

## ICS Radiation Test Results

**RH117H VOLTAGE REGULATOR  
(BIASED)  
LINEAR TECHNOLOGY CORPORATION  
P.O. # 46147L**

DEVICE TYPE: RH117H VOLTAGE REGULATOR  
LINEAR TECHNOLOGY CORPORATION  
RADIATION SOURCE: SHEPHERD 484(Co60), 1.25MeV

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1,W-5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689  
P.O.#46147L

Test Conductor: AJ Kenna  
Test Administrator: Dr. Michael K. Gauthier

**ICS RADIATION TECHNOLOGIES, INC.**  
**8416 Florence Ave, Suite 207**  
**Downey, CA 90240-3949**

**TEL: 800-297-8688**

TEL: 562-923-1837

**FAX: 562-923-3609**

**INTERNET e-mail:** support@icsrad.com  
**www.icsrad.com**

## Radiation Test Results

**RH117H**  
**Positive Voltage Regulator**  
**Linear Technology Corporation**  
D/C 0706A, Lot# A21511.1, Wafer # 5  
Test Date 08-02-07  
Log# 1584 and 1585, TID Test  
P.O.# 46147L

This test consisted of two test logs, 1584 and 1585. The test was to compare the radiation effects differences between two bias conditions: Log 1584, had +30 volts and Log 1585 was unbiased with all leads grounded. The 15 test requirements and one "Information Only" test are stated in test procedure RTP 689, dated March 23, 2007.

The test results indicated were very little difference between the two bias conditions for all parameters. The test results of the two tests (biased and unbiased) were less than the LTC data sheet limits of 20krad(Si) at the 50krad(Si) test level.

These lots **PASSED** the 15 test requirements as stated in the Radiation Test Procedure RTP 689, dated March 23, 2007.

**NOTE:** To simplify the following data analysis, all negative numbers have been converted to Absolute numbers. This matches with the Absolute numbers used on the manufacturers data sheets.

### **TID BIASED DEVICES, Log 1584**

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.239V and minimum voltage was 1.229V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.237V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0005%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 8.52mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.252%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.3 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.49 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.22 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.45mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.985A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 125dB.

## TID UNBIASED (GROUNDED) DEVICES, Log 1585

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.248V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.244V and minimum voltage was 1.236V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.243V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0008%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 9.26mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.259%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.2 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.2 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.45 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.30mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.957A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V: At 50krad(Si),** the parameter minimum was 127dB.

## **ANOMOLIES:**

There were no device anomalies during this test.

If you should require any further clarification on this matter, please contact me directly: TEL-562-923-1837, FAX-562-923-3609, or E-Mail [mike@icsrad.com](mailto:mike@icsrad.com).

ICS Radiation Technologies, Inc.

Dr. Michael K. Gauthier, P.E.

President

September 19, 2007

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.  
**Lot No:** Date Code:

Package Type: H, 3-lead Can (TO-39)

No. of Devices Supplied: 11

No. of Devices to be tested: Bias Condition #1, 5 Devices  
Bias Condition #2, 5 Devices  
Control, 1 Device

=====

**RADIATION CONDITIONS:** MIL-STD-883E, Method 1019.6

Facility: Shepherd 484, Co60 Energy: 1.25 MeV

Total Dose krad(Si)	7	15	30	50	Biased Anneal 24 hr @ 25°C	Biased Anneal 168 hr @ 100°C
Dose Rate rad(Si)/s	50					

**BIAS CONDITIONS DURING IRRADIATION:**

“ON” BIAS CONDITION # 1

Pin #	Name	Voltage
1	Input	+15 Volts, 0.1µF to -15 Volts.
2	Adjust	2kΩ to -15Volts
3	Output	61.9Ω to -15 Volts

“OFF” BIAS CONDITION # 2 All pins to GROUND.

**Device Type:** RH117H Positive Voltage Regulator

RADIATION TEST PROCEDURE

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

TEST	TEST NAME	TEST CONDITIONS	Limits			Units	
			Exposure Levels	20k	50k		
				20k	50k	100k	
1	Voltage Reference	VDIF=3V, IL=10mA		1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
2	Voltage Reference	VDIF=40V, IL=10mA		1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
3	Voltage Reference	VDIF=3V, IL=0.5A		1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
4	Voltage Reference	VDIF=40V, IL=0.05A		1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
5	Line Regulation	3V ≤ (Vin-Vout) ≤ 40V Iout=10mA		0.02	0.02	0.03	%/V Max
6	Load Regulation 1	10mA ≤ Iout ≤ Imax Vout ≤ 5V		42	48	60	mV Max
7	Load Regulation 2	10mA ≤ Iout ≤ Imax Vout ≥ 5V		0.84	0.96	1.20	% Max
8	Adjust Pin Current 1	VDIF=3V, IL=10mA		100	100	100	µA Max
9	Adjust Pin Current 2	VDIF=5V, IL=10mA		100	100	100	µA Max
10	Adjust Pin Current 3	VDIF=40V, IL=10mA		100	100	100	µA Max
11	Adjust Pin Current Change	VDIF=5V 10mA ≤ Iout ≤ 0.5A		5	5	5	µA Max
12	Adjust Pin Current Change	VDIF=3V to 40V IL=10mA		5	5	5	µA Max
13	Minimum Load Current	VDIF=40V		5	5	5	mA Max
14	Short Circuit Current	VDIF=15V		0.5	0.5	0.5	A Min
15	Short Circuit Current	VDIF=40V		0.15	0.15	0.15	A Min
16	Ripple Rejection	CADJ=10µF, Vout=10V		Record	Record	Record	dB

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

Measurements shall be made at room (ambient) temperature.

Test conducted using an Analog Devices LTS-2020 Component Test System, with the LTS-2101 Family Board, LTS0606 Regulator Socket Assembly, LTS0325/RH117 DUT board .

Software: RH117H/K 1.02 program.

Data Processing use King Program: P99/90 Ktl =4.666 for 5 devices

Return samples to customer.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

REFERENCE OUTPUT VDIFF=3V IL=10MA (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		1.250E+00	1.249E+00	1.249E+00	1.249E+00	1.249E+00	1.249E+00
	600		1.246E+00	1.245E+00	1.243E+00	1.241E+00	1.240E+00	1.240E+00
	601		1.243E+00	1.242E+00	1.241E+00	1.240E+00	1.239E+00	1.238E+00
	602		1.246E+00	1.245E+00	1.244E+00	1.243E+00	1.242E+00	1.242E+00
	605		1.249E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
	606		1.243E+00	1.242E+00	1.242E+00	1.241E+00	1.239E+00	1.240E+00
MINIMUM			1.243E+00	1.242E+00	1.241E+00	1.240E+00	1.239E+00	1.238E+00
MEAN			1.245E+00	1.244E+00	1.244E+00	1.242E+00	1.241E+00	1.241E+00
MAXIMUM			1.249E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
+P 99/90			1.257E+00	1.256E+00	1.256E+00	1.255E+00	1.253E+00	1.255E+00
-P 99/90			1.234E+00	1.233E+00	1.231E+00	1.229E+00	1.229E+00	1.227E+00
SIGMA			2.510E-03	2.510E-03	2.702E-03	2.793E-03	2.550E-03	3.033E-03

---

REFERENCE OUTPUT VDIFF=3V IL=10MA (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		-1.000E-03	-1.000E-03	-1.000E-03	-1.000E-03	-1.000E-03	-1.000E-03
	600		-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-3.000E-03
	601		-1.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-5.000E-03	-2.000E-03
	602		-1.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	605		-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-3.000E-03	-2.000E-03
	606		-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-3.000E-03	-2.000E-03
MINIMUM			-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-3.000E-03
MEAN			-1.000E-03	-1.800E-03	-3.000E-03	-4.400E-03	-4.200E-03	-2.200E-03
MAXIMUM			-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-3.000E-03	-2.000E-03
+P 99/90			-1.000E-03	2.104E-03	2.715E-03	-2.266E-04	1.884E-03	-1.133E-04
-P 99/90			-1.000E-03	-5.704E-03	-8.715E-03	-8.573E-03	-1.028E-02	-4.287E-03
SIGMA			1.216E-16	8.367E-04	1.225E-03	8.944E-04	1.304E-03	4.472E-04

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

REFERENCE OUTPUT VDIFF=40V IL=10MA (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		1.249E+00	1.249E+00	1.249E+00	1.249E+00	1.249E+00	1.249E+00
	600		1.246E+00	1.245E+00	1.243E+00	1.241E+00	1.240E+00	1.240E+00
	601		1.243E+00	1.242E+00	1.241E+00	1.240E+00	1.239E+00	1.239E+00
	602		1.246E+00	1.245E+00	1.244E+00	1.243E+00	1.242E+00	1.242E+00
	605		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
	606		1.243E+00	1.242E+00	1.242E+00	1.241E+00	1.239E+00	1.240E+00
	MINIMUM		1.243E+00	1.242E+00	1.241E+00	1.240E+00	1.239E+00	1.241E+00
	MEAN		1.245E+00	1.244E+00	1.244E+00	1.242E+00	1.241E+00	1.243E+00
	MAXIMUM		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
	+P 99/90		1.255E+00	1.256E+00	1.256E+00	1.255E+00	1.253E+00	1.254E+00
	-P 99/90		1.235E+00	1.233E+00	1.231E+00	1.229E+00	1.229E+00	1.228E+00
	SIGMA		2.168E-03	2.510E-03	2.702E-03	2.793E-03	2.550E-03	2.793E-03

---

REFERENCE OUTPUT VDIFF=40V IL=10MA (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	600		-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-3.000E-03
	601		-1.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	602		-1.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	605		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-2.000E-03	-1.000E-03
	606		-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-3.000E-03	-2.000E-03
	MINIMUM		-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-3.000E-03
	MEAN		-8.000E-04	-1.600E-03	-2.800E-03	-4.200E-03	-3.800E-03	-2.000E-03
	MAXIMUM		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-2.000E-03	-1.000E-03
	+P 99/90		1.287E-03	3.720E-03	4.121E-03	9.113E-04	3.121E-03	1.299E-03
	-P 99/90		-2.887E-03	-6.920E-03	-9.721E-03	-9.311E-03	-1.072E-02	-5.299E-03
	SIGMA		4.472E-04	1.140E-03	1.483E-03	1.095E-03	1.483E-03	7.071E-04

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

REFERENCE OUTPUT VDIFF=3V IL=0.5A (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N -----								
CONTROL	604		1.243E+00	1.245E+00	1.246E+00	1.246E+00	1.244E+00	1.246E+00
	600		1.239E+00	1.240E+00	1.238E+00	1.234E+00	1.235E+00	1.236E+00
	601		1.237E+00	1.238E+00	1.237E+00	1.235E+00	1.229E+00	1.234E+00
	602		1.239E+00	1.241E+00	1.239E+00	1.234E+00	1.235E+00	1.237E+00
	605		1.242E+00	1.242E+00	1.243E+00	1.238E+00	1.239E+00	1.240E+00
	606		1.236E+00	1.237E+00	1.237E+00	1.234E+00	1.232E+00	1.232E+00
MINIMUM			1.236E+00	1.237E+00	1.237E+00	1.234E+00	1.229E+00	1.232E+00
MEAN			1.239E+00	1.240E+00	1.239E+00	1.235E+00	1.234E+00	1.236E+00
MAXIMUM			1.242E+00	1.242E+00	1.243E+00	1.238E+00	1.239E+00	1.240E+00
+P 99/90			1.249E+00	1.249E+00	1.250E+00	1.243E+00	1.251E+00	1.250E+00
-P 99/90			1.228E+00	1.230E+00	1.227E+00	1.227E+00	1.217E+00	1.222E+00
SIGMA			2.302E-03	2.074E-03	2.490E-03	1.732E-03	3.742E-03	3.033E-03

---

REFERENCE OUTPUT VDIFF=3V IL=0.5A (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N -----								
CONTROL	604		2.000E-03	3.000E-03	3.000E-03	1.000E-03	3.000E-03	-1.000E-03
	600		1.000E-03	-1.000E-03	-5.000E-03	-4.000E-03	-3.000E-03	-5.000E-03
	601		1.000E-03	0.000E+00	-2.000E-03	-8.000E-03	-3.000E-03	-1.000E-03
	602		2.000E-03	0.000E+00	-5.000E-03	-4.000E-03	-2.000E-03	-1.000E-03
	605		0.000E+00	1.000E-03	-4.000E-03	-3.000E-03	-2.000E-03	-4.000E-03
	606		1.000E-03	1.000E-03	-2.000E-03	-4.000E-03	-4.000E-03	-4.000E-03
MINIMUM			0.000E+00	-1.000E-03	-5.000E-03	-8.000E-03	-4.000E-03	-5.000E-03
MEAN			1.000E-03	2.000E-04	-3.600E-03	-4.600E-03	-2.800E-03	-3.000E-03
MAXIMUM			2.000E-03	1.000E-03	-2.000E-03	-3.000E-03	-2.000E-03	-1.000E-03
+P 99/90			4.299E-03	4.104E-03	3.476E-03	4.496E-03	1.104E-03	5.729E-03
-P 99/90			-2.299E-03	-3.704E-03	-1.068E-02	-1.370E-02	-6.704E-03	-1.173E-02
SIGMA			7.071E-04	8.367E-04	1.517E-03	1.949E-03	8.367E-04	1.871E-03

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

REFERENCE OUTPUT VDIFF=40V IL=0.05A (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		1.249E+00	1.249E+00	1.248E+00	1.249E+00	1.248E+00	1.249E+00
	600		1.245E+00	1.245E+00	1.242E+00	1.241E+00	1.239E+00	1.239E+00
	601		1.242E+00	1.241E+00	1.241E+00	1.239E+00	1.237E+00	1.238E+00
	602		1.245E+00	1.245E+00	1.244E+00	1.242E+00	1.241E+00	1.242E+00
	605		1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.245E+00	1.245E+00
	606		1.242E+00	1.242E+00	1.241E+00	1.240E+00	1.239E+00	1.240E+00
MINIMUM			1.242E+00	1.241E+00	1.241E+00	1.239E+00	1.237E+00	1.238E+00
MEAN			1.244E+00	1.244E+00	1.243E+00	1.242E+00	1.240E+00	1.241E+00
MAXIMUM			1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.245E+00	1.245E+00
+P 99/90			1.256E+00	1.255E+00	1.255E+00	1.254E+00	1.254E+00	1.255E+00
-P 99/90			1.233E+00	1.233E+00	1.231E+00	1.229E+00	1.226E+00	1.227E+00
SIGMA			2.510E-03	2.449E-03	2.550E-03	2.702E-03	3.033E-03	2.881E-03

---

REFERENCE OUTPUT VDIFF=40V IL=0.05A (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		0.000E+00	-1.000E-03	0.000E+00	-1.000E-03	0.000E+00	0.000E+00
	600		0.000E+00	-3.000E-03	-4.000E-03	-6.000E-03	-6.000E-03	-2.000E-03
	601		-1.000E-03	-1.000E-03	-3.000E-03	-5.000E-03	-4.000E-03	-2.000E-03
	602		0.000E+00	-1.000E-03	-3.000E-03	-4.000E-03	-3.000E-03	-1.000E-03
	605		-1.000E-03	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-2.000E-03
	606		0.000E+00	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-2.000E-03
MINIMUM			-1.000E-03	-3.000E-03	-4.000E-03	-6.000E-03	-6.000E-03	-2.000E-03
MEAN			-4.000E-04	-1.400E-03	-2.800E-03	-4.200E-03	-3.800E-03	-1.800E-03
MAXIMUM			0.000E+00	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
+P 99/90			2.156E-03	2.773E-03	1.104E-03	1.884E-03	2.284E-03	2.867E-04
-P 99/90			-2.956E-03	-5.573E-03	-6.704E-03	-1.028E-02	-9.884E-03	-3.887E-03
SIGMA			5.477E-04	8.944E-04	8.367E-04	1.304E-03	1.304E-03	4.472E-04

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV  
Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689  
P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

LINE REG VDIFF =3V TO 40V IL=10MA                          (%/V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.00E-04	3.00E-04	-1.00E-04	2.00E-04	-1.00E-04	1.00E-04
	600		1.00E-04	1.00E-04	7.00E-04	3.00E-04	5.00E-04	9.00E-04
	601		4.00E-04	5.00E-04	4.00E-04	8.00E-04	9.00E-04	6.00E-04
	602		5.00E-04	3.00E-04	6.00E-04	5.00E-04	3.00E-04	5.00E-04
	605		5.00E-04	4.00E-04	0.00E+00	0.00E+00	5.00E-04	3.00E-04
	606		3.00E-04	2.00E-04	2.00E-04	5.00E-04	3.00E-04	3.00E-04
MINIMUM		1.00E-04	1.00E-04	0.00E+00	0.00E+00	3.00E-04	3.00E-04	1.00E-04
MEAN		3.60E-04	3.00E-04	3.80E-04	4.20E-04	5.00E-04	5.20E-04	3.20E-04
MAXIMUM		5.00E-04	5.00E-04	7.00E-04	8.00E-04	9.00E-04	9.00E-04	7.00E-04
+P 99/90		1.14E-03	1.04E-03	1.72E-03	1.80E-03	1.64E-03	1.68E-03	1.48E-03
-P 99/90		-4.21E-04	-4.38E-04	-9.56E-04	-9.56E-04	-6.43E-04	-6.42E-04	-8.42E-04
SIGMA		1.67E-04	1.58E-04	2.86E-04	2.95E-04	2.45E-04	2.49E-04	2.49E-04

---

LINE REG VDIFF =3V TO 40V IL=10MA                          (%/V)                          [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.00E-04	-2.00E-04	1.00E-04	-2.00E-04	0.00E+00	2.00E-04
	600		0.00E+00	6.00E-04	2.00E-04	4.00E-04	8.00E-04	6.00E-04
	601		1.00E-04	0.00E+00	4.00E-04	5.00E-04	2.00E-04	-1.00E-04
	602		-2.00E-04	1.00E-04	0.00E+00	-2.00E-04	0.00E+00	-1.00E-04
	605		-1.00E-04	-5.00E-04	-5.00E-04	0.00E+00	-2.00E-04	-4.00E-04
	606		-1.00E-04	-1.00E-04	2.00E-04	0.00E+00	0.00E+00	-2.00E-04
MINIMUM			-2.00E-04	-5.00E-04	-5.00E-04	-2.00E-04	-2.00E-04	-4.00E-04
MEAN			-6.00E-05	2.00E-05	6.00E-05	1.40E-04	1.60E-04	-4.00E-05
MAXIMUM			1.00E-04	6.00E-04	4.00E-04	5.00E-04	8.00E-04	6.00E-04
+P 99/90			4.72E-04	1.87E-03	1.66E-03	1.52E-03	1.96E-03	1.72E-03
-P 99/90			-5.92E-04	-1.83E-03	-1.54E-03	-1.24E-03	-1.64E-03	-1.80E-03
SIGMA			1.14E-04	3.96E-04	3.44E-04	2.97E-04	3.85E-04	3.78E-04

---

DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

LOAD REG VOUT<=5V IL=10 MA TO 0.5A (MV)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.38E+00	5.74E+00	6.48E+00	6.77E+00	8.76E+00	6.84E+00
	600		7.11E+00	7.02E+00	7.87E+00	6.65E+00	7.11E+00	7.85E+00
	601		1.06E+01	5.81E+00	6.20E+00	5.88E+00	8.25E+00	6.15E+00
	602		7.26E+00	5.83E+00	6.59E+00	7.21E+00	8.52E+00	6.15E+00
	605		6.74E+00	7.02E+00	5.42E+00	7.01E+00	8.24E+00	6.62E+00
	606		6.67E+00	6.79E+00	7.33E+00	7.92E+00	7.38E+00	6.57E+00
	MINIMUM		6.67E+00	5.81E+00	5.42E+00	5.88E+00	7.11E+00	6.15E+00
	MEAN		7.68E+00	6.49E+00	6.68E+00	6.93E+00	7.90E+00	6.67E+00
	MAXIMUM		1.06E+01	7.02E+00	7.87E+00	7.92E+00	8.52E+00	8.98E+00
	+P 99/90		1.55E+01	9.41E+00	1.11E+01	1.04E+01	1.08E+01	9.92E+00
	-P 99/90		-1.25E-01	3.58E+00	2.23E+00	3.44E+00	5.02E+00	3.41E+00
	SIGMA		1.67E+00	6.24E-01	9.54E-01	7.48E-01	6.17E-01	6.98E-01
<hr/>								

