Date: 19.2.97

FAILURE LIST AND APPLICABLE NCR

Test No.	Serial Number(s)	Failed Parameter and Failure Mode	Applicable NCR

Report No: RD 219 Part Type: UC1825J Date: 19.2.97

TEST EQUIPMENT LIST

Item, Type Number and Serial Number	CT Inventory Number	Function	Calibration Due
Item: Radiation Source Type No: Cobalt 60 Serial No: N/A	ERA's Facility	Irradiation	1 / 1 /1998
Item: SZ Type No: M3000 Serial No: 884769	CT339	ATE	28 / 3 /1997
Item: THURLBY Type No: PL320 Serial No: 2GP0623	CT288	PSU	22 / 4 /1997
Item: Type No: Serial No:			/ /199
Item: Type No: Serial No:			/ /199
Item: Type No: Serial No:			/ /199
Item: Type No: Serial No:			/ /199
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Item: Type No: Serial No:			/ /199

RADIATION TEST SUMMARY

PART TYPE : UC1825

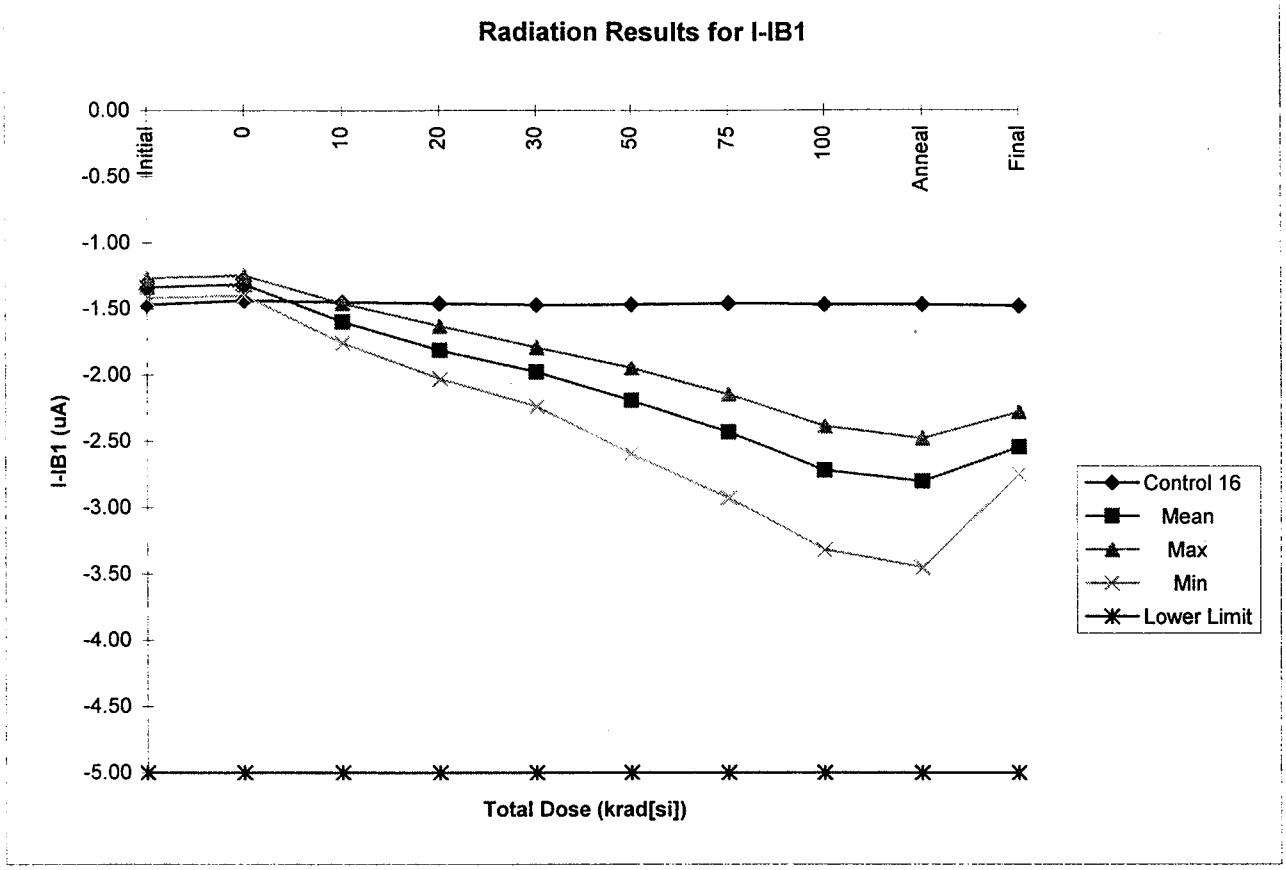
DESCRIPTION : MODULATOR CONTROLLER

REPORT NO. : RD 219

PARAMETERS PLOTTED :

I-IB1

NOTE : The results for the remaining parameters showed no significant change and hence plots were not considered necessary.



Dose (kRad)	Control 16	Mean	Max	Min	Lower Limit	Upper Limit	Std.Dev.
	(uA)	(uA)	(uA)	(uA)	(uA)	(uA)	
Initial	-1.47	-1.34	-1.27	-1.42	-5	-	0.06
0	-1.44	-1.32	-1.25	-1.40	-5	-	0.06
10	-1.45	-1.60	-1.46	-1.76	-5	-	0.13
20	-1.46	-1.82	-1.63	-2.03	-5	-	0.18
30	-1.47	-1.98	-1.79	-2.24	-5	-	0.21
50	-1.47	-2.20	-1.95	-2.60	-5	-	0.30
75	-1.46	-2.44	-2.15	-2.93	-5	-	0.36
100	-1.47	-2.72	-2.39	-3.32	-5	-	0.43
Anneal	-1.47	-2.81	-2.48	-3.45	-5	-	0.46
Final	-1.48	-2.55	-2.28	-2.75	-5	-	0.22

Lot size for statistics : 4 devices

RD 219 Date code 9213