LOAD REG VOUT<=5V IL=10 MA TO 0.5A (MV) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.36E+00	3.10E+00	3.39E+00	5.37E+00	3.45E+00	4.01E+00
	600		-8.40E-02	7.58E-01	-4.55E-01	0.00E+00	7.41E-01	-9.94E-01
	601		-4.83E+00	-4.45E+00	-4.77E+00	-2.39E+00	-4.50E+00	-4.01E+00
	602		-1.43E+00	-6.73E-01	-5.00E-02	1.26E+00	-1.11E+00	9.10E-01
	605		2.87E-01	-1.31E+00	2.70E-01	1.50E+00	-1.18E-01	2.24E+00
	606		1.18E-01	6.57E-01	1.25E+00	7.07E-01	-1.01E-01	1.74E+00
	MINIMUM		-4.83E+00	-4.45E+00	-4.77E+00	-2.39E+00	-4.50E+00	-4.01E+00
	MEAN		-1.19E+00	-1.00E+00	-7.51E-01	2.16E-01	-1.02E+00	-2.34E-02
	MAXIMUM		2.87E-01	7.58E-01	1.25E+00	1.50E+00	7.41E-01	2.24E+00
	+P 99/90		8.83E+00	8.87E+00	1.01E+01	7.53E+00	8.56E+00	1.19E+01
	-P 99/90		-1.12E+01	-1.09E+01	-1.16E+01	-7.10E+00	-1.06E+01	-1.19E+01
	SIGMA		2.15E+00	2.12E+00	2.33E+00	1.57E+00	2.05E+00	2.54E+00
<hr/>								

DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)  
RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

LOAD REG VOUT>=5V IL=10MA TO 0.5A (%)

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-2.33E-01	-2.05E-01	-2.15E-01	-2.07E-01	-2.15E-01	-1.93E-01
	600		-1.76E-01	-1.81E-01	-1.90E-01	-1.67E-01	-1.76E-01	-1.68E-01
	601		-2.41E-01	-1.52E-01	-1.57E-01	-1.56E-01	-2.14E-01	-1.59E-01
	602		-2.01E-01	-1.86E-01	-2.07E-01	-2.01E-01	-2.21E-01	-2.19E-01
	605		-1.60E-01	-1.84E-01	-1.99E-01	-2.35E-01	-2.52E-01	-1.83E-01
	606		-1.70E-01	-2.41E-01	-2.01E-01	-3.62E-01	-1.83E-01	-1.73E-01
	MINIMUM		-2.41E-01	-2.41E-01	-2.07E-01	-3.62E-01	-2.52E-01	-2.19E-01
	MEAN		-1.90E-01	-1.89E-01	-1.91E-01	-2.24E-01	-2.09E-01	-1.80E-01
	MAXIMUM		-1.60E-01	-1.52E-01	-1.57E-01	-1.56E-01	-1.76E-01	-1.59E-01
+P 99/90			-3.81E-02	-3.81E-02	-9.82E-02	1.63E-01	-6.57E-02	-7.19E-02
-P 99/90			-3.41E-01	-3.39E-01	-2.83E-01	-6.12E-01	-3.53E-01	-2.89E-01
SIGMA			3.25E-02	3.23E-02	1.99E-02	8.30E-02	3.08E-02	2.33E-02
								4.18E-02

---

LOAD REG VOUT>=5V IL=10MA TO 0.5A (%) [DELTA]

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.80E-02	1.80E-02	2.60E-02	1.80E-02	4.00E-02	1.80E-02
	600		-5.00E-03	-1.40E-02	9.00E-03	0.00E+00	8.00E-03	1.30E-02
	601		8.90E-02	8.40E-02	8.50E-02	2.70E-02	8.20E-02	7.50E-02
	602		1.50E-02	-6.00E-03	0.00E+00	-2.00E-02	-1.80E-02	-2.80E-02
	605		-2.40E-02	-3.90E-02	-7.50E-02	-9.20E-02	-2.30E-02	-4.70E-02
	606		-7.10E-02	-3.10E-02	-1.92E-01	-1.30E-02	-3.00E-03	-9.10E-02
	MINIMUM		-7.10E-02	-3.90E-02	-1.92E-01	-9.20E-02	-2.30E-02	-9.10E-02
	MEAN		8.00E-04	-1.20E-03	-3.46E-02	-1.96E-02	9.20E-03	-1.56E-02
	MAXIMUM		8.90E-02	8.40E-02	8.50E-02	2.70E-02	8.20E-02	7.50E-02
+P 99/90			2.75E-01	2.29E-01	4.54E-01	1.87E-01	2.08E-01	2.78E-01
-P 99/90			-2.73E-01	-2.32E-01	-5.23E-01	-2.26E-01	-1.89E-01	-3.09E-01
SIGMA			5.87E-02	4.94E-02	1.05E-01	4.43E-02	4.25E-02	6.30E-02

DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

BIAS CURRENT VDIFF=3V IL=10MA

(uA)

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.86E+01	3.91E+01	3.84E+01	3.58E+01	3.88E+01	3.76E+01
	600		4.00E+01	4.05E+01	4.20E+01	3.83E+01	4.00E+01	3.84E+01
	601		4.06E+01	4.11E+01	4.13E+01	3.81E+01	4.03E+01	3.91E+01
	602		3.98E+01	3.98E+01	4.02E+01	3.77E+01	3.97E+01	3.79E+01
	605		3.91E+01	3.95E+01	3.95E+01	3.68E+01	3.90E+01	3.74E+01
	606		3.96E+01	3.97E+01	3.77E+01	3.68E+01	3.96E+01	3.81E+01
	MINIMUM		3.91E+01	3.95E+01	3.77E+01	3.68E+01	3.90E+01	3.74E+01
	MEAN		3.98E+01	4.01E+01	4.01E+01	3.75E+01	3.97E+01	3.82E+01
	MAXIMUM		4.06E+01	4.11E+01	4.20E+01	3.83E+01	4.03E+01	3.91E+01
	+P 99/90		4.25E+01	4.32E+01	4.80E+01	4.08E+01	4.20E+01	4.11E+01
	-P 99/90		3.72E+01	3.69E+01	3.22E+01	3.42E+01	3.74E+01	3.53E+01
	SIGMA		5.63E-01	6.75E-01	1.69E+00	7.03E-01	4.98E-01	6.23E-01
<hr/>								

BIAS CURRENT VDIFF=3V IL=10MA

(uA)

[DELTA]

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		5.10E-01	-2.00E-01	-2.79E+00	1.60E-01	-1.02E+00	6.40E-01
	600		4.70E-01	1.99E+00	-1.71E+00	-6.00E-02	-1.64E+00	5.60E-01
	601		4.70E-01	6.50E-01	-2.56E+00	-2.80E-01	-1.51E+00	-1.10E-01
	602		-6.00E-02	4.00E-01	-2.16E+00	-1.50E-01	-1.93E+00	-5.60E-01
	605		4.00E-01	4.00E-01	-2.28E+00	-9.00E-02	-1.65E+00	5.30E-01
	606		7.00E-02	-1.94E+00	-2.79E+00	-2.00E-02	-1.51E+00	6.40E-01
	MINIMUM		-6.00E-02	-1.94E+00	-2.79E+00	-2.80E-01	-1.93E+00	-5.60E-01
	MEAN		2.70E-01	3.00E-01	-2.30E+00	-1.20E-01	-1.65E+00	2.12E-01
	MAXIMUM		4.70E-01	1.99E+00	-1.71E+00	-2.00E-02	-1.51E+00	6.40E-01
	+P 99/90		1.43E+00	6.91E+00	-3.82E-01	3.52E-01	-8.48E-01	2.66E+00
	-P 99/90		-8.87E-01	-6.31E+00	-4.22E+00	-5.92E-01	-2.45E+00	-2.24E+00
	SIGMA		2.48E-01	1.42E+00	4.11E-01	1.01E-01	1.72E-01	5.26E-01
<hr/>								

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**ICS RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

BIAS CURRENT VDIFF=5V IL=10MA			(uA)					
FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.86E+01	3.91E+01	3.84E+01	3.59E+01	3.88E+01	3.76E+01
	600		4.01E+01	4.05E+01	4.22E+01	3.83E+01	3.94E+01	3.84E+01
	601		4.07E+01	4.10E+01	4.13E+01	3.81E+01	4.04E+01	3.92E+01
	602		3.98E+01	3.99E+01	4.07E+01	3.76E+01	3.97E+01	3.79E+01
	605		3.91E+01	3.95E+01	3.96E+01	3.67E+01	3.90E+01	3.75E+01
	606		3.95E+01	3.98E+01	3.77E+01	3.68E+01	3.96E+01	3.80E+01
	MINIMUM		3.91E+01	3.95E+01	3.77E+01	3.67E+01	3.90E+01	3.75E+01
	MEAN		3.98E+01	4.01E+01	4.03E+01	3.75E+01	3.96E+01	3.82E+01
	MAXIMUM		4.07E+01	4.10E+01	4.22E+01	3.83E+01	4.04E+01	3.92E+01
	+P 99/90		4.27E+01	4.30E+01	4.84E+01	4.10E+01	4.21E+01	4.11E+01
	-P 99/90		3.70E+01	3.72E+01	3.21E+01	3.40E+01	3.72E+01	3.53E+01
	SIGMA		6.13E-01	6.26E-01	1.74E+00	7.58E-01	5.19E-01	6.28E-01

---

BIAS CURRENT VDIFF=5V IL=10MA			[DELTA]					
FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		5.10E-01	-2.00E-01	-2.74E+00	1.60E-01	-1.02E+00	6.40E-01
	600		4.00E-01	2.09E+00	-1.74E+00	-6.63E-01	-1.65E+00	5.30E-01
	601		3.40E-01	6.10E-01	-2.56E+00	-2.60E-01	-1.53E+00	-3.80E-01
	602		7.00E-02	8.90E-01	-2.25E+00	-1.10E-01	-1.87E+00	-5.10E-01
	605		4.30E-01	5.20E-01	-2.40E+00	-2.00E-02	-1.55E+00	5.60E-01
	606		2.10E-01	-1.89E+00	-2.74E+00	3.00E-02	-1.53E+00	6.10E-01
	MINIMUM		7.00E-02	-1.89E+00	-2.74E+00	-6.63E-01	-1.87E+00	-5.10E-01
	MEAN		2.90E-01	4.44E-01	-2.34E+00	-2.05E-01	-1.63E+00	1.62E-01
	MAXIMUM		4.30E-01	2.09E+00	-1.74E+00	3.00E-02	-1.53E+00	6.10E-01
	+P 99/90		9.86E-01	7.20E+00	-5.61E-01	1.10E+00	-9.49E-01	2.76E+00
	-P 99/90		-4.06E-01	-6.31E+00	-4.11E+00	-1.51E+00	-2.30E+00	-2.44E+00
	SIGMA		1.49E-01	1.45E+00	3.81E-01	2.79E-01	1.45E-01	5.57E-01

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

BIAS CURRENT VDIFF=40V IL=10MA (uA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.87E+01	3.92E+01	3.83E+01	3.59E+01	3.89E+01	3.76E+01
	600		4.01E+01	4.06E+01	3.83E+01	3.82E+01	4.01E+01	3.85E+01
	601		4.07E+01	4.13E+01	4.13E+01	3.82E+01	4.04E+01	3.93E+01
	602		3.99E+01	4.03E+01	4.06E+01	3.77E+01	3.98E+01	3.81E+01
	605		3.91E+01	3.95E+01	3.97E+01	3.68E+01	3.89E+01	3.75E+01
	606		3.96E+01	3.99E+01	3.77E+01	3.70E+01	3.96E+01	3.81E+01
	MINIMUM		3.91E+01	3.95E+01	3.77E+01	3.68E+01	3.89E+01	3.75E+01
	MEAN		3.99E+01	4.03E+01	3.95E+01	3.76E+01	3.98E+01	3.83E+01
	MAXIMUM		4.07E+01	4.13E+01	4.13E+01	3.82E+01	4.04E+01	3.93E+01
	+P 99/90		4.26E+01	4.34E+01	4.66E+01	4.06E+01	4.24E+01	4.12E+01
	-P 99/90		3.72E+01	3.72E+01	3.24E+01	3.45E+01	3.71E+01	3.54E+01
	SIGMA		5.79E-01	6.68E-01	1.52E+00	6.57E-01	5.61E-01	6.30E-01

---

BIAS CURRENT VDIFF=40V IL=10MA (uA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		5.10E-01	-4.30E-01	-2.79E+00	1.50E-01	-1.09E+00	5.50E-01
	600		4.70E-01	-1.81E+00	-1.89E+00	-2.00E-02	-1.60E+00	5.10E-01
	601		6.00E-01	6.00E-01	-2.47E+00	-2.20E-01	-1.40E+00	-3.40E-01
	602		3.40E-01	6.70E-01	-2.22E+00	-1.70E-01	-1.80E+00	-4.90E-01
	605		4.20E-01	5.60E-01	-2.30E+00	-1.60E-01	-1.56E+00	6.00E-01
	606		2.70E-01	-1.94E+00	-2.61E+00	-2.00E-02	-1.45E+00	8.20E-01
	MINIMUM		2.70E-01	-1.94E+00	-2.61E+00	-2.20E-01	-1.80E+00	-4.90E-01
	MEAN		4.20E-01	-3.84E-01	-2.30E+00	-1.18E-01	-1.56E+00	2.20E-01
	MAXIMUM		6.00E-01	6.70E-01	-1.89E+00	-2.00E-02	-1.40E+00	8.20E-01
	+P 99/90		1.01E+00	5.97E+00	-1.02E+00	3.13E-01	-8.36E-01	2.99E+00
	-P 99/90		-1.69E-01	-6.74E+00	-3.57E+00	-5.49E-01	-2.29E+00	-2.55E+00
	SIGMA		1.26E-01	1.36E+00	2.74E-01	9.23E-02	1.56E-01	5.93E-01

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (uA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-1.30E-01	2.20E-01	3.60E-01	0.00E+00	2.70E-01	-7.00E-02
	600		1.60E-01	9.00E-02	4.00E-02	4.90E-01	4.00E-02	2.90E-01
	601		-1.10E-01	4.00E-01	2.20E-01	4.00E-02	3.10E-01	1.80E-01
	602		4.00E-02	7.00E-02	3.10E-01	0.00E+00	1.80E-01	0.00E+00
	605		9.00E-02	9.00E-02	3.60E-01	4.50E-01	0.00E+00	2.20E-01
	606		-2.20E-01	1.30E-01	-1.30E-01	4.00E-02	4.90E-01	9.00E-02
	MINIMUM		-2.20E-01	7.00E-02	-1.30E-01	0.00E+00	0.00E+00	0.00E+00
	MEAN		-8.00E-03	1.56E-01	1.60E-01	2.04E-01	2.04E-01	1.56E-01
	MAXIMUM		1.60E-01	4.00E-01	3.60E-01	4.90E-01	4.90E-01	2.90E-01
	+P 99/90		7.13E-01	8.01E-01	1.11E+00	1.34E+00	1.14E+00	6.85E-01
	-P 99/90		-7.29E-01	-4.89E-01	-7.87E-01	-9.33E-01	-7.35E-01	-3.73E-01
	SIGMA		1.54E-01	1.38E-01	2.03E-01	2.44E-01	2.01E-01	1.13E-01
								1.28E-01

---

BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (uA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.50E-01	4.90E-01	1.30E-01	4.00E-01	6.00E-02	1.30E-01
	600		-7.00E-02	-1.20E-01	3.30E-01	-1.20E-01	1.30E-01	2.90E-01
	601		5.10E-01	3.30E-01	1.50E-01	4.20E-01	2.90E-01	3.30E-01
	602		3.00E-02	2.70E-01	-4.00E-02	1.40E-01	-4.00E-02	1.40E-01
	605		0.00E+00	2.70E-01	3.60E-01	-9.00E-02	1.30E-01	3.60E-01
	606		3.50E-01	9.00E-02	2.60E-01	7.10E-01	3.10E-01	4.90E-01
	MINIMUM		-7.00E-02	-1.20E-01	-4.00E-02	-1.20E-01	-4.00E-02	1.40E-01
	MEAN		1.64E-01	1.68E-01	2.12E-01	2.12E-01	1.64E-01	3.22E-01
	MAXIMUM		5.10E-01	3.30E-01	3.60E-01	7.10E-01	3.10E-01	4.90E-01
	+P 99/90		1.34E+00	1.03E+00	9.70E-01	1.86E+00	8.28E-01	9.12E-01
	-P 99/90		-1.01E+00	-6.93E-01	-5.46E-01	-1.43E+00	-5.00E-01	-2.68E-01
	SIGMA		2.52E-01	1.84E-01	1.62E-01	3.53E-01	1.42E-01	1.26E-01

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

BIAS CHANGE VDIFF=3V TO 40V IL=10MA (uA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		0.00E+00	-1.30E-01	-9.00E-02	-9.00E-02	0.00E+00	-4.00E-02
	600		-9.00E-02	-1.80E-01	-1.80E-01	4.00E-02	-4.00E-02	-4.00E-02
	601		-4.00E-02	-1.80E-01	-2.20E-01	-9.00E-02	2.00E-02	2.00E-02
	602		-9.00E-02	-7.00E-02	-1.10E-01	-9.00E-02	-2.20E-01	-1.80E-01
	605		-7.00E-02	-4.00E-02	-1.30E-01	0.00E+00	-9.00E-02	-1.60E-01
	606		-9.00E-02	1.10E-01	-1.30E-01	-9.00E-02	2.20E-01	-3.60E-01
	MINIMUM		-9.00E-02	-1.80E-01	-2.20E-01	-9.00E-02	-2.20E-01	-3.60E-01
	MEAN		-7.60E-02	-7.20E-02	-1.54E-01	-4.60E-02	-2.20E-02	-1.44E-01
	MAXIMUM		-4.00E-02	1.10E-01	-1.10E-01	4.00E-02	2.20E-01	2.00E-02
	+P 99/90		2.62E-02	4.87E-01	5.62E-02	2.43E-01	7.32E-01	5.40E-01
	-P 99/90		-1.78E-01	-6.31E-01	-3.64E-01	-3.35E-01	-7.76E-01	-8.28E-01
	SIGMA		2.19E-02	1.20E-01	4.51E-02	6.19E-02	1.62E-01	1.47E-01
<hr/>								

BIAS CHANGE VDIFF=3V TO 40V IL=10MA (uA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-1.30E-01	-9.00E-02	-9.00E-02	0.00E+00	-4.00E-02	-1.30E-01
	600		-9.00E-02	-9.00E-02	1.30E-01	5.00E-02	5.00E-02	0.00E+00
	601		-1.40E-01	-1.80E-01	-5.00E-02	6.00E-02	6.00E-02	-5.00E-02
	602		2.00E-02	-2.00E-02	0.00E+00	-1.30E-01	-9.00E-02	0.00E+00
	605		3.00E-02	-6.00E-02	7.00E-02	-2.00E-02	-9.00E-02	-1.10E-01
	606		2.00E-01	-4.00E-02	0.00E+00	3.10E-01	-2.70E-01	-9.00E-02
	MINIMUM		-1.40E-01	-1.80E-01	-5.00E-02	-1.30E-01	-2.70E-01	-1.10E-01
	MEAN		4.00E-03	-7.80E-02	3.00E-02	5.40E-02	-6.80E-02	-5.00E-02
	MAXIMUM		2.00E-01	-2.00E-02	1.30E-01	3.10E-01	6.00E-02	0.00E+00
	+P 99/90		6.16E-01	2.14E-01	3.58E-01	8.10E-01	5.58E-01	1.86E-01
	-P 99/90		-6.08E-01	-3.70E-01	-2.98E-01	-7.02E-01	-6.94E-01	-2.86E-01
	SIGMA		1.31E-01	6.26E-02	7.04E-02	1.62E-01	1.34E-01	5.05E-02
<hr/>								

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**ICS RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

MINIMUM LOAD CURRENT VDIFF=40V (MA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.08E+00	1.11E+00	1.13E+00	1.12E+00	1.10E+00	1.12E+00
	600		1.32E+00	1.32E+00	1.16E+00	1.28E+00	1.45E+00	1.47E+00
	601		1.34E+00	1.34E+00	1.34E+00	1.36E+00	1.40E+00	1.42E+00
	602		1.32E+00	1.34E+00	1.30E+00	1.32E+00	1.42E+00	1.44E+00
	605		1.14E+00	1.16E+00	1.16E+00	1.16E+00	1.20E+00	1.20E+00
	606		1.40E+00	1.40E+00	1.40E+00	1.42E+00	1.44E+00	1.45E+00
MINIMUM		1.14E+00	1.16E+00	1.16E+00	1.16E+00	1.20E+00	1.20E+00	1.18E+00
MEAN		1.30E+00	1.31E+00	1.27E+00	1.31E+00	1.38E+00	1.39E+00	1.36E+00
MAXIMUM		1.40E+00	1.40E+00	1.40E+00	1.42E+00	1.45E+00	1.47E+00	1.45E+00
+P 99/90		1.75E+00	1.72E+00	1.76E+00	1.75E+00	1.86E+00	1.90E+00	1.84E+00
-P 99/90		8.59E-01	8.95E-01	7.84E-01	8.66E-01	8.97E-01	8.79E-01	8.78E-01
SIGMA		9.53E-02	8.87E-02	1.05E-01	9.46E-02	1.03E-01	1.10E-01	1.03E-01

---

MINIMUM LOAD CURRENT VDIFF=40V (MA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.30E-02	4.20E-02	4.10E-02	2.10E-02	4.10E-02	2.10E-02
	600		-2.00E-03	-1.54E-01	-3.80E-02	1.36E-01	1.56E-01	4.10E-02
	601		-2.00E-03	2.00E-03	2.20E-02	5.70E-02	7.70E-02	5.60E-02
	602		1.80E-02	-1.80E-02	2.00E-03	9.70E-02	1.17E-01	7.60E-02
	605		1.70E-02	2.10E-02	2.10E-02	5.60E-02	5.60E-02	4.10E-02
	606		-1.00E-03	-3.00E-03	1.70E-02	3.70E-02	3.70E-02	5.60E-02
MINIMUM			-2.00E-03	-1.54E-01	-3.80E-02	3.70E-02	3.70E-02	4.10E-02
MEAN			6.00E-03	-3.04E-02	4.80E-03	7.66E-02	8.86E-02	5.40E-02
MAXIMUM			1.80E-02	2.10E-02	2.20E-02	1.36E-01	1.56E-01	7.60E-02
+P 99/90			5.50E-02	2.98E-01	1.23E-01	2.62E-01	3.12E-01	1.21E-01
-P 99/90			-4.30E-02	-3.59E-01	-1.13E-01	-1.09E-01	-1.35E-01	-1.32E-02
SIGMA			1.05E-02	7.05E-02	2.52E-02	3.98E-02	4.80E-02	1.44E-02

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

SHORT CIRCUIT CURRENT VDIFF=15V (A)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		9.91E-01	9.83E-01	9.78E-01	9.80E-01	9.80E-01	9.85E-01
	600		1.00E+00	1.00E+00	1.01E+00	1.02E+00	1.03E+00	1.04E+00
	601		1.03E+00	1.02E+00	1.04E+00	1.06E+00	1.07E+00	1.07E+00
	602		9.69E-01	9.72E-01	9.74E-01	9.91E-01	1.00E+00	1.00E+00
	605		9.52E-01	9.44E-01	9.57E-01	9.74E-01	9.85E-01	9.79E-01
	606		9.74E-01	9.72E-01	9.80E-01	1.00E+00	1.01E+00	9.96E-01
MINIMUM		9.52E-01	9.44E-01	9.57E-01	9.74E-01	9.85E-01	9.79E-01	9.68E-01
MEAN		9.85E-01	9.82E-01	9.91E-01	1.01E+00	1.02E+00	1.02E+00	1.01E+00
MAXIMUM		1.03E+00	1.02E+00	1.04E+00	1.06E+00	1.07E+00	1.07E+00	1.05E+00
+P 99/90		1.13E+00	1.12E+00	1.13E+00	1.16E+00	1.18E+00	1.18E+00	1.15E+00
-P 99/90		8.42E-01	8.43E-01	8.48E-01	8.60E-01	8.59E-01	8.54E-01	8.67E-01
SIGMA		3.07E-02	2.99E-02	3.06E-02	3.21E-02	3.44E-02	3.49E-02	3.03E-02

---

SHORT CIRCUIT CURRENT VDIFF=15V (A) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-8.00E-03	-1.30E-02	-1.10E-02	-1.10E-02	-6.00E-03	-6.00E-03
	600		-2.00E-03	5.00E-03	2.20E-02	2.80E-02	3.30E-02	2.70E-02
	601		-8.00E-03	5.00E-03	2.70E-02	4.40E-02	3.80E-02	1.60E-02
	602		3.00E-03	5.00E-03	2.20E-02	3.30E-02	3.20E-02	3.20E-02
	605		-8.00E-03	5.00E-03	2.20E-02	3.30E-02	2.70E-02	1.60E-02
	606		-2.00E-03	6.00E-03	2.80E-02	3.30E-02	2.70E-02	2.20E-02
MINIMUM		-8.00E-03	5.00E-03	2.20E-02	2.80E-02	2.70E-02	1.60E-02	
MEAN		-3.40E-03	5.20E-03	2.42E-02	3.42E-02	3.14E-02	2.26E-02	
MAXIMUM		3.00E-03	6.00E-03	2.80E-02	4.40E-02	3.80E-02	3.20E-02	
+P 99/90		1.84E-02	7.29E-03	3.84E-02	6.17E-02	5.29E-02	5.52E-02	
-P 99/90		-2.52E-02	3.11E-03	1.00E-02	6.71E-03	9.87E-03	-1.00E-02	
SIGMA		4.67E-03	4.47E-04	3.03E-03	5.89E-03	4.62E-03	6.99E-03	

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

SHORT CIRCUIT CURRENT VIN-VOUT=40V (A)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.58E-01	2.50E-01	2.44E-01	2.52E-01	2.46E-01	2.51E-01
	600		2.52E-01	2.55E-01	2.80E-01	2.91E-01	3.02E-01	3.01E-01
	601		2.58E-01	2.61E-01	2.80E-01	2.96E-01	3.13E-01	3.07E-01
	602		2.46E-01	2.50E-01	2.63E-01	2.80E-01	2.96E-01	2.90E-01
	605		2.46E-01	2.44E-01	2.57E-01	2.80E-01	2.91E-01	2.85E-01
	606		2.52E-01	2.55E-01	2.63E-01	2.80E-01	2.91E-01	2.79E-01
MINIMUM		2.46E-01	2.44E-01	2.57E-01	2.80E-01	2.91E-01	2.85E-01	2.68E-01
MEAN		2.51E-01	2.53E-01	2.69E-01	2.85E-01	2.99E-01	2.95E-01	2.82E-01
MAXIMUM		2.58E-01	2.61E-01	2.80E-01	2.96E-01	3.13E-01	3.07E-01	2.90E-01
+P 99/90		2.74E-01	2.83E-01	3.18E-01	3.21E-01	3.42E-01	3.37E-01	3.25E-01
-P 99/90		2.27E-01	2.23E-01	2.19E-01	2.50E-01	2.56E-01	2.52E-01	2.39E-01
SIGMA		5.02E-03	6.36E-03	1.07E-02	7.60E-03	9.24E-03	9.07E-03	9.24E-03

---

SHORT CIRCUIT CURRENT VIN-VOUT=40V (A) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-8.00E-03	-1.40E-02	-6.00E-03	-1.20E-02	-7.00E-03	-6.00E-03
	600		3.00E-03	2.80E-02	3.90E-02	5.00E-02	4.90E-02	3.80E-02
	601		3.00E-03	2.20E-02	3.80E-02	5.50E-02	4.90E-02	3.20E-02
	602		4.00E-03	1.70E-02	3.40E-02	5.00E-02	4.40E-02	3.90E-02
	605		-2.00E-03	1.10E-02	3.40E-02	4.50E-02	3.90E-02	2.20E-02
	606		3.00E-03	1.10E-02	2.80E-02	3.90E-02	3.80E-02	2.70E-02
MINIMUM		-2.00E-03	1.10E-02	2.80E-02	3.90E-02	3.80E-02	2.20E-02	
MEAN		2.20E-03	1.78E-02	3.46E-02	4.78E-02	4.38E-02	3.16E-02	
MAXIMUM		4.00E-03	2.80E-02	3.90E-02	5.50E-02	4.90E-02	3.90E-02	
+P 99/90		1.33E-02	5.20E-02	5.48E-02	7.61E-02	6.84E-02	6.53E-02	
-P 99/90		-8.94E-03	-1.64E-02	1.44E-02	1.95E-02	1.92E-02	-2.14E-03	
SIGMA		2.39E-03	7.33E-03	4.34E-03	6.06E-03	5.26E-03	7.23E-03	

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5  
LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Biased\*\*

---

RIPPLE REJECTION CADJ=10UF VOUT=10V (DB)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.27E+02	1.30E+02	1.32E+02	1.30E+02	1.28E+02	1.32E+02
	600		1.29E+02	1.28E+02	1.32E+02	1.34E+02	1.28E+02	1.29E+02
	601		1.28E+02	1.29E+02	1.29E+02	1.26E+02	1.27E+02	1.28E+02
	602		1.26E+02	1.32E+02	1.28E+02	1.28E+02	1.25E+02	1.27E+02
	605		1.27E+02	1.31E+02	1.29E+02	1.28E+02	1.27E+02	1.30E+02
	606		1.34E+02	1.31E+02	1.28E+02	1.30E+02	1.30E+02	1.29E+02
MINIMUM			1.26E+02	1.28E+02	1.28E+02	1.26E+02	1.25E+02	1.27E+02
MEAN			1.29E+02	1.30E+02	1.29E+02	1.29E+02	1.27E+02	1.28E+02
MAXIMUM			1.34E+02	1.32E+02	1.32E+02	1.34E+02	1.30E+02	1.29E+02
+P 99/90			1.43E+02	1.39E+02	1.37E+02	1.44E+02	1.35E+02	1.32E+02
-P 99/90			1.15E+02	1.21E+02	1.22E+02	1.15E+02	1.19E+02	1.24E+02
SIGMA			3.03E+00	1.83E+00	1.67E+00	3.01E+00	1.73E+00	9.13E-01
<hr/>								

RIPPLE REJECTION CADJ=10UF VOUT=10V (DB) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.54E+00	4.84E+00	2.95E+00	9.00E-02	4.82E+00	-3.60E-01
	600		-1.27E+00	3.47E+00	5.45E+00	-6.70E-01	1.90E-01	1.39E+00
	601		7.60E-01	6.90E-01	-1.61E+00	-1.05E+00	-2.20E-01	6.55E+00
	602		5.93E+00	2.38E+00	2.12E+00	-1.01E+00	1.07E+00	5.45E+00
	605		3.72E+00	1.60E+00	1.16E+00	-3.30E-01	-2.10E-01	3.16E+00
	606		-3.10E+00	-5.50E+00	-3.83E+00	-4.22E+00	-5.13E+00	-4.65E+00
MINIMUM			-3.10E+00	-5.50E+00	-3.83E+00	-4.22E+00	-5.13E+00	-4.65E+00
MEAN			1.21E+00	5.28E-01	6.58E-01	-1.46E+00	-8.60E-01	2.38E+00
MAXIMUM			5.93E+00	3.47E+00	5.45E+00	-3.30E-01	1.07E+00	6.55E+00
+P 99/90			1.83E+01	1.70E+01	1.73E+01	5.88E+00	1.05E+01	2.30E+01
-P 99/90			-1.59E+01	-1.59E+01	-1.59E+01	-8.79E+00	-1.23E+01	-1.82E+01
SIGMA			3.66E+00	3.52E+00	3.56E+00	1.57E+00	2.44E+00	4.41E+00
<hr/>								

DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)

RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV

Bias Condition # 1 Biased

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1, W5

LOG# 1584 || TEST DATE 08/02/07 || RTP# 689

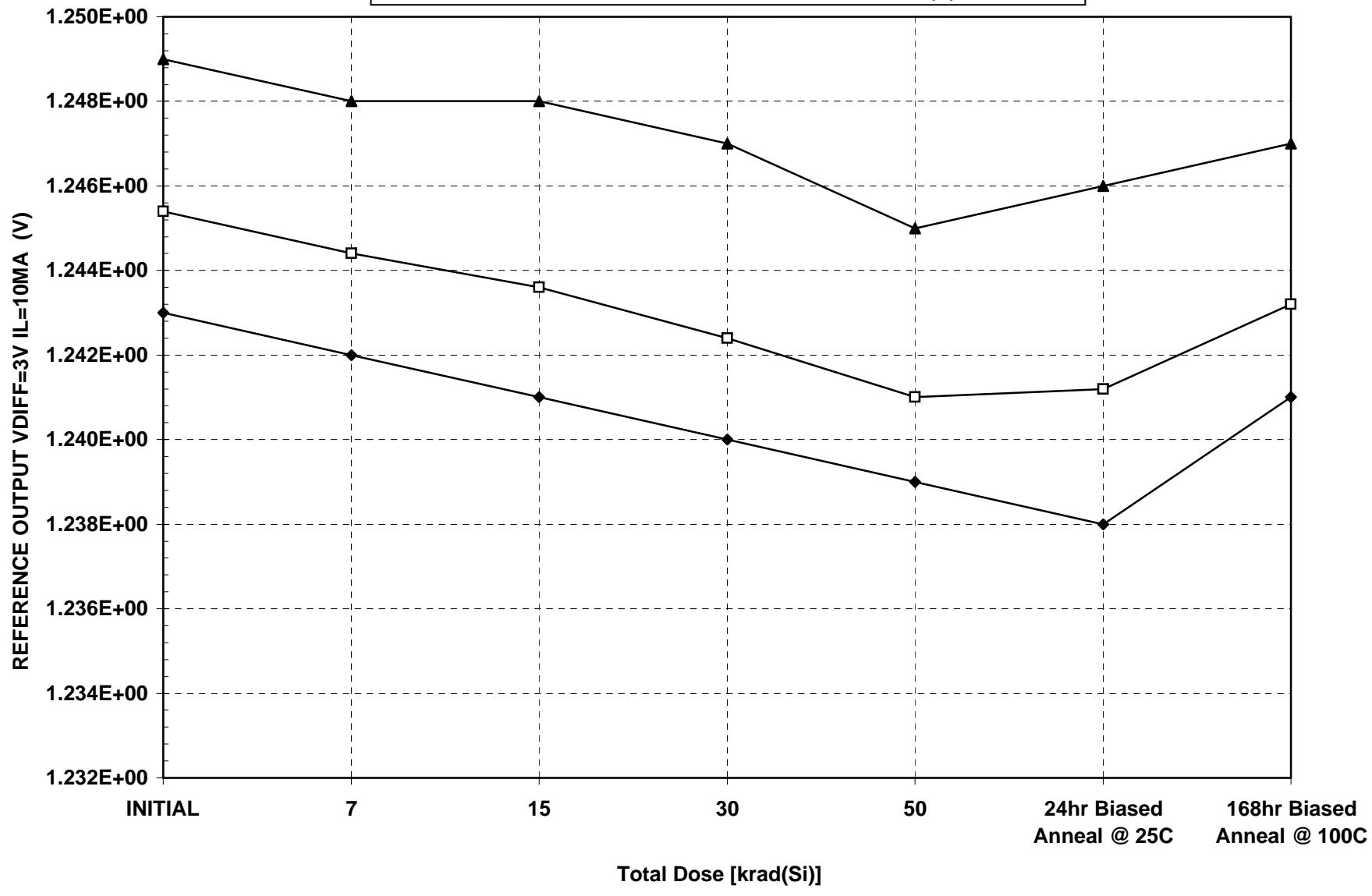
P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

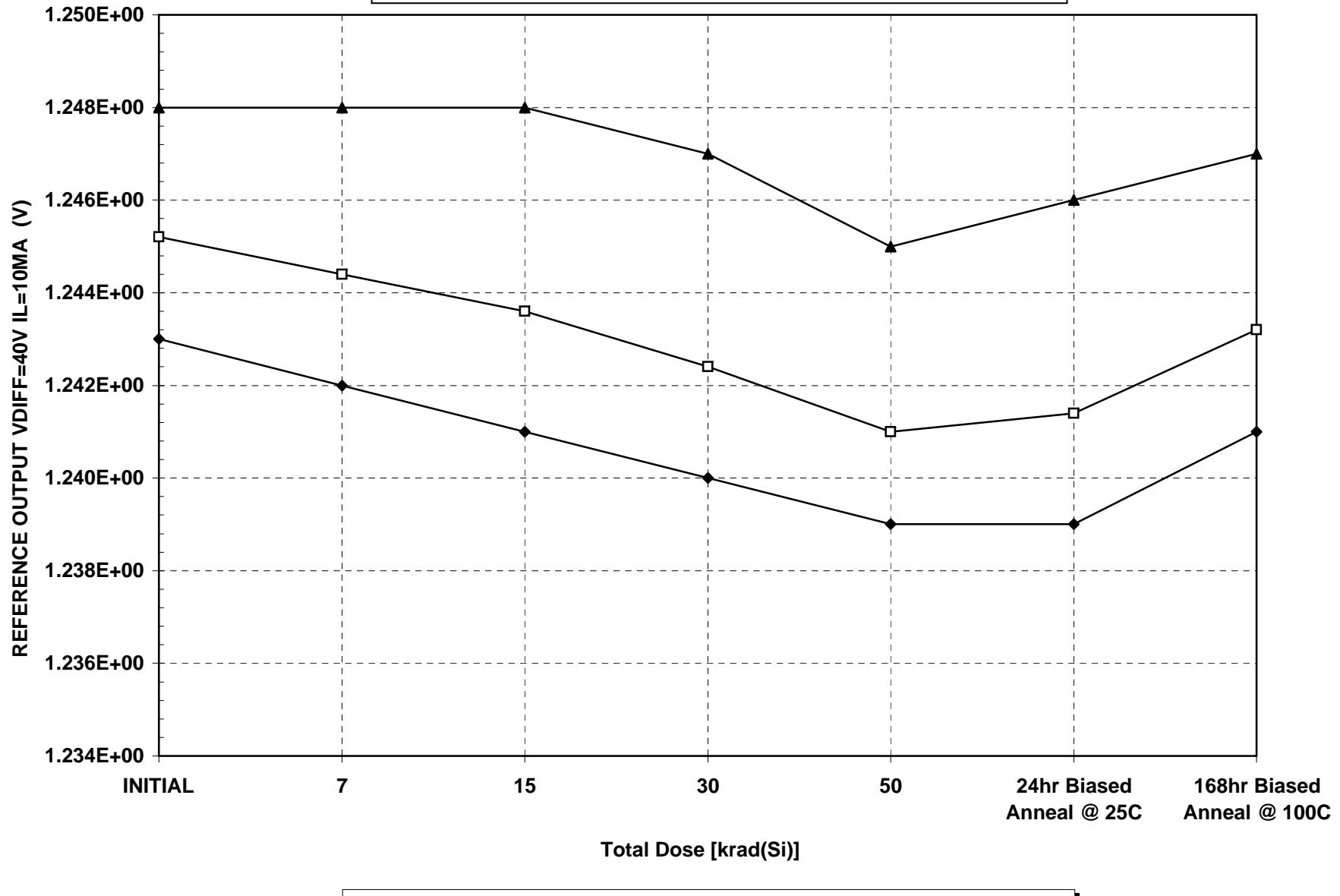
RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

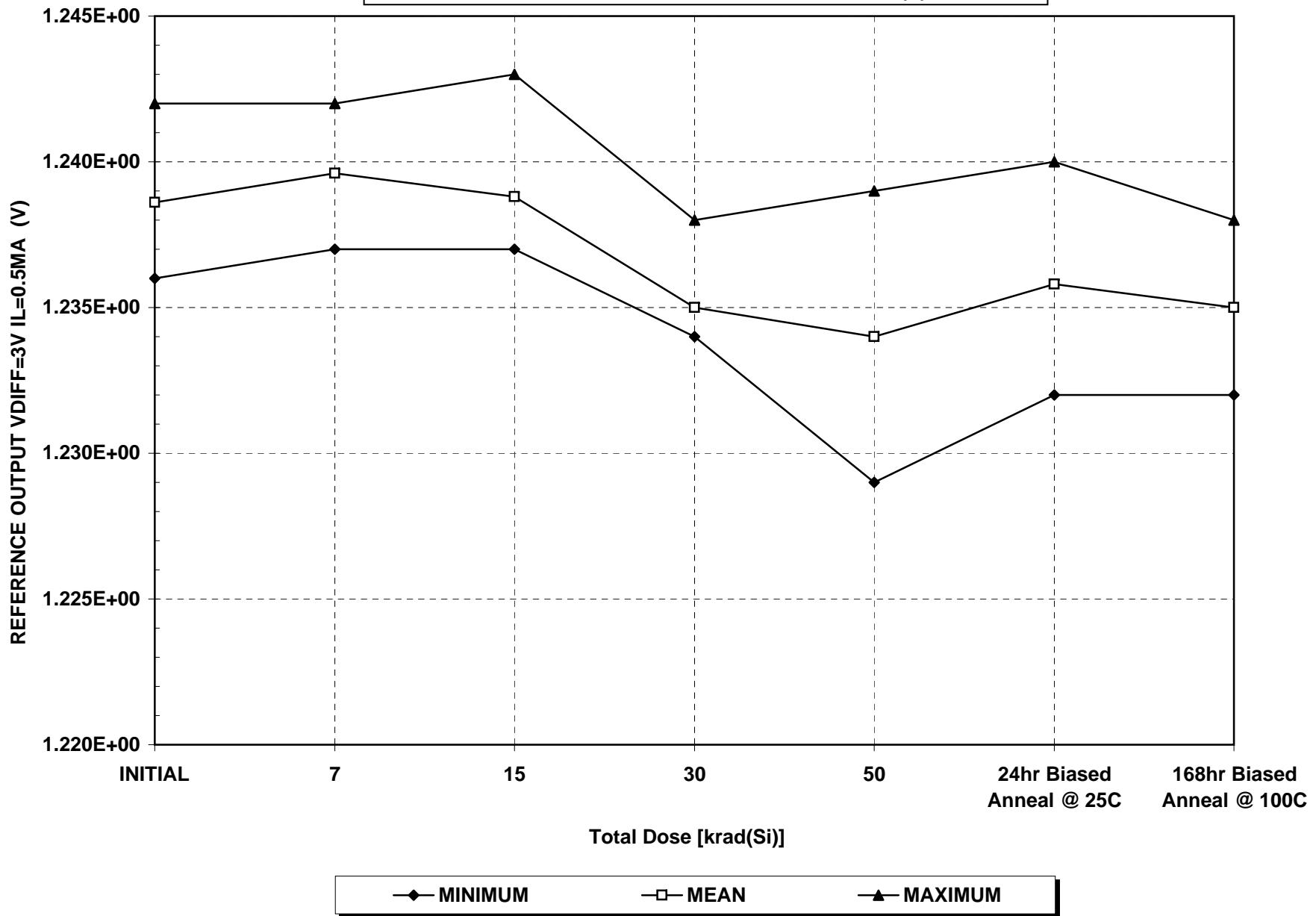
REFERENCE OUTPUT VDIFF=3V IL=10MA (V)



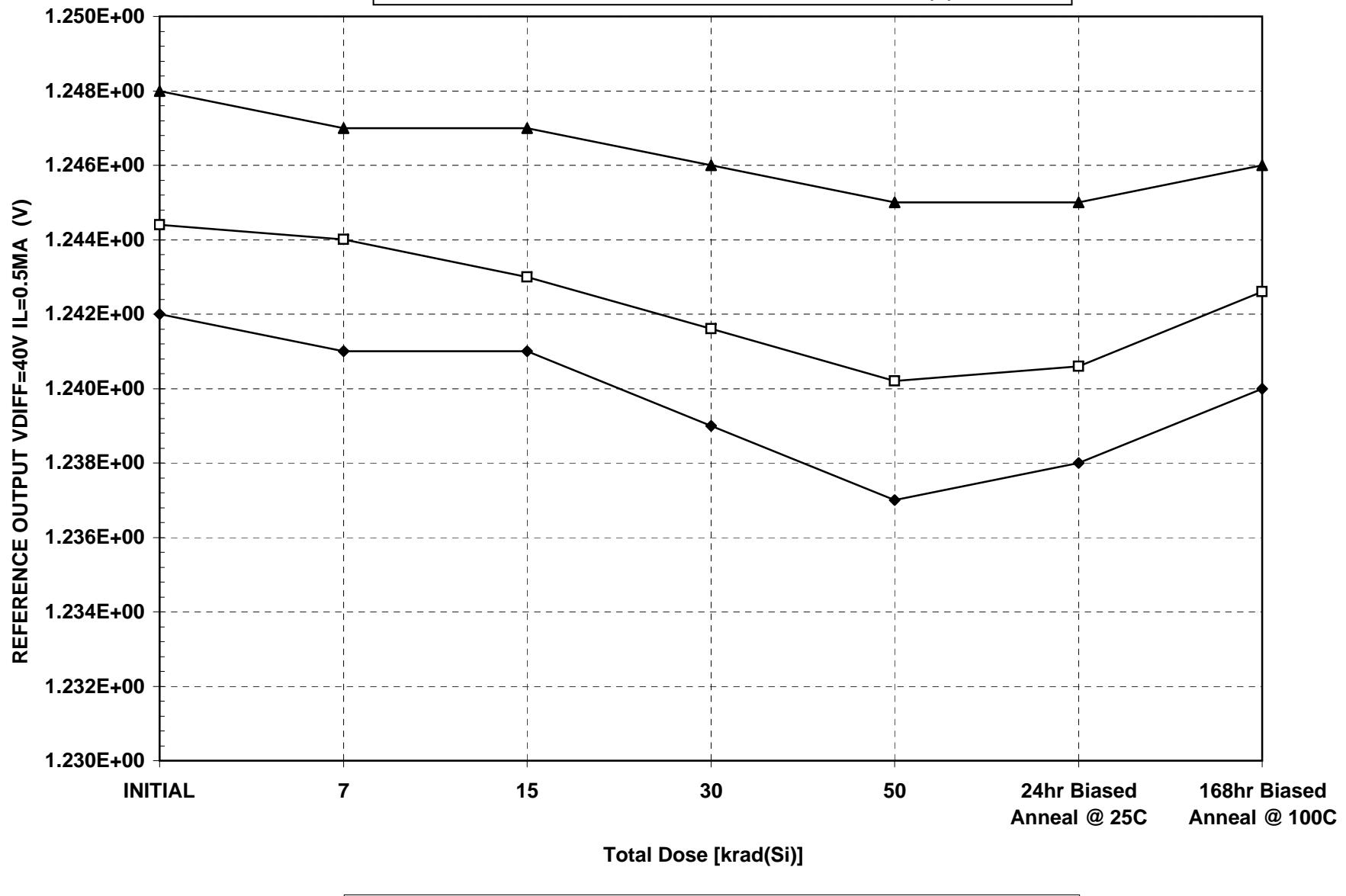
RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07  
REFERENCE OUTPUT VDIFF=40V IL=10MA (V)



RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07  
REFERENCE OUTPUT VDIFF=3V IL=0.5MA (V)



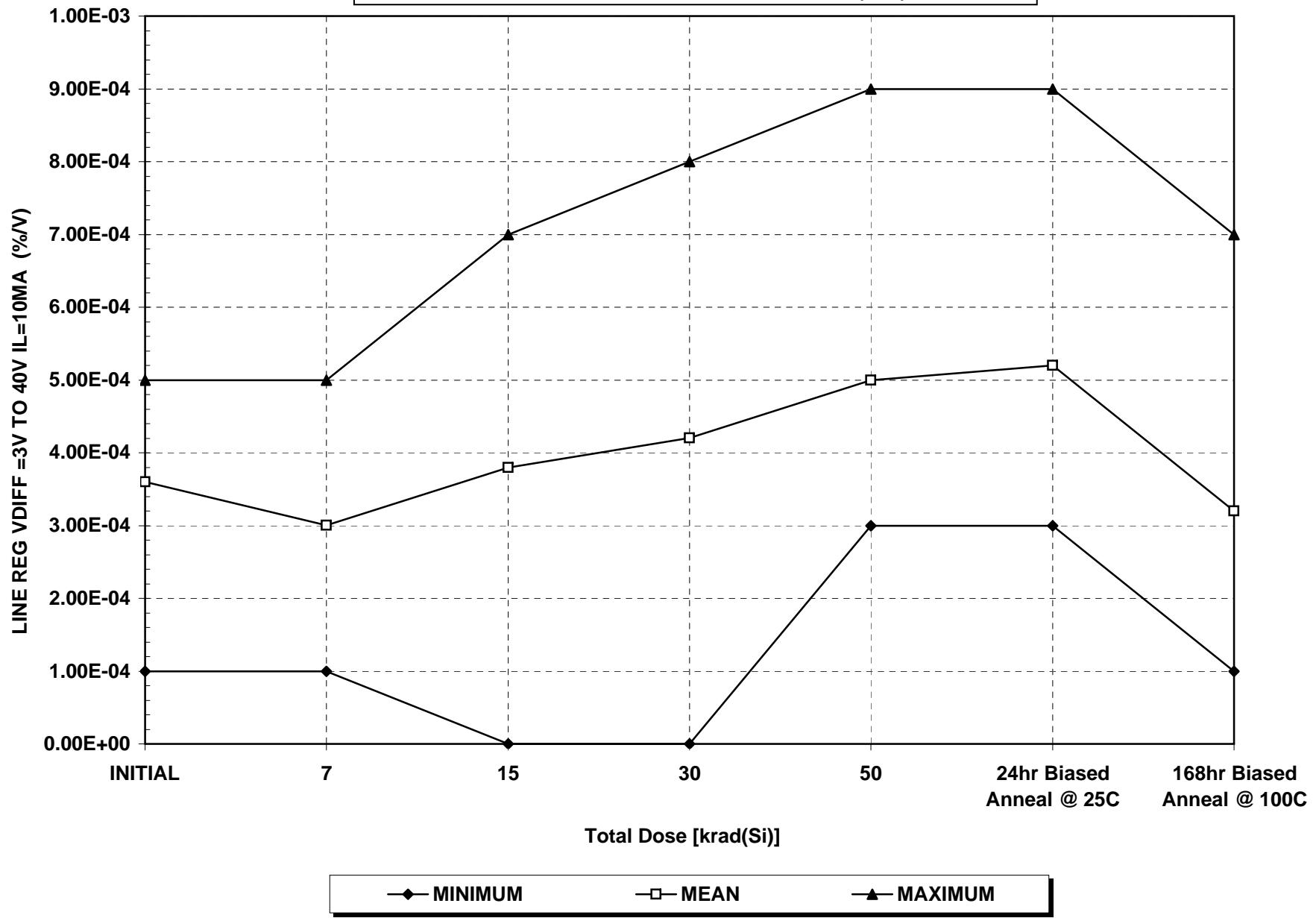
RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07  
REFERENCE OUTPUT VDIFF=40V IL=0.5MA (V)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

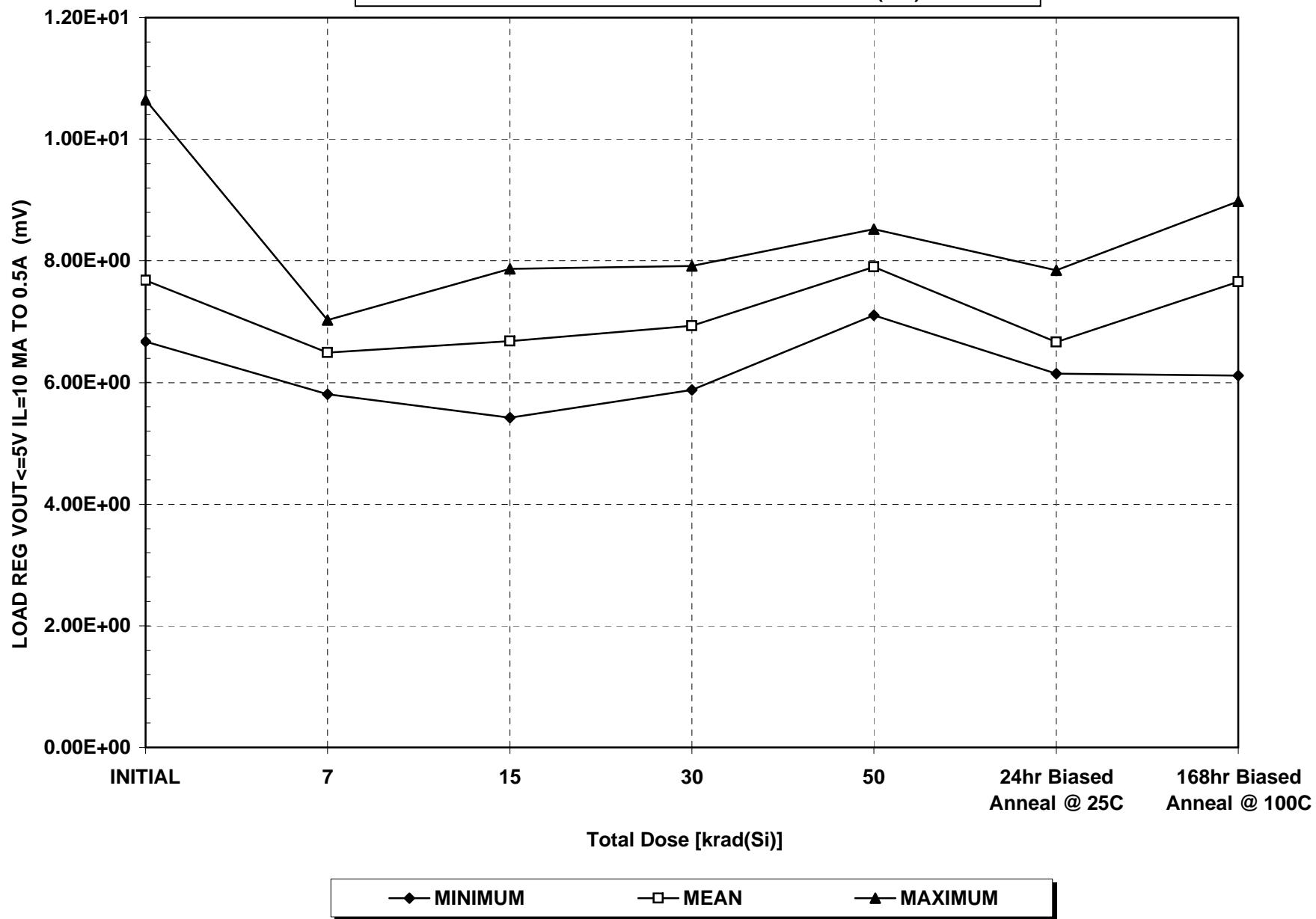
LINE REG VDIFF =3V TO 40V IL=10MA (%/V)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

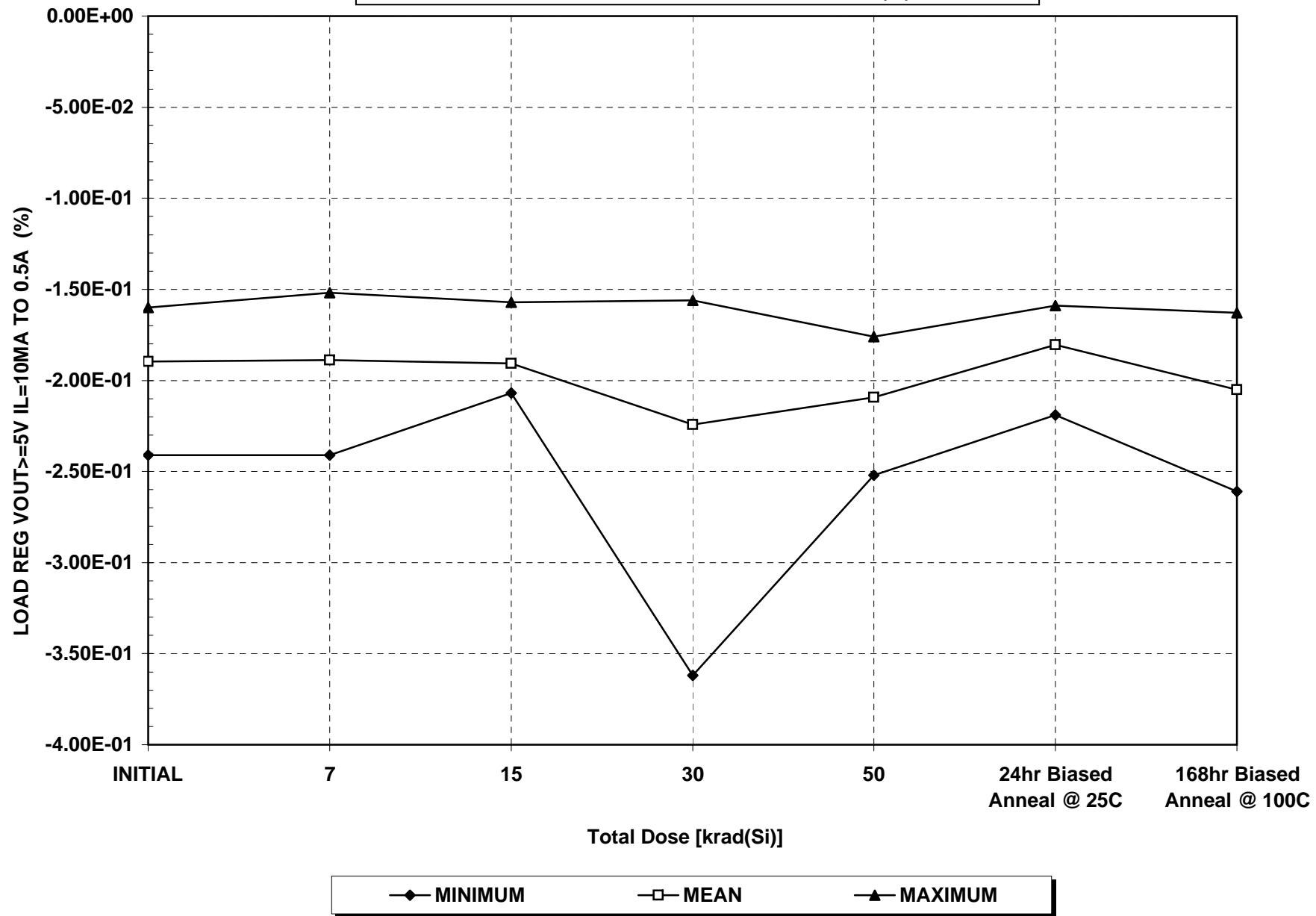
LOAD REG VOUT<=5V IL=10 MA TO 0.5A (mV)



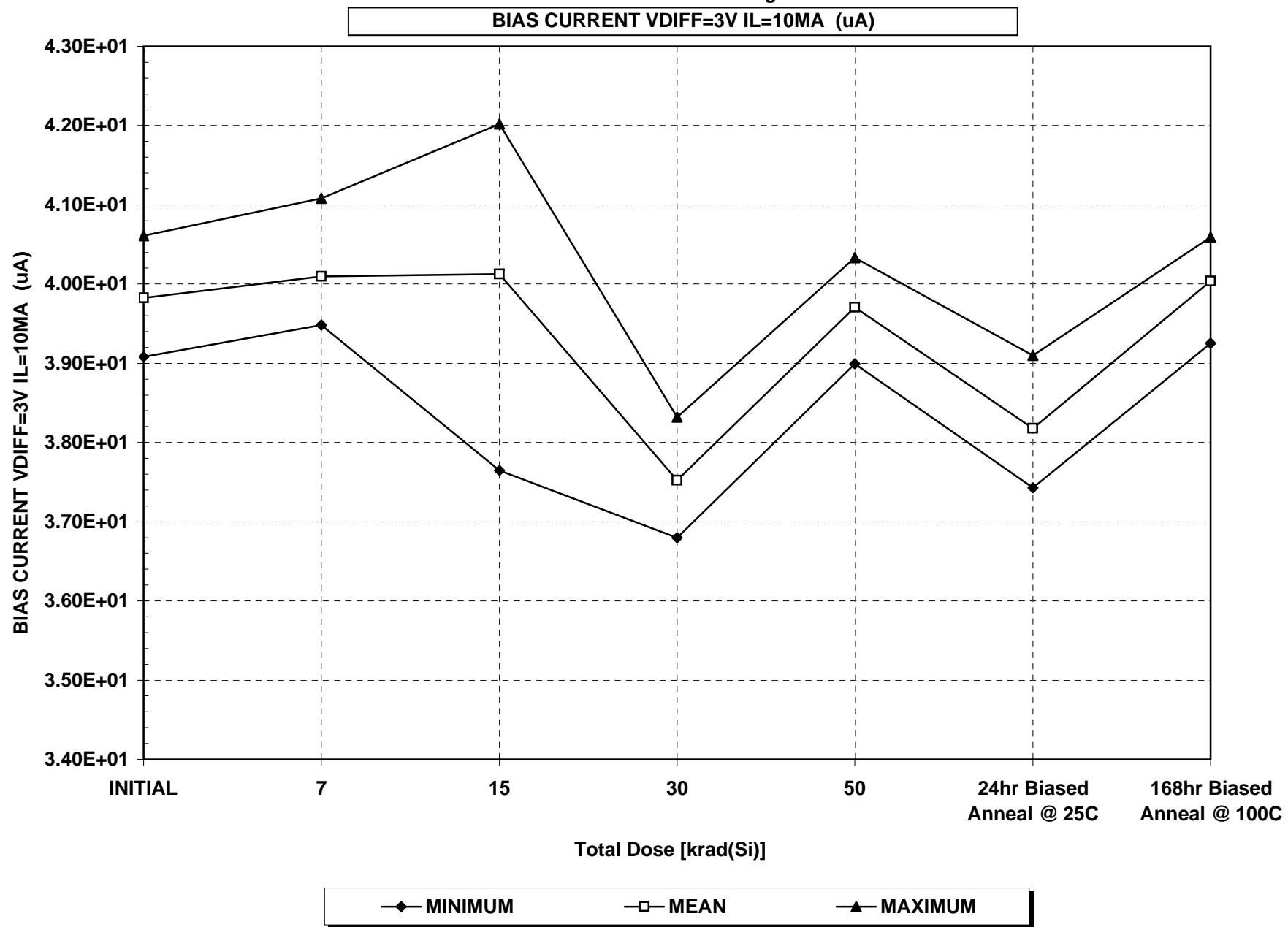
# RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

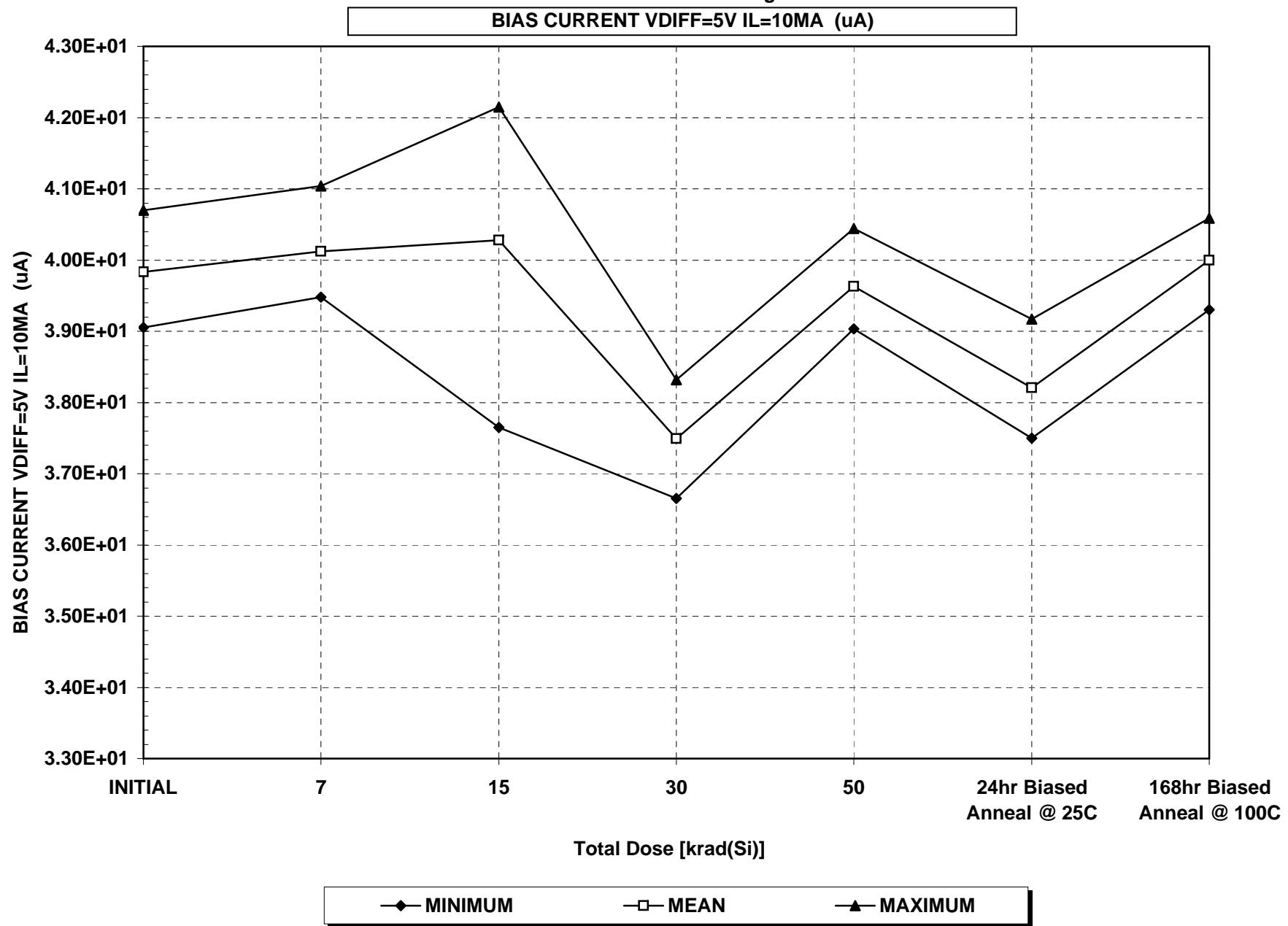
LOAD REG VOUT>=5V IL=10MA TO 0.5A (%)



RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07

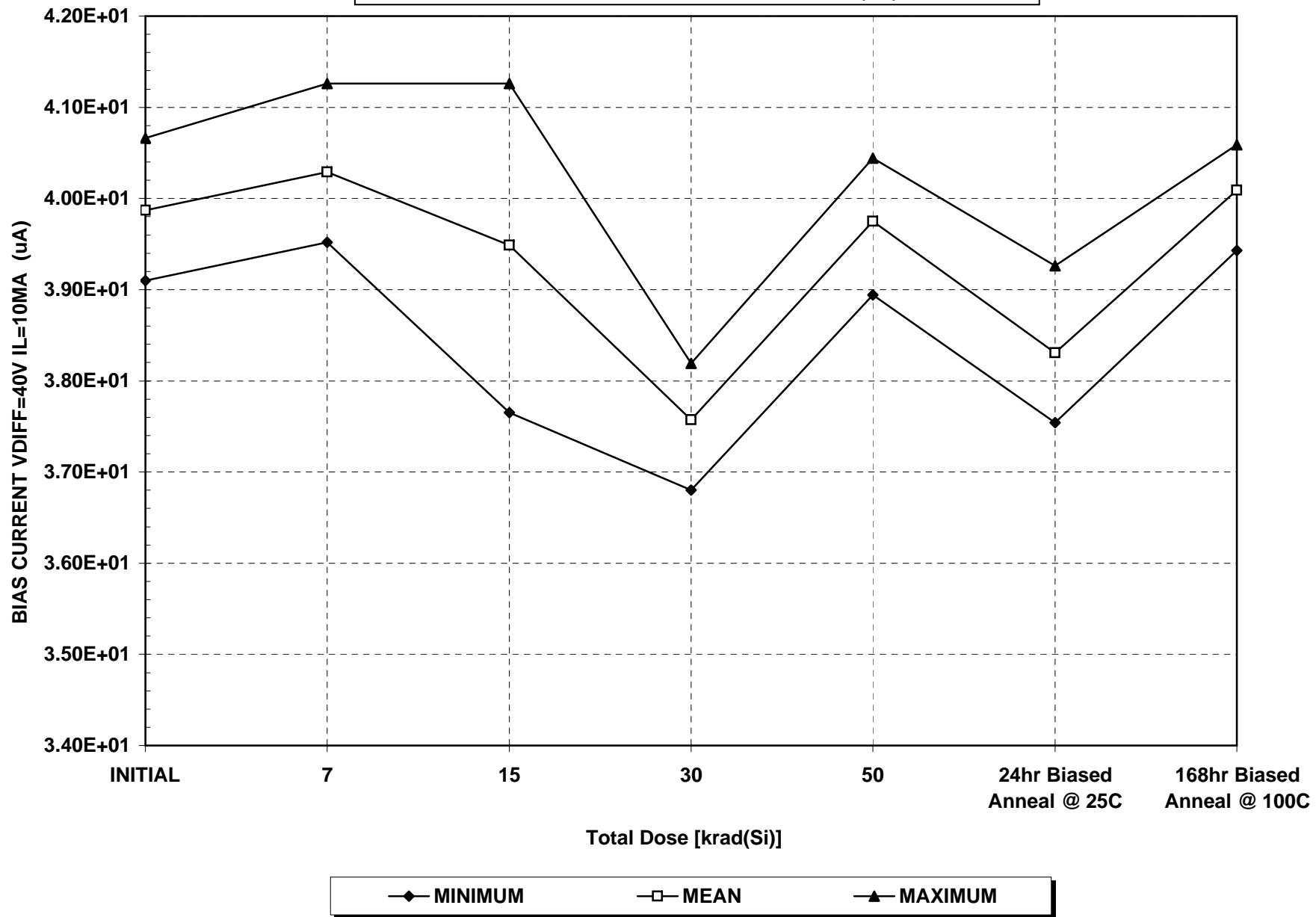


RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07



RH117H VOLTAGE REGULATOR (LTC)  
I C S Radiation Test Results Log # 1584 8/02/07

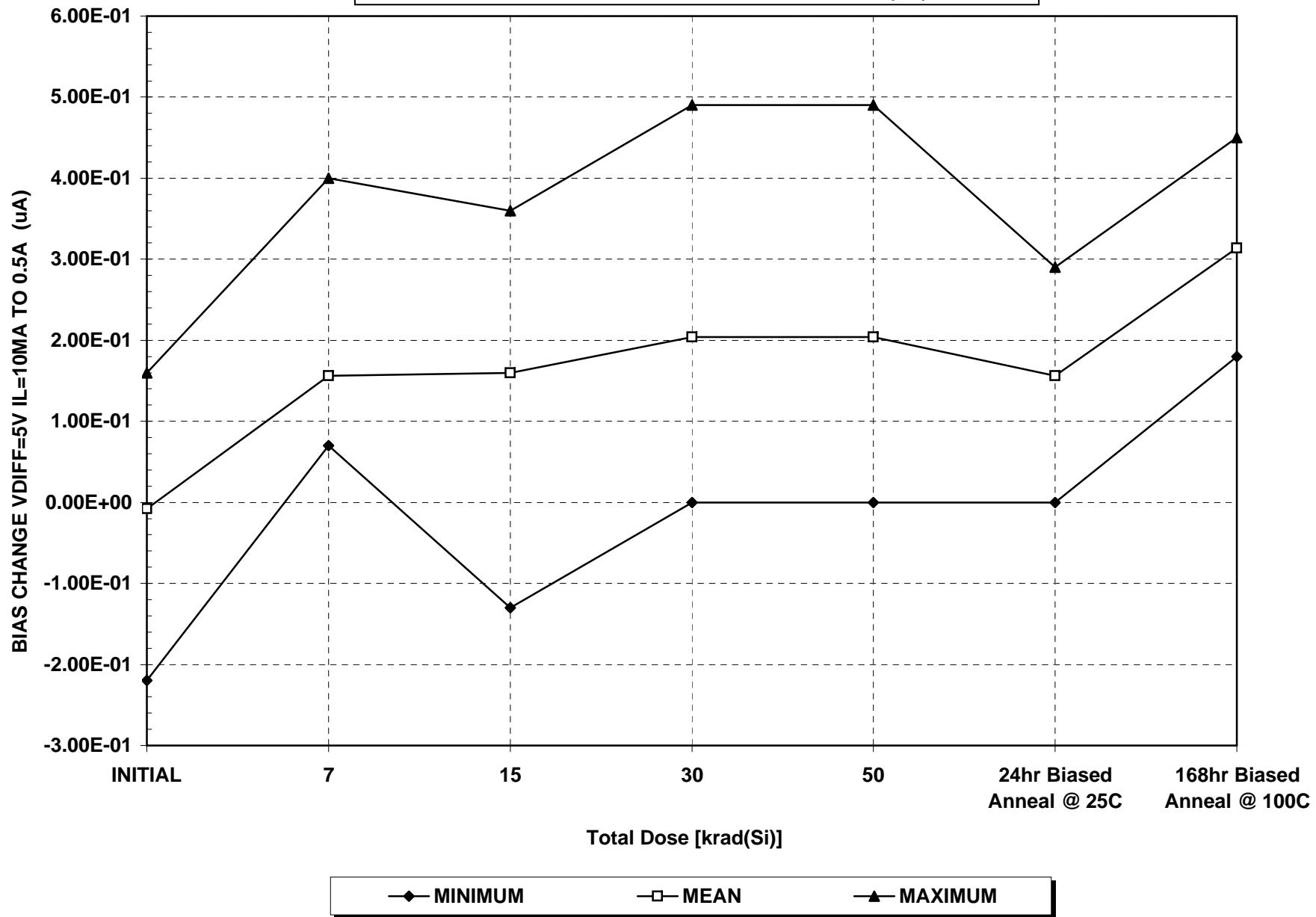
BIAS CURRENT VDIFF=40V IL=10MA (uA)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

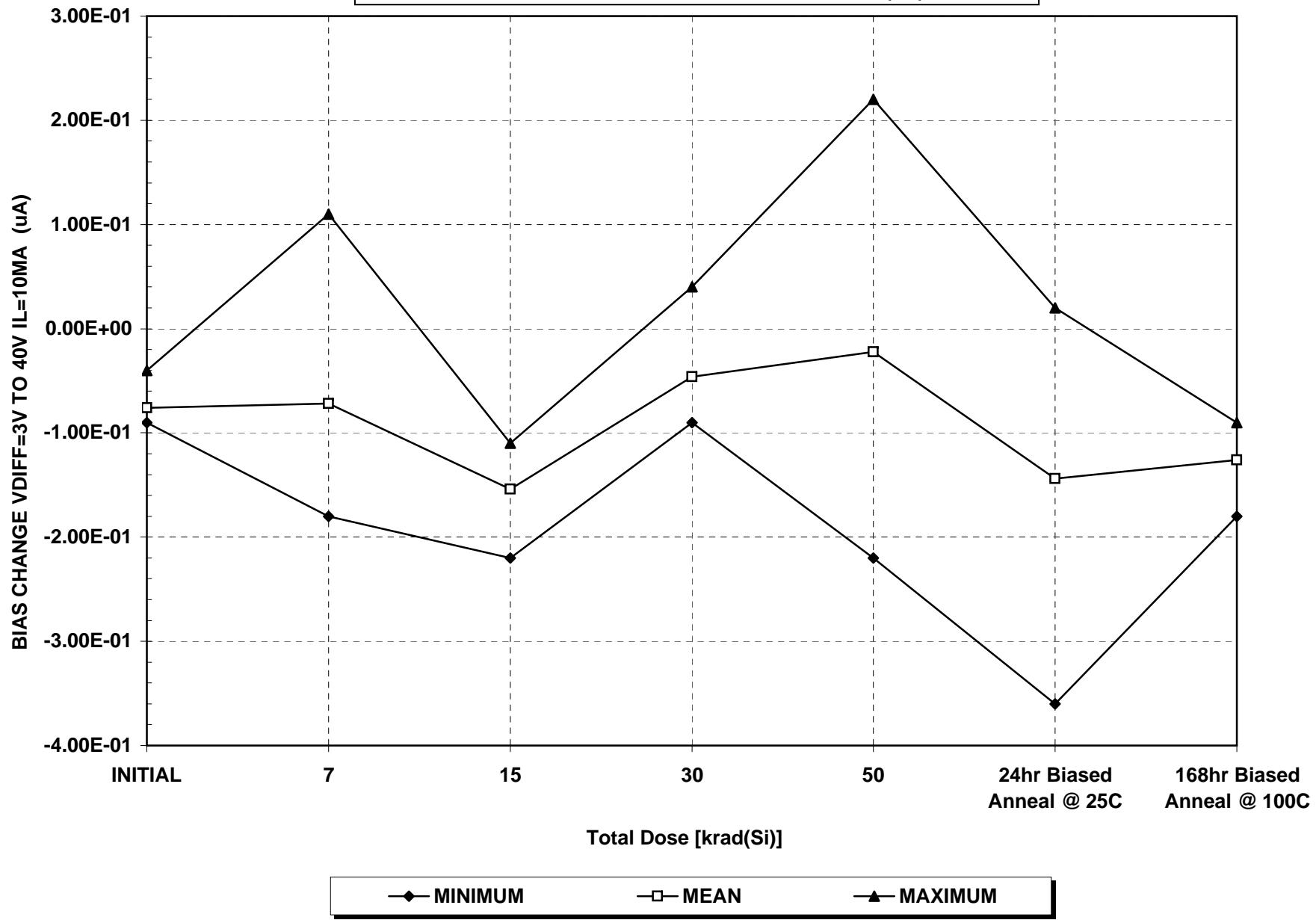
BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (uA)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

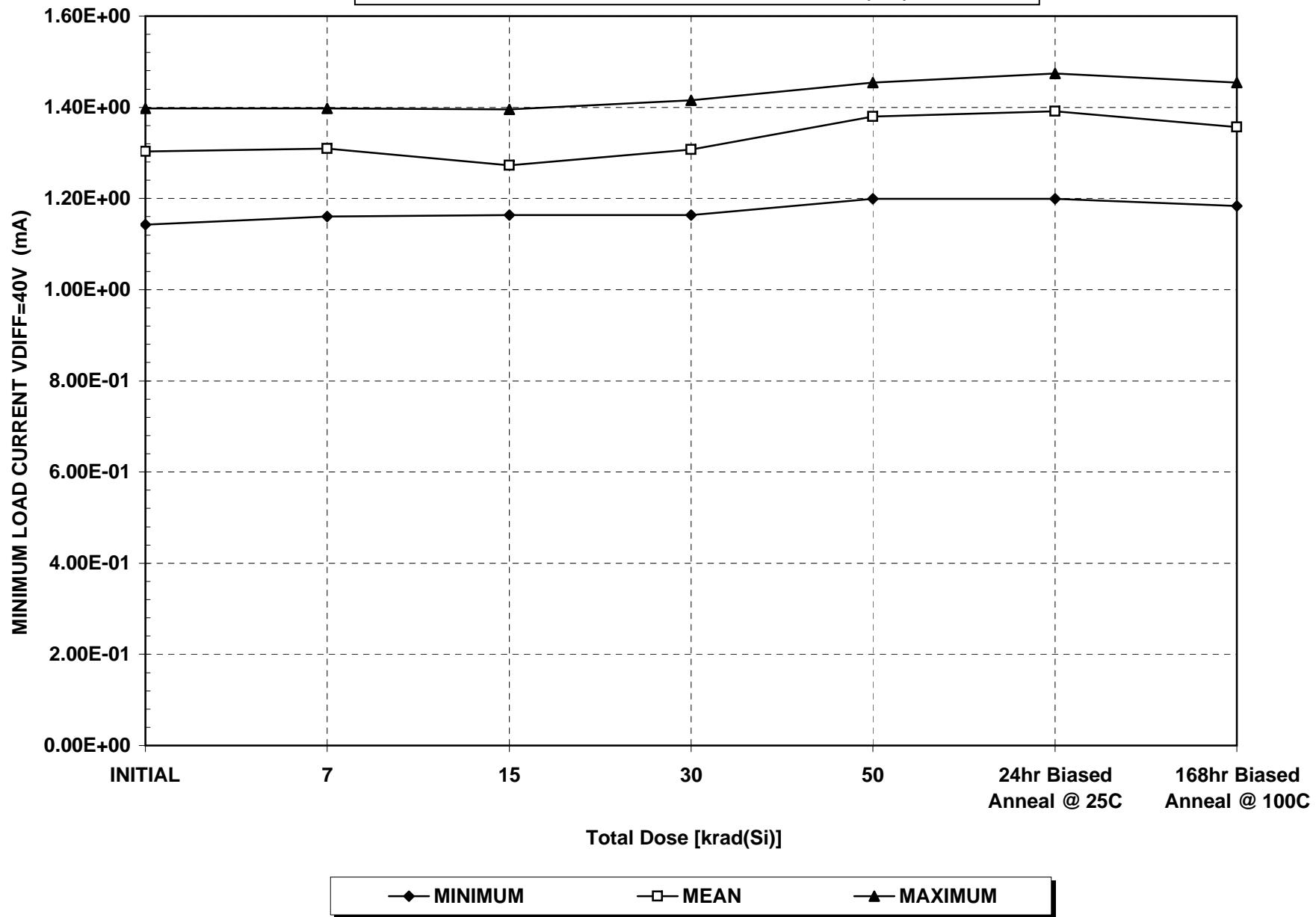
BIAS CHANGE VDIFF=3V TO 40V IL=10MA ( $\mu$ A)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

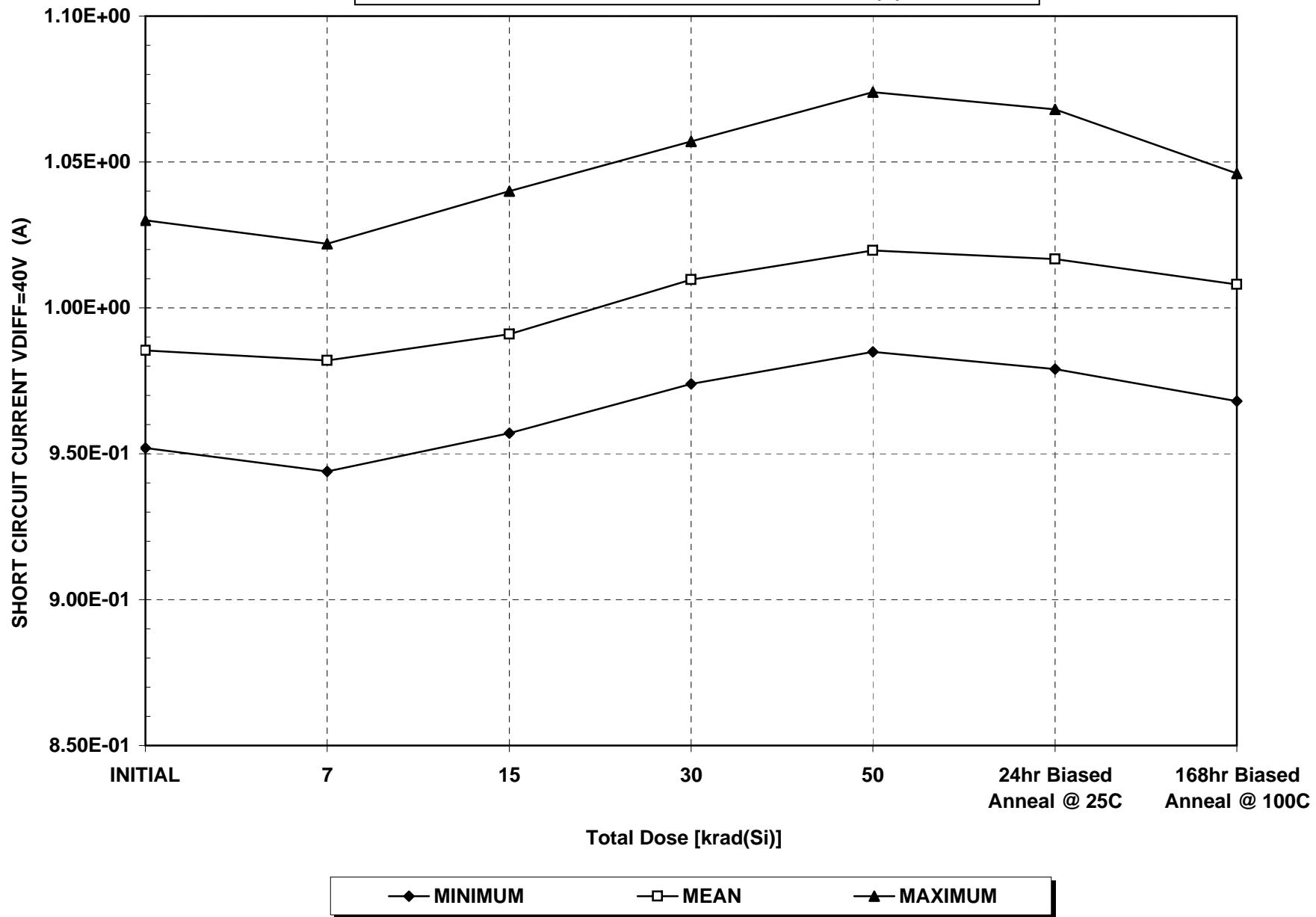
MINIMUM LOAD CURRENT VDIFF=40V (mA)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

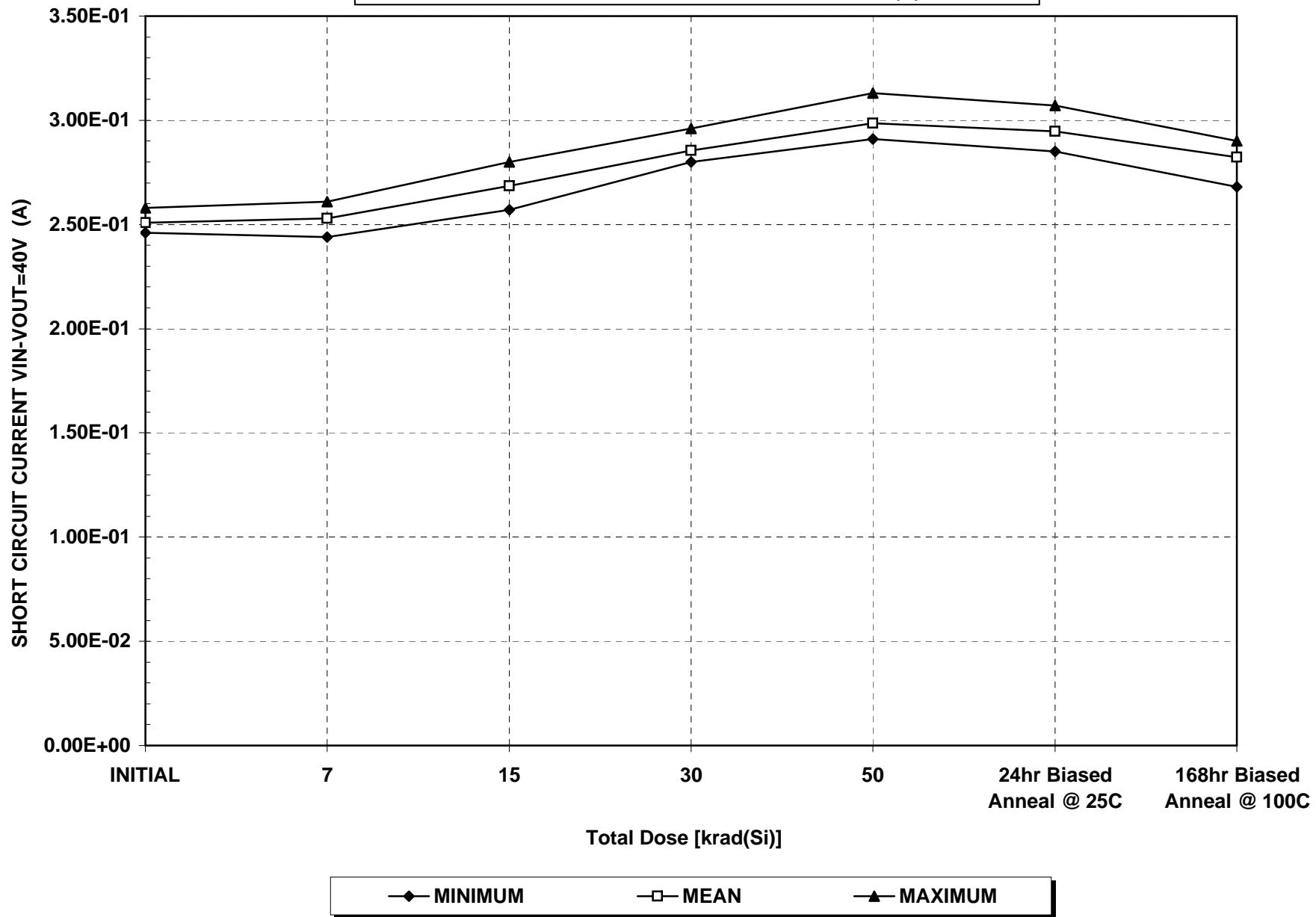
SHORT CIRCUIT CURRENT VDIFF=40V (A)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

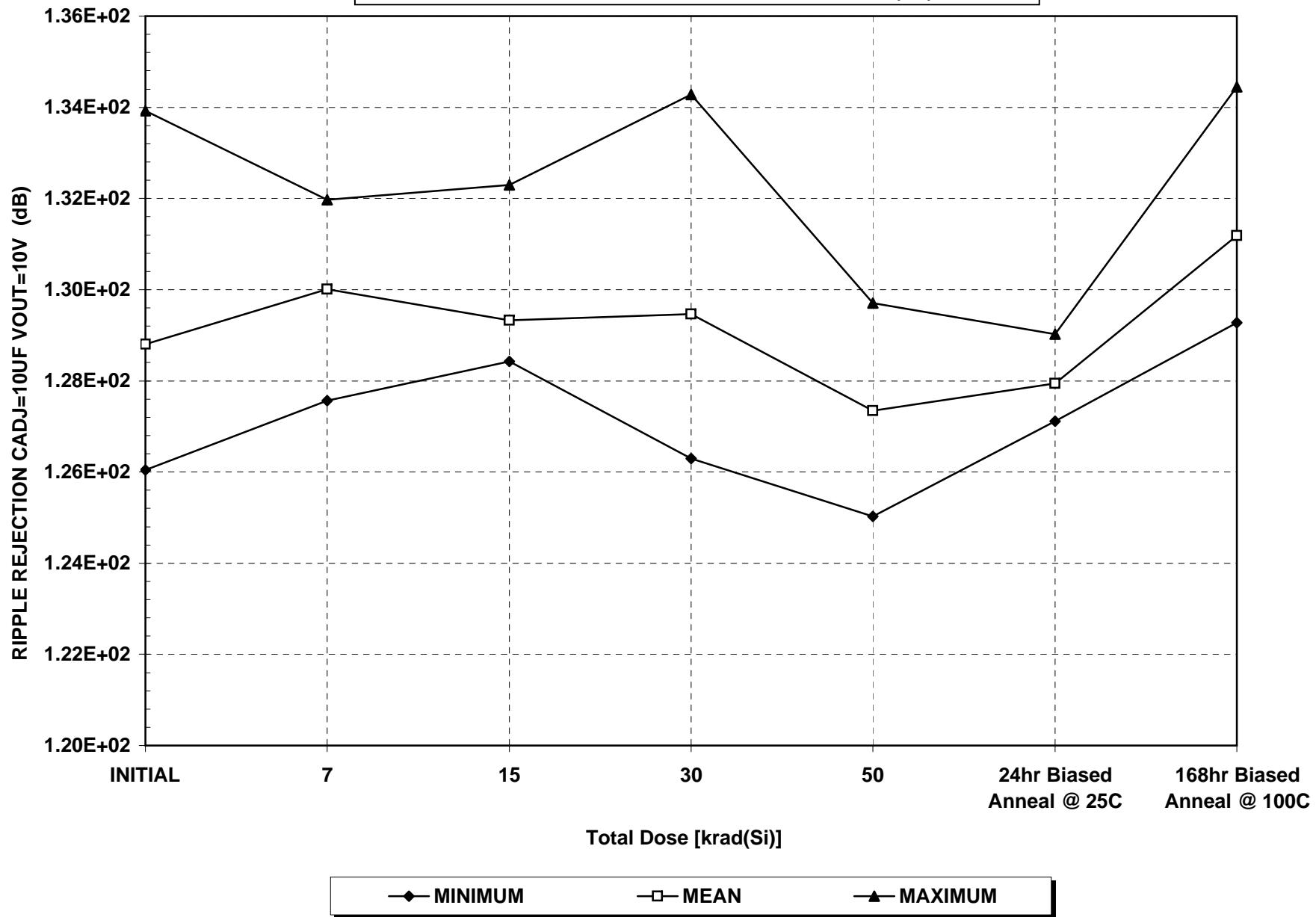
SHORT CIRCUIT CURRENT VIN-VOUT=40V (A)



RH117H VOLTAGE REGULATOR (LTC)

I C S Radiation Test Results Log # 1584 8/02/07

RIPPLE REJECTION CADJ=10UF VOUT=10V (dB)



## ICS Radiation Test Results

**RH117H VOLTAGE REGULATOR  
(UNBIASED)  
LINEAR TECHNOLOGY CORPORATION  
P.O. # 46147L**

DEVICE TYPE: RH117 VOLTAGE REGULATOR  
LINEAR TECHNOLOGY CORPORATION  
RADIATION SOURCE: SHEPHERD 484(Co60), 1.25MeV

D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1,W-5  
LOG# 1585 || TEST DATE 08/02/07 || RTP# 689  
P.O.#46147L

Test Conductor: AJ Kenna  
Test Administrator: Dr. Michael K. Gauthier

**ICS RADIATION TECHNOLOGIES, INC.**  
**8416 Florence Ave, Suite 207**  
**Downey, CA 90240-3949**

**TEL: 800-297-8688**

TEL: 562-923-1837

**FAX: 562-923-3609**

**INTERNET e-mail:** support@icsrad.com  
**www.icsrad.com**

## Radiation Test Results

**RH117H**  
**Positive Voltage Regulator**  
**Linear Technology Corporation**  
D/C 0706A, Lot# A21511.1, Wafer # 5  
Test Date 08-02-07  
Log# 1584 and 1585, TID Test  
P.O.# 46147L

This test consisted of two test logs, 1584 and 1585. The test was to compare the radiation effects differences between two bias conditions: Log 1584, had +30 volts and Log 1585 was unbiased with all leads grounded. The 15 test requirements and one "Information Only" test are stated in test procedure RTP 689, dated March 23, 2007.

The test results indicated were very little difference between the two bias conditions for all parameters. The test results of the two tests (biased and unbiased) were less than the LTC data sheet limits of 20krad(Si) at the 50krad(Si) test level.

These lots **PASSED** the 15 test requirements as stated in the Radiation Test Procedure RTP 689, dated March 23, 2007.

**NOTE:** To simplify the following data analysis, all negative numbers have been converted to Absolute numbers. This matches with the Absolute numbers used on the manufacturers data sheets.

### **TID BIASED DEVICES, Log 1584**

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.239V and minimum voltage was 1.229V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.245V and minimum voltage was 1.237V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0005%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 8.52mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.252%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.3 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.49 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.22 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.45mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.985A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 125dB.

## TID UNBIASED (GROUNDED) DEVICES, Log 1585

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.248V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.244V and minimum voltage was 1.236V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.243V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0008%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 9.26mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.259%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.2 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.2 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.45 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.30mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.957A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V: At 50krad(Si),** the parameter minimum was 127dB.

## **ANOMOLIES:**

There were no device anomalies during this test.

If you should require any further clarification on this matter, please contact me directly: TEL-562-923-1837, FAX-562-923-3609, or E-Mail [mike@icsrad.com](mailto:mike@icsrad.com).

ICS Radiation Technologies, Inc.

Dr. Michael K. Gauthier, P.E.

President

September 19, 2007

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.  
**Lot No:** Date Code:

Package Type: H, 3-lead Can (TO-39)

No. of Devices Supplied: 11

No. of Devices to be tested: Bias Condition #1, 5 Devices  
Bias Condition #2, 5 Devices  
Control, 1 Device

=====

**RADIATION CONDITIONS:** MIL-STD-883E, Method 1019.6

Facility: Shepherd 484, Co60 Energy: 1.25 MeV

Total Dose krad(Si)	7	15	30	50	Biased Anneal 24 hr @ 25°C	Biased Anneal 168 hr @ 100°C
Dose Rate rad(Si)/s	50					

**BIAS CONDITIONS DURING IRRADIATION:**

“ON” BIAS CONDITION # 1

Pin #	Name	Voltage
1	Input	+15 Volts, 0.1µF to -15 Volts.
2	Adjust	2kΩ to -15Volts
3	Output	61.9Ω to -15 Volts

“OFF” BIAS CONDITION # 2 All pins to GROUND.

**Device Type:** RH117H Positive Voltage Regulator

RADIATION TEST PROCEDURE

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

TEST	TEST NAME	TEST CONDITIONS	Limits			Units
			Exposure Levels	20k	50k	
1	Voltage Reference	VDIF=3V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
2	Voltage Reference	VDIF=40V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
3	Voltage Reference	VDIF=3V, IL=0.5A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
4	Voltage Reference	VDIF=40V, IL=0.05A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
5	Line Regulation	3V ≤ (Vin-Vout) ≤ 40V Iout=10mA	0.02	0.02	0.03	%/V Max
6	Load Regulation 1	10mA ≤ Iout ≤ Imax Vout ≤ 5V	42	48	60	mV Max
7	Load Regulation 2	10mA ≤ Iout ≤ Imax Vout ≥ 5V	0.84	0.96	1.20	% Max
8	Adjust Pin Current 1	VDIF=3V, IL=10mA	100	100	100	µA Max
9	Adjust Pin Current 2	VDIF=5V, IL=10mA	100	100	100	µA Max
10	Adjust Pin Current 3	VDIF=40V, IL=10mA	100	100	100	µA Max
11	Adjust Pin Current Change	VDIF=5V 10mA ≤ Iout ≤ 0.5A	5	5	5	µA Max
12	Adjust Pin Current Change	VDIF=3V to 40V IL=10mA	5	5	5	µA Max
13	Minimum Load Current	VDIF=40V	5	5	5	mA Max
14	Short Circuit Current	VDIF=15V	0.5	0.5	0.5	A Min
15	Short Circuit Current	VDIF=40V	0.15	0.15	0.15	A Min
16	Ripple Rejection	CADJ=10µF, Vout=10V	Record	Record	Record	dB

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 689

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

Measurements shall be made at room (ambient) temperature.

Test conducted using an Analog Devices LTS-2020 Component Test System, with the LTS-2101 Family Board, LTS0606 Regulator Socket Assembly, LTS0325/RH117 DUT board .

Software: RH117H/K 1.02 program.

Data Processing use King Program: P99/90 Ktl =4.666 for 5 devices

Return samples to customer.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

REFERENCE OUTPUT VDIFF=3V IL=10MA (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		1.249E+00	1.249E+00	1.250E+00	1.249E+00	1.249E+00	1.250E+00
	608		1.251E+00	1.251E+00	1.250E+00	1.249E+00	1.247E+00	1.247E+00
	609		1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.244E+00	1.246E+00
	611		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
	612		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.247E+00
	613		1.249E+00	1.250E+00	1.250E+00	1.249E+00	1.247E+00	1.248E+00
MINIMUM			1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.244E+00	1.246E+00
MEAN			1.249E+00	1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.248E+00
MAXIMUM			1.251E+00	1.251E+00	1.250E+00	1.249E+00	1.247E+00	1.248E+00
+P 99/90			1.255E+00	1.256E+00	1.255E+00	1.254E+00	1.252E+00	1.253E+00
-P 99/90			1.243E+00	1.241E+00	1.242E+00	1.241E+00	1.239E+00	1.239E+00
SIGMA			1.304E-03	1.643E-03	1.342E-03	1.342E-03	1.342E-03	1.581E-03
								1.342E-03

---

REFERENCE OUTPUT VDIFF=3V IL=10MA (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		0.000E+00	1.000E-03	0.000E+00	0.000E+00	0.000E+00	1.000E-03
	608		0.000E+00	-1.000E-03	-2.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	609		-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	611		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-2.000E-03	-1.000E-03
	612		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
	613		1.000E-03	1.000E-03	0.000E+00	-2.000E-03	-1.000E-03	0.000E+00
MINIMUM			-1.000E-03	-1.000E-03	-2.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
MEAN			0.000E+00	-2.000E-04	-1.200E-03	-3.200E-03	-2.800E-03	-1.200E-03
MAXIMUM			1.000E-03	1.000E-03	0.000E+00	-2.000E-03	-1.000E-03	0.000E+00
+P 99/90			3.299E-03	3.704E-03	2.704E-03	7.039E-04	3.284E-03	2.704E-03
-P 99/90			-3.299E-03	-4.104E-03	-5.104E-03	-7.104E-03	-8.884E-03	-5.104E-03
SIGMA			7.071E-04	8.367E-04	8.367E-04	8.367E-04	1.304E-03	8.367E-04

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

REFERENCE OUTPUT VDIFF=40V IL=10MA (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		1.249E+00	1.249E+00	1.250E+00	1.249E+00	1.249E+00	1.249E+00
	608		1.249E+00	1.251E+00	1.250E+00	1.249E+00	1.248E+00	1.247E+00
	609		1.251E+00	1.247E+00	1.247E+00	1.246E+00	1.244E+00	1.246E+00
	611		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.246E+00
	612		1.248E+00	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.247E+00
	613		1.249E+00	1.250E+00	1.250E+00	1.249E+00	1.247E+00	1.248E+00
MINIMUM		1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.244E+00	1.244E+00	1.246E+00
MEAN		1.249E+00	1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.246E+00	1.248E+00
MAXIMUM		1.251E+00	1.251E+00	1.250E+00	1.249E+00	1.248E+00	1.248E+00	1.249E+00
+P 99/90		1.255E+00	1.256E+00	1.255E+00	1.254E+00	1.253E+00	1.253E+00	1.254E+00
-P 99/90		1.243E+00	1.241E+00	1.242E+00	1.241E+00	1.238E+00	1.239E+00	1.241E+00
SIGMA		1.225E-03	1.643E-03	1.342E-03	1.342E-03	1.643E-03	1.581E-03	1.342E-03

---

REFERENCE OUTPUT VDIFF=40V IL=10MA (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N								
CONTROL	604		0.000E+00	1.000E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	608		2.000E-03	1.000E-03	0.000E+00	-1.000E-03	-2.000E-03	0.000E+00
	609		-4.000E-03	-4.000E-03	-5.000E-03	-7.000E-03	-7.000E-03	-5.000E-03
	611		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-2.000E-03	-1.000E-03
	612		0.000E+00	0.000E+00	-1.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
	613		1.000E-03	1.000E-03	0.000E+00	-2.000E-03	-1.000E-03	0.000E+00
MINIMUM			-4.000E-03	-4.000E-03	-5.000E-03	-7.000E-03	-7.000E-03	-5.000E-03
MEAN			-2.000E-04	-4.000E-04	-1.400E-03	-3.200E-03	-3.000E-03	-1.400E-03
MAXIMUM			2.000E-03	1.000E-03	0.000E+00	-1.000E-03	-1.000E-03	0.000E+00
+P 99/90			1.044E-02	9.276E-03	8.276E-03	7.440E-03	7.943E-03	8.276E-03
-P 99/90			-1.084E-02	-1.008E-02	-1.108E-02	-1.384E-02	-1.394E-02	-1.108E-02
SIGMA			2.280E-03	2.074E-03	2.074E-03	2.280E-03	2.345E-03	2.074E-03

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

REFERENCE OUTPUT VDIFF=3V IL=0.5A (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N -----								
CONTROL	604		1.242E+00	1.245E+00	1.245E+00	1.240E+00	1.242E+00	1.245E+00
	608		1.242E+00	1.246E+00	1.246E+00	1.242E+00	1.238E+00	1.242E+00
	609		1.245E+00	1.243E+00	1.240E+00	1.246E+00	1.244E+00	1.237E+00
	611		1.242E+00	1.244E+00	1.243E+00	1.240E+00	1.236E+00	1.240E+00
	612		1.241E+00	1.243E+00	1.239E+00	1.238E+00	1.238E+00	1.239E+00
	613		1.243E+00	1.246E+00	1.244E+00	1.241E+00	1.241E+00	1.243E+00
MINIMUM		1.241E+00	1.243E+00	1.239E+00	1.238E+00	1.236E+00	1.237E+00	1.239E+00
MEAN		1.243E+00	1.244E+00	1.242E+00	1.241E+00	1.239E+00	1.240E+00	1.241E+00
MAXIMUM		1.245E+00	1.246E+00	1.246E+00	1.246E+00	1.244E+00	1.242E+00	1.243E+00
+P 99/90		1.250E+00	1.251E+00	1.256E+00	1.255E+00	1.254E+00	1.249E+00	1.248E+00
-P 99/90		1.236E+00	1.237E+00	1.229E+00	1.228E+00	1.225E+00	1.231E+00	1.234E+00
SIGMA		1.517E-03	1.517E-03	2.881E-03	2.966E-03	3.130E-03	1.924E-03	1.414E-03

---

REFERENCE OUTPUT VDIFF=3V IL=0.5A (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
S/N -----								
CONTROL	604		3.000E-03	3.000E-03	-2.000E-03	0.000E+00	3.000E-03	1.000E-03
	608		4.000E-03	4.000E-03	0.000E+00	-4.000E-03	0.000E+00	-1.000E-03
	609		-2.000E-03	-5.000E-03	1.000E-03	-1.000E-03	-8.000E-03	-6.000E-03
	611		2.000E-03	1.000E-03	-2.000E-03	-6.000E-03	-2.000E-03	-1.000E-03
	612		2.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-2.000E-03	0.000E+00
	613		3.000E-03	1.000E-03	-2.000E-03	-2.000E-03	-2.000E-03	0.000E+00
MINIMUM			-2.000E-03	-5.000E-03	-3.000E-03	-6.000E-03	-8.000E-03	-6.000E-03
MEAN			1.800E-03	-2.000E-04	-1.200E-03	-3.200E-03	-2.800E-03	-1.600E-03
MAXIMUM			4.000E-03	4.000E-03	1.000E-03	-1.000E-03	0.000E+00	0.000E+00
+P 99/90			1.244E-02	1.576E-02	6.467E-03	5.775E-03	1.135E-02	1.011E-02
-P 99/90			-8.840E-03	-1.616E-02	-8.867E-03	-1.218E-02	-1.695E-02	-1.331E-02
SIGMA			2.280E-03	3.421E-03	1.643E-03	1.924E-03	3.033E-03	2.510E-03

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

REFERENCE OUTPUT VDIFF=40V IL=0.05A (V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
<hr/>								
S/N								
CONTROL	604		1.249E+00	1.249E+00	1.249E+00	1.248E+00	1.249E+00	1.249E+00
	608		1.251E+00	1.250E+00	1.250E+00	1.248E+00	1.247E+00	1.247E+00
	609		1.247E+00	1.247E+00	1.246E+00	1.245E+00	1.243E+00	1.244E+00
	611		1.247E+00	1.248E+00	1.247E+00	1.246E+00	1.245E+00	1.245E+00
	612		1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.244E+00	1.245E+00
	613		1.250E+00	1.249E+00	1.249E+00	1.248E+00	1.247E+00	1.249E+00
MINIMUM		1.247E+00	1.247E+00	1.246E+00	0.000E+00	1.243E+00	1.244E+00	1.246E+00
MEAN		1.249E+00	1.248E+00	1.248E+00	2.600E-04	1.245E+00	1.246E+00	1.248E+00
MAXIMUM		1.251E+00	1.250E+00	1.250E+00	5.000E-04	1.247E+00	1.247E+00	1.249E+00
+P 99/90		1.257E+00	1.254E+00	1.255E+00	1.431E-03	1.254E+00	1.252E+00	1.254E+00
-P 99/90		1.240E+00	1.242E+00	1.240E+00	-9.112E-04	1.237E+00	1.239E+00	1.241E+00
SIGMA		1.817E-03	1.304E-03	1.643E-03	2.510E-04	1.789E-03	1.342E-03	1.342E-03

---

REFERENCE OUTPUT VDIFF=40V IL=0.05A (V) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR	168 HOUR
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	BIASED	BIASED
							ANNEAL	ANNEAL
							25C	100C
<hr/>								
S/N								
CONTROL	604		0.000E+00	0.000E+00	-1.249E+00	0.000E+00	0.000E+00	0.000E+00
	608		-1.000E-03	-1.000E-03	-1.251E+00	-4.000E-03	-4.000E-03	-2.000E-03
	609		0.000E+00	-1.000E-03	-1.247E+00	-4.000E-03	-3.000E-03	-1.000E-03
	611		1.000E-03	0.000E+00	-1.247E+00	-2.000E-03	-2.000E-03	0.000E+00
	612		-1.000E-03	-1.000E-03	-1.248E+00	-4.000E-03	-3.000E-03	-1.000E-03
	613		-1.000E-03	-1.000E-03	-1.250E+00	-3.000E-03	-3.000E-03	-1.000E-03
MINIMUM			-1.000E-03	-1.000E-03	-1.251E+00	-4.000E-03	-4.000E-03	-2.000E-03
MEAN			-4.000E-04	-8.000E-04	-1.248E+00	-3.400E-03	-3.000E-03	-1.000E-03
MAXIMUM			1.000E-03	0.000E+00	-1.247E+00	-2.000E-03	-2.000E-03	0.000E+00
+P 99/90			3.773E-03	1.287E-03	-1.241E+00	7.734E-04	2.994E-04	2.299E-03
-P 99/90			-4.573E-03	-2.887E-03	-1.256E+00	-7.573E-03	-6.299E-03	-4.299E-03
SIGMA			8.944E-04	4.472E-04	1.629E-03	8.944E-04	7.071E-04	7.071E-04

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

LINE REG VDIFF =3V TO 40V IL=10MA                          (%/V)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		0.00E+00	2.00E-04	3.000E-04	-3.00E-04	4.00E-04	3.00E-04
	608		4.00E-04	2.00E-04	5.000E-04	4.00E-04	8.00E-04	5.00E-04
	609		1.00E-04	5.00E-04	3.000E-04	4.00E-04	7.00E-04	4.00E-04
	611		3.00E-04	3.00E-04	0.000E+00	5.00E-04	3.00E-04	4.00E-04
	612		4.00E-04	3.00E-04	0.000E+00	3.00E-04	1.00E-04	8.00E-04
	613		3.00E-04	2.00E-04	5.000E-04	6.00E-04	5.00E-04	3.00E-04
	MINIMUM		1.00E-04	2.00E-04	#REF!	3.00E-04	1.00E-04	3.00E-04
	MEAN		3.00E-04	3.00E-04	#REF!	4.40E-04	4.80E-04	4.80E-04
	MAXIMUM		4.00E-04	5.00E-04	#REF!	6.00E-04	8.00E-04	8.00E-04
	+P 99/90		8.71E-04	8.71E-04	#REF!	9.72E-04	1.82E-03	1.38E-03
	-P 99/90		-2.71E-04	-2.71E-04	#REF!	-9.20E-05	-8.56E-04	-4.18E-04
	SIGMA		1.22E-04	1.22E-04	#REF!	1.14E-04	2.86E-04	1.92E-04
								5.48E-05

---

LINE REG VDIFF =3V TO 40V IL=10MA                          (%/V)                          [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.00E-04	#REF!	-3.00E-04	4.00E-04	3.00E-04	1.00E-04
	608		-2.00E-04	#REF!	0.00E+00	4.00E-04	1.00E-04	0.00E+00
	609		4.00E-04	#REF!	3.00E-04	6.00E-04	3.00E-04	4.00E-04
	611		0.00E+00	#REF!	2.00E-04	0.00E+00	1.00E-04	2.00E-04
	612		-1.00E-04	#REF!	-1.00E-04	-3.00E-04	4.00E-04	1.00E-04
	613		-1.00E-04	#REF!	3.00E-04	2.00E-04	0.00E+00	1.00E-04
	MINIMUM		-2.00E-04	#REF!	-1.00E-04	-3.00E-04	0.00E+00	0.00E+00
	MEAN		0.00E+00	#REF!	1.40E-04	1.80E-04	1.80E-04	1.60E-04
	MAXIMUM		4.00E-04	#REF!	3.00E-04	6.00E-04	4.00E-04	4.00E-04
	+P 99/90		1.09E-03	#REF!	9.88E-04	1.81E-03	9.47E-04	8.68E-04
	-P 99/90		-1.09E-03	#REF!	-7.08E-04	-1.45E-03	-5.87E-04	-5.48E-04
	SIGMA		2.35E-04	#REF!	1.82E-04	3.49E-04	1.64E-04	1.52E-04

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
Bias Condition # 2 Unbiased  
D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

LOAD REG VOUT<=5V IL=10 MA TO 0.5A (MV)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		7.07E+00	7.51E+00	5.93E+00	7.93E+00	7.26E+00	5.61E+00
	608		5.89E+00	6.20E+00	5.93E+00	8.02E+00	8.93E+00	6.32E+00
	609		6.35E+00	6.40E+00	6.16E+00	7.85E+00	9.26E+00	6.47E+00
	611		6.01E+00	5.95E+00	5.57E+00	6.42E+00	7.58E+00	7.75E+00
	612		6.32E+00	6.60E+00	8.35E+00	8.30E+00	9.15E+00	6.74E+00
	613		6.05E+00	6.32E+00	7.43E+00	6.89E+00	8.69E+00	6.52E+00
MINIMUM			5.89E+00	5.95E+00	5.57E+00	6.42E+00	7.58E+00	6.32E+00
MEAN			6.12E+00	6.29E+00	6.69E+00	7.49E+00	8.72E+00	6.76E+00
MAXIMUM			6.35E+00	6.60E+00	8.35E+00	8.30E+00	9.26E+00	8.40E+00
+P 99/90			7.05E+00	7.43E+00	1.21E+01	1.12E+01	1.19E+01	9.43E+00
-P 99/90			5.19E+00	5.15E+00	1.26E+00	3.75E+00	5.57E+00	4.08E+00
SIGMA			1.99E-01	2.44E-01	1.16E+00	8.03E-01	6.75E-01	5.74E-01

---

LOAD REG VOUT<=5V IL=10 MA TO 0.5A (MV) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		4.38E-01	-1.15E+00	8.59E-01	1.85E-01	-1.47E+00	-5.56E-01
	608		3.04E-01	3.40E-02	2.12E+00	3.03E+00	4.21E-01	2.51E+00
	609		5.10E-02	-1.85E-01	1.50E+00	2.91E+00	1.18E-01	2.69E-01
	611		-6.70E-02	-4.38E-01	4.04E-01	1.57E+00	1.74E+00	6.74E-01
	612		2.87E-01	2.04E+00	1.99E+00	2.83E+00	4.21E-01	3.54E-01
	613		2.69E-01	1.38E+00	8.42E-01	2.64E+00	4.71E-01	-2.19E-01
MINIMUM			-6.70E-02	-4.38E-01	4.04E-01	1.57E+00	1.18E-01	-2.19E-01
MEAN			1.69E-01	5.66E-01	1.37E+00	2.60E+00	6.33E-01	7.18E-01
MAXIMUM			3.04E-01	2.04E+00	2.12E+00	3.03E+00	1.74E+00	2.51E+00
+P 99/90			9.49E-01	5.62E+00	4.81E+00	5.37E+00	3.58E+00	5.63E+00
-P 99/90			-6.11E-01	-4.48E+00	-2.07E+00	-1.72E-01	-2.31E+00	-4.19E+00
SIGMA			1.67E-01	1.08E+00	7.38E-01	5.93E-01	6.32E-01	1.05E+00

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

LOAD REG VOUT>=5V IL=10MA TO 0.5A (%)

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-1.83E-01	-2.20E-01	-1.61E-01	-1.87E-01	-1.88E-01	-1.58E-01
	608		1.45E-01	-1.50E-01	-1.52E-01	-2.67E-01	-2.21E-01	-1.90E-01
	609		-1.43E-01	-1.57E-01	-1.70E-01	-1.89E-01	-2.22E-01	-1.64E-01
	611		-1.51E-01	-1.45E-01	-1.47E-01	-1.55E-01	-1.81E-01	-2.03E-01
	612		-1.97E-01	-2.05E-01	-2.11E-01	-2.11E-01	-2.59E-01	-1.85E-01
	613		-1.63E-01	-1.54E-01	-1.82E-01	-1.70E-01	-2.52E-01	-1.71E-01
MINIMUM			-1.97E-01	-2.05E-01	-2.11E-01	-2.67E-01	-2.59E-01	-2.03E-01
MEAN			-1.02E-01	-1.62E-01	-1.72E-01	-1.98E-01	-2.27E-01	-1.83E-01
MAXIMUM			1.45E-01	-1.45E-01	-1.47E-01	-1.55E-01	-1.81E-01	-1.64E-01
+P 99/90			5.49E-01	-4.86E-02	-5.23E-02	5.56E-03	-8.27E-02	-1.10E-01
-P 99/90			-7.53E-01	-2.76E-01	-2.92E-01	-4.02E-01	-3.71E-01	-2.55E-01
SIGMA			1.39E-01	2.43E-02	2.57E-02	4.37E-02	3.09E-02	1.55E-02
								4.45E-02

---

LOAD REG VOUT>=5V IL=10MA TO 0.5A (%)

[DELTA]

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-3.70E-02	2.20E-02	-4.00E-03	-5.00E-03	2.50E-02	-1.00E-03
	608		-2.95E-01	-2.97E-01	-4.12E-01	-3.66E-01	-3.35E-01	-3.52E-01
	609		-1.40E-02	-2.70E-02	-4.60E-02	-7.90E-02	-2.10E-02	-1.18E-01
	611		6.00E-03	4.00E-03	-4.00E-03	-3.00E-02	-5.20E-02	-1.30E-02
	612		-8.00E-03	-1.40E-02	-1.40E-02	-6.20E-02	1.20E-02	-5.70E-02
	613		9.00E-03	-1.90E-02	-7.00E-03	-8.90E-02	-8.00E-03	-1.06E-01
MINIMUM			-2.95E-01	-2.97E-01	-4.12E-01	-3.66E-01	-3.35E-01	-3.52E-01
MEAN			-6.04E-02	-7.06E-02	-9.66E-02	-1.25E-01	-8.08E-02	-1.29E-01
MAXIMUM			9.00E-03	4.00E-03	-4.00E-03	-3.00E-02	1.20E-02	-1.30E-02
+P 99/90			5.53E-01	5.22E-01	7.30E-01	5.12E-01	5.91E-01	4.84E-01
-P 99/90			-6.74E-01	-6.64E-01	-9.23E-01	-7.62E-01	-7.53E-01	-7.42E-01
SIGMA			1.31E-01	1.27E-01	1.77E-01	1.36E-01	1.44E-01	1.31E-01

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

BIAS CURRENT VDIFF=3V IL=10MA

(UA)

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.85E+01	3.86E+01	3.65E+01	3.63E+01	3.84E+01	3.71E+01
	608		3.96E+01	3.97E+01	3.99E+01	3.69E+01	3.94E+01	3.77E+01
	609		3.63E+00	3.98E+01	4.01E+01	3.98E+01	3.96E+01	3.78E+01
	611		3.99E+01	3.90E+01	3.92E+01	3.90E+01	3.88E+01	3.71E+01
	612		3.89E+01	3.90E+01	3.68E+01	3.91E+01	3.89E+01	3.72E+01
	613		4.80E-01	4.08E+01	3.83E+01	4.05E+01	4.02E+01	3.87E+01
	MINIMUM		4.80E-01	3.90E+01	3.68E+01	3.69E+01	3.88E+01	3.71E+01
	MEAN		2.45E+01	3.97E+01	3.89E+01	3.91E+01	3.94E+01	3.77E+01
	MAXIMUM		3.99E+01	4.08E+01	4.01E+01	4.05E+01	4.02E+01	3.87E+01
	+P 99/90		1.20E+02	4.31E+01	4.51E+01	4.52E+01	4.19E+01	4.06E+01
	-P 99/90		-7.13E+01	3.63E+01	3.26E+01	3.29E+01	3.68E+01	3.48E+01
	SIGMA		2.05E+01	7.29E-01	1.35E+00	1.32E+00	5.54E-01	6.24E-01
<hr/>								

BIAS CURRENT VDIFF=3V IL=10MA

(UA)

[DELTA]

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		7.00E-02	-2.03E+00	-2.25E+00	-1.60E-01	-1.47E+00	-1.10E-01
	608		3.00E-02	2.90E-01	-2.69E+00	-2.40E-01	-1.98E+00	-6.00E-01
	609		3.61E+01	3.64E+01	3.61E+01	3.59E+01	3.42E+01	3.58E+01
	611		-8.30E-01	-6.50E-01	-8.30E-01	-1.09E+00	-2.72E+00	-1.50E+00
	612		1.10E-01	-2.12E+00	2.00E-01	-2.00E-02	-1.74E+00	-5.10E-01
	613		4.03E+01	3.78E+01	4.00E+01	3.97E+01	3.82E+01	3.93E+01
	MINIMUM		-8.30E-01	-2.12E+00	-2.69E+00	-1.09E+00	-2.72E+00	-1.50E+00
	MEAN		1.52E+01	1.44E+01	1.46E+01	1.49E+01	1.32E+01	1.45E+01
	MAXIMUM		4.03E+01	3.78E+01	4.00E+01	3.97E+01	3.82E+01	3.93E+01
	+P 99/90		1.14E+02	1.11E+02	1.15E+02	1.13E+02	1.11E+02	1.13E+02
	-P 99/90		-8.34E+01	-8.27E+01	-8.58E+01	-8.31E+01	-8.50E+01	-8.38E+01
	SIGMA		2.11E+01	2.08E+01	2.15E+01	2.10E+01	2.10E+01	2.11E+01
<hr/>								

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
Bias Condition # 2 Unbiased  
D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

BIAS CURRENT VDIFF=5V IL=10MA			(UA)					
FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<b>S/N</b>								
CONTROL	604		3.86E+01	3.87E+01	3.64E+01	3.65E+01	3.86E+01	3.71E+01
	608		3.96E+01	3.97E+01	4.00E+01	3.70E+01	3.94E+01	3.78E+01
	609		3.96E+01	3.97E+01	4.01E+01	3.98E+01	3.95E+01	3.79E+01
	611		3.99E+01	3.92E+01	3.93E+01	3.91E+01	3.88E+01	3.71E+01
	612		3.89E+01	3.93E+01	3.69E+01	3.90E+01	3.89E+01	3.72E+01
	613		4.05E+01	4.07E+01	3.84E+01	4.05E+01	4.02E+01	3.87E+01
	MINIMUM		3.89E+01	3.92E+01	3.69E+01	3.70E+01	3.88E+01	3.71E+01
	MEAN		3.97E+01	3.97E+01	3.89E+01	3.91E+01	3.93E+01	3.77E+01
	MAXIMUM		4.05E+01	4.07E+01	4.01E+01	4.05E+01	4.02E+01	3.87E+01
	+P 99/90		4.24E+01	4.25E+01	4.51E+01	4.51E+01	4.19E+01	4.06E+01
	-P 99/90		3.71E+01	3.69E+01	3.27E+01	3.30E+01	3.67E+01	3.48E+01
	SIGMA		5.66E-01	6.04E-01	1.33E+00	1.30E+00	5.59E-01	6.18E-01

---

BIAS CURRENT VDIFF=5V IL=10MA			[DELTA]					
FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<b>S/N</b>								
CONTROL	604		1.60E-01	-2.16E+00	-2.02E+00	3.00E-02	-1.51E+00	-1.10E-01
	608		3.00E-02	3.40E-01	-2.60E+00	-2.00E-01	-1.87E+00	-5.10E-01
	609		9.00E-02	4.30E-01	2.10E-01	-1.50E-01	-1.78E+00	-2.20E-01
	611		-7.30E-01	-6.40E-01	-8.60E-01	-1.17E+00	-2.80E+00	-1.58E+00
	612		3.80E-01	-2.07E+00	1.10E-01	-7.00E-02	-1.74E+00	-5.60E-01
	613		2.50E-01	-2.07E+00	0.00E+00	-3.30E-01	-1.82E+00	-7.80E-01
	MINIMUM		-7.30E-01	-2.07E+00	-2.60E+00	-1.17E+00	-2.80E+00	-1.58E+00
	MEAN		4.00E-03	-8.02E-01	-6.28E-01	-3.84E-01	-2.00E+00	-7.30E-01
	MAXIMUM		3.80E-01	4.30E-01	2.10E-01	-7.00E-02	-1.74E+00	-2.20E-01
	+P 99/90		2.02E+00	4.94E+00	4.88E+00	1.71E+00	9.16E-02	1.67E+00
	-P 99/90		-2.01E+00	-6.55E+00	-6.14E+00	-2.48E+00	-4.10E+00	-3.13E+00
	SIGMA		4.33E-01	1.23E+00	1.18E+00	4.49E-01	4.49E-01	5.15E-01

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

BIAS CURRENT VDIFF=40V IL=10MA (UA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		3.85E+01	3.87E+01	3.66E+01	3.66E+01	3.86E+01	3.71E+01
	608		3.97E+01	3.98E+01	3.99E+01	3.71E+01	3.96E+01	3.79E+01
	609		3.98E+01	3.98E+01	4.00E+01	3.99E+01	3.97E+01	3.80E+01
	611		3.99E+01	3.93E+01	3.93E+01	3.93E+01	3.88E+01	3.71E+01
	612		3.90E+01	3.94E+01	3.70E+01	3.90E+01	3.89E+01	3.73E+01
	613		4.07E+01	4.08E+01	3.85E+01	4.05E+01	4.04E+01	3.88E+01
	MINIMUM		3.90E+01	3.93E+01	3.70E+01	3.71E+01	3.88E+01	3.71E+01
	MEAN		3.98E+01	3.98E+01	3.89E+01	3.92E+01	3.95E+01	3.78E+01
	MAXIMUM		4.07E+01	4.08E+01	4.00E+01	4.05E+01	4.04E+01	3.88E+01
	+P 99/90		4.26E+01	4.26E+01	4.48E+01	4.52E+01	4.25E+01	4.08E+01
	-P 99/90		3.70E+01	3.70E+01	3.31E+01	3.31E+01	3.64E+01	3.48E+01
	SIGMA		6.08E-01	6.09E-01	1.25E+00	1.29E+00	6.54E-01	6.45E-01
<hr/>								

BIAS CURRENT VDIFF=40V IL=10MA (UA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.10E-01	-1.84E+00	-1.84E+00	1.20E-01	-1.33E+00	1.20E-01
	608		7.00E-02	2.40E-01	-2.61E+00	-7.00E-02	-1.80E+00	-6.00E-01
	609		-2.00E-02	2.00E-01	1.10E-01	-1.50E-01	-1.78E+00	-3.30E-01
	611		-6.80E-01	-6.80E-01	-6.40E-01	-1.13E+00	-2.80E+00	-1.58E+00
	612		4.30E-01	-1.98E+00	7.00E-02	-2.00E-02	-1.64E+00	-5.50E-01
	613		1.50E-01	-2.12E+00	-2.00E-01	-2.20E-01	-1.89E+00	-7.80E-01
	MINIMUM		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MEAN		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MAXIMUM		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	+P 99/90		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	-P 99/90		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	SIGMA		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<hr/>								

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
Bias Condition # 2 Unbiased  
D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (UA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		0.00E+00	1.80E-01	2.20E-01	3.10E-01	5.30E-01	0.00E+00
	608		-1.30E-01	0.00E+00	4.00E-02	2.70E-01	4.50E-01	1.10E-01
	609		1.80E-01	2.50E-01	-9.00E-02	-9.00E-02	2.20E-01	2.20E-01
	611		0.00E+00	-2.70E-01	4.00E-01	9.00E-02	4.00E-01	7.00E-02
	612		9.00E-02	2.70E-01	0.00E+00	9.00E-02	3.10E-01	9.00E-02
	613		1.30E-01	0.00E+00	-4.00E-02	1.30E-01	4.00E-02	3.10E-01
	MINIMUM		-1.30E-01	-2.70E-01	-9.00E-02	-9.00E-02	4.00E-02	7.00E-02
	MEAN		5.40E-02	5.00E-02	6.20E-02	9.80E-02	2.84E-01	1.60E-01
	MAXIMUM		1.80E-01	2.70E-01	4.00E-01	2.70E-01	4.50E-01	3.10E-01
	+P 99/90		6.24E-01	1.08E+00	9.72E-01	6.98E-01	1.04E+00	6.36E-01
	-P 99/90		-5.16E-01	-9.82E-01	-8.48E-01	-5.02E-01	-4.73E-01	-3.16E-01
	SIGMA		1.22E-01	2.21E-01	1.95E-01	1.29E-01	1.62E-01	1.02E-01

---

BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (UA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.80E-01	2.20E-01	#REF!	5.30E-01	0.00E+00	2.20E-01
	608		1.30E-01	1.70E-01	1.30E-01	5.80E-01	2.40E-01	1.30E-01
	609		7.00E-02	-2.70E-01	9.00E-02	4.00E-02	4.00E-02	0.00E+00
	611		-2.70E-01	4.00E-01	-9.00E-02	4.00E-01	7.00E-02	0.00E+00
	612		1.80E-01	-9.00E-02	0.00E+00	2.20E-01	0.00E+00	-9.00E-02
	613		-1.30E-01	-1.70E-01	0.00E+00	-9.00E-02	1.80E-01	1.80E-01
	MINIMUM		-2.70E-01	-2.70E-01	-9.00E-02	-9.00E-02	0.00E+00	-9.00E-02
	MEAN		-4.00E-03	8.00E-03	2.60E-02	2.30E-01	1.06E-01	4.40E-02
	MAXIMUM		1.80E-01	4.00E-01	1.30E-01	5.80E-01	2.40E-01	1.80E-01
	+P 99/90		8.81E-01	1.28E+00	4.28E-01	1.49E+00	5.74E-01	5.54E-01
	-P 99/90		-8.89E-01	-1.27E+00	-3.76E-01	-1.03E+00	-3.62E-01	-4.66E-01
	SIGMA		1.90E-01	2.73E-01	8.62E-02	2.69E-01	1.00E-01	1.09E-01

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
Bias Condition # 2 Unbiased  
D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
P.O.# 46147L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---



---

BIAS CHANGE VDIFF=3V TO 40V IL=10MA (UA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		0.00E+00	0.00E+00	9.00E-02	-3.10E-01	0.00E+00	0.00E+00
	608		-1.80E-01	-1.30E-01	-9.00E-02	-4.00E-02	-2.70E-01	-9.00E-02
	609		1.80E-01	4.00E-02	-7.00E-02	0.00E+00	-2.70E-01	-1.30E-01
	611		0.00E+00	-2.70E-01	-2.20E-01	-2.20E-01	-2.20E-01	0.00E+00
	612		4.00E-02	-1.80E-01	-9.00E-02	0.00E+00	-1.80E-01	-1.30E-01
	613		-9.00E-02	-1.30E-01	-1.80E-01	-1.60E-01	-1.30E-01	-1.80E-01
	MINIMUM		-1.80E-01	-2.70E-01	-2.20E-01	-2.20E-01	-2.70E-01	-1.80E-01
	MEAN		-1.00E-02	-1.34E-01	-1.30E-01	-8.40E-02	-2.14E-01	-1.06E-01
	MAXIMUM		1.80E-01	4.00E-02	-7.00E-02	0.00E+00	-1.30E-01	0.00E+00
	+P 99/90		6.25E-01	3.92E-01	1.78E-01	3.84E-01	6.71E-02	2.08E-01
	-P 99/90		-6.45E-01	-6.60E-01	-4.38E-01	-5.52E-01	-4.95E-01	-4.20E-01
	SIGMA		1.36E-01	1.13E-01	6.60E-02	1.00E-01	6.02E-02	6.73E-02
<hr/>								

BIAS CHANGE VDIFF=3V TO 40V IL=10MA (UA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		0.00E+00	9.00E-02	-3.10E-01	0.00E+00	0.00E+00	-9.00E-02
	608		5.00E-02	9.00E-02	1.40E-01	-9.00E-02	9.00E-02	1.40E-01
	609		-1.40E-01	-2.50E-01	-1.80E-01	-4.50E-01	-3.10E-01	-2.70E-01
	611		-2.70E-01	-2.20E-01	-2.20E-01	-2.20E-01	0.00E+00	0.00E+00
	612		-2.20E-01	-1.30E-01	-4.00E-02	-2.20E-01	-1.70E-01	-2.00E-02
	613		-4.00E-02	-9.00E-02	-7.00E-02	-4.00E-02	-9.00E-02	2.70E-01
	MINIMUM		-2.70E-01	-2.50E-01	-2.20E-01	-4.50E-01	-3.10E-01	-2.70E-01
	MEAN		-1.24E-01	-1.20E-01	-7.40E-02	-2.04E-01	-9.60E-02	2.40E-02
	MAXIMUM		5.00E-02	9.00E-02	1.40E-01	-4.00E-02	9.00E-02	2.70E-01
	+P 99/90		4.85E-01	5.06E-01	5.84E-01	5.37E-01	6.24E-01	9.66E-01
	-P 99/90		-7.33E-01	-7.46E-01	-7.32E-01	-9.45E-01	-8.16E-01	-9.18E-01
	SIGMA		1.30E-01	1.34E-01	1.41E-01	1.59E-01	1.54E-01	2.02E-01
<hr/>								

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---



---

MINIMUM LOAD CURRENT VDIFF=40V (MA)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.08E+00	1.11E+00	1.10E+00	1.07E+00	1.10E+00	1.10E+00
	608		1.06E+00	1.05E+00	1.04E+00	1.07E+00	1.09E+00	1.12E+00
	609		1.24E+00	1.24E+00	1.24E+00	1.26E+00	1.30E+00	1.30E+00
	611		1.24E+00	1.09E+00	1.09E+00	1.12E+00	1.12E+00	1.14E+00
	612		8.30E-02	1.09E+00	1.10E+00	1.10E+00	1.12E+00	1.14E+00
	613		1.12E+00	1.13E+00	1.12E+00	1.14E+00	1.16E+00	1.18E+00
MINIMUM		8.30E-02	1.05E+00	1.04E+00	1.07E+00	1.09E+00	1.12E+00	1.12E+00
MEAN		9.49E-01	1.12E+00	1.12E+00	1.14E+00	1.16E+00	1.18E+00	1.17E+00
MAXIMUM		1.24E+00	1.24E+00	1.24E+00	1.26E+00	1.30E+00	1.30E+00	1.28E+00
+P 99/90		3.24E+00	1.46E+00	1.46E+00	1.48E+00	1.55E+00	1.51E+00	1.46E+00
-P 99/90		-1.34E+00	7.68E-01	7.76E-01	7.97E-01	7.70E-01	8.48E-01	8.87E-01
SIGMA		4.90E-01	7.47E-02	7.36E-02	7.35E-02	8.34E-02	7.10E-02	6.17E-02

---

MINIMUM LOAD CURRENT VDIFF=40V (MA) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.30E-02	2.10E-02	-1.80E-02	2.10E-02	2.10E-02	2.10E-02
	608		-1.90E-02	-2.00E-02	1.00E-03	2.10E-02	6.00E-02	6.00E-02
	609		2.00E-03	2.00E-03	2.20E-02	6.20E-02	6.20E-02	4.00E-02
	611		-1.52E-01	-1.53E-01	-1.14E-01	-1.14E-01	-9.40E-02	-9.40E-02
	612		1.00E+00	1.02E+00	1.02E+00	1.04E+00	1.06E+00	1.06E+00
	613		2.00E-03	1.00E-03	2.10E-02	4.10E-02	6.10E-02	6.10E-02
MINIMUM			-1.52E-01	-1.53E-01	-1.14E-01	-1.14E-01	-9.40E-02	-9.40E-02
MEAN			1.67E-01	1.70E-01	1.90E-01	2.10E-01	2.30E-01	2.26E-01
MAXIMUM			1.00E+00	1.02E+00	1.02E+00	1.04E+00	1.06E+00	1.06E+00
+P 99/90			2.37E+00	2.41E+00	2.37E+00	2.40E+00	2.42E+00	2.43E+00
-P 99/90			-2.03E+00	-2.07E+00	-1.99E+00	-1.98E+00	-1.96E+00	-1.97E+00
SIGMA			4.72E-01	4.80E-01	4.68E-01	4.70E-01	4.69E-01	4.71E-01

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---



---

SHORT CIRCUIT CURRENT VDIFF=15V (A)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		9.91E-01	9.83E-01	9.80E-01	9.85E-01	9.85E-01	9.90E-01
	608		9.30E-01	9.22E-01	9.35E-01	9.46E-01	9.57E-01	9.57E-01
	609		1.02E+00	1.02E+00	1.04E+00	1.05E+00	1.06E+00	1.06E+00
	611		1.02E+00	9.39E-01	9.52E-01	9.57E-01	9.74E-01	9.68E-01
	612		9.74E-01	9.72E-01	9.80E-01	1.00E+00	1.01E+00	9.90E-01
	613		9.96E-01	9.89E-01	1.00E+00	1.02E+00	1.03E+00	1.02E+00
MINIMUM			9.30E-01	9.22E-01	9.35E-01	9.46E-01	9.57E-01	9.57E-01
MEAN			9.90E-01	9.69E-01	9.81E-01	9.94E-01	1.01E+00	1.00E+00
MAXIMUM			1.02E+00	1.02E+00	1.04E+00	1.05E+00	1.06E+00	1.06E+00
+P 99/90			1.17E+00	1.15E+00	1.17E+00	1.19E+00	1.20E+00	1.19E+00
-P 99/90			8.06E-01	7.83E-01	7.95E-01	7.98E-01	8.16E-01	8.11E-01
SIGMA			3.94E-02	3.98E-02	3.97E-02	4.20E-02	4.08E-02	4.10E-02

---

SHORT CIRCUIT CURRENT VDIFF=15V (A) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-8.00E-03	-1.10E-02	-6.00E-03	-6.00E-03	-1.00E-03	-6.00E-03
	608		-8.00E-03	5.00E-03	1.60E-02	2.70E-02	2.70E-02	1.60E-02
	609		-2.00E-03	1.10E-02	2.20E-02	3.30E-02	3.30E-02	2.20E-02
	611		-8.50E-02	-7.20E-02	-6.70E-02	-5.00E-02	-5.60E-02	-6.70E-02
	612		-2.00E-03	6.00E-03	2.80E-02	3.90E-02	3.30E-02	1.60E-02
	613		-7.00E-03	6.00E-03	2.30E-02	3.40E-02	2.80E-02	1.70E-02
MINIMUM			-8.50E-02	-7.20E-02	-6.70E-02	-5.00E-02	-5.60E-02	-6.70E-02
MEAN			-2.08E-02	-8.80E-03	4.40E-03	1.66E-02	1.30E-02	8.00E-04
MAXIMUM			-2.00E-03	1.10E-02	2.80E-02	3.90E-02	3.30E-02	2.20E-02
+P 99/90			1.47E-01	1.56E-01	1.92E-01	1.91E-01	1.93E-01	1.78E-01
-P 99/90			-1.89E-01	-1.74E-01	-1.83E-01	-1.58E-01	-1.67E-01	-1.76E-01
SIGMA			3.60E-02	3.54E-02	4.01E-02	3.75E-02	3.87E-02	3.80E-02

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---

SHORT CIRCUIT CURRENT VIN-VOUT=40V (A)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		2.58E-01	2.44E-01	2.57E-01	2.57E-01	2.52E-01	2.51E-01
	608		2.46E-01	2.44E-01	2.57E-01	2.74E-01	2.91E-01	2.85E-01
	609		2.58E-01	2.61E-01	2.74E-01	2.96E-01	3.07E-01	3.01E-01
	611		2.63E-01	2.44E-01	2.57E-01	2.74E-01	2.91E-01	2.79E-01
	612		2.46E-01	2.55E-01	2.63E-01	2.85E-01	2.96E-01	2.90E-01
	613		2.58E-01	2.61E-01	2.74E-01	2.85E-01	3.02E-01	2.96E-01
MINIMUM			2.46E-01	2.44E-01	2.57E-01	2.74E-01	2.91E-01	2.79E-01
MEAN			2.54E-01	2.53E-01	2.65E-01	2.83E-01	2.97E-01	2.90E-01
MAXIMUM			2.63E-01	2.61E-01	2.74E-01	2.96E-01	3.07E-01	3.01E-01
+P 99/90			2.90E-01	2.93E-01	3.05E-01	3.26E-01	3.30E-01	3.31E-01
-P 99/90			2.18E-01	2.13E-01	2.25E-01	2.40E-01	2.65E-01	2.50E-01
SIGMA			7.76E-03	8.57E-03	8.57E-03	9.20E-03	7.02E-03	8.70E-03

---

SHORT CIRCUIT CURRENT VIN-VOUT=40V (A) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		-1.40E-02	-1.00E-03	-1.00E-03	-6.00E-03	-7.00E-03	-6.00E-03
	608		-2.00E-03	1.10E-02	2.80E-02	4.50E-02	3.90E-02	2.20E-02
	609		3.00E-03	1.60E-02	3.80E-02	4.90E-02	4.30E-02	2.70E-02
	611		-1.90E-02	-6.00E-03	1.10E-02	2.80E-02	1.60E-02	0.00E+00
	612		9.00E-03	1.70E-02	3.90E-02	5.00E-02	4.40E-02	2.80E-02
	613		3.00E-03	1.60E-02	2.70E-02	4.40E-02	3.80E-02	2.10E-02
MINIMUM			-1.90E-02	-6.00E-03	1.10E-02	2.80E-02	1.60E-02	0.00E+00
MEAN			-1.20E-03	1.08E-02	2.86E-02	4.32E-02	3.60E-02	1.96E-02
MAXIMUM			9.00E-03	1.70E-02	3.90E-02	5.00E-02	4.40E-02	2.80E-02
+P 99/90			4.87E-02	5.60E-02	8.12E-02	8.46E-02	8.95E-02	7.27E-02
-P 99/90			-5.11E-02	-3.44E-02	-2.40E-02	1.81E-03	-1.75E-02	-3.35E-02
SIGMA			1.07E-02	9.68E-03	1.13E-02	8.87E-03	1.15E-02	1.14E-02

---

**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

---



---

RIPPLE REJECTION CADJ=10UF VOUT=10V (DB)

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		1.28E+02	1.29E+02	1.26E+02	1.28E+02	1.27E+02	1.32E+02
	608		1.27E+02	1.30E+02	1.29E+02	1.28E+02	1.27E+02	1.31E+02
	609		1.28E+02	1.28E+02	1.25E+02	1.27E+02	1.28E+02	1.24E+02
	611		1.27E+02	2.44E-01	1.28E+02	1.30E+02	1.28E+02	1.27E+02
	612		1.27E+02	1.28E+02	1.31E+02	1.25E+02	1.28E+02	1.30E+02
	613		1.28E+02	1.35E+02	1.29E+02	1.27E+02	1.29E+02	1.31E+02
MINIMUM		1.27E+02	2.44E-01	1.25E+02	1.25E+02	1.27E+02	1.24E+02	1.28E+02
MEAN		1.27E+02	1.04E+02	1.28E+02	1.27E+02	1.28E+02	1.29E+02	1.30E+02
MAXIMUM		1.28E+02	1.35E+02	1.31E+02	1.30E+02	1.29E+02	1.31E+02	1.33E+02
+P 99/90		1.29E+02	3.76E+02	1.39E+02	1.35E+02	1.31E+02	1.42E+02	1.40E+02
-P 99/90		1.26E+02	-1.67E+02	1.18E+02	1.19E+02	1.25E+02	1.15E+02	1.20E+02
SIGMA		3.84E-01	5.82E+01	2.23E+00	1.71E+00	7.09E-01	2.93E+00	2.10E+00

---

RIPPLE REJECTION CADJ=10UF VOUT=10V (DB) [DELTA]

---

FLUENCE	krad(Si)	INITIAL	7.00E+00	1.50E+01	3.00E+01	5.00E+01	24 HOUR BIASED ANNEAL	168 HOUR BIASED ANNEAL
FLUX	rad(Si)/sec		5.00E+01	5.00E+01	5.00E+01	5.00E+01	25C	100C
<hr/>								
S/N								
CONTROL	604		9.50E-01	-1.61E+00	3.60E-01	-5.20E-01	3.99E+00	-1.59E+00
	608		2.88E+00	1.95E+00	1.00E+00	-4.70E-01	3.86E+00	3.50E-01
	609		1.00E-02	-2.68E+00	-7.70E-01	2.60E-01	-3.52E+00	2.38E+00
	611		-1.27E+02	5.80E-01	2.60E+00	1.56E+00	1.90E-01	3.91E+00
	612		6.10E-01	3.81E+00	-2.46E+00	3.90E-01	2.60E+00	5.25E+00
	613		6.88E+00	8.40E-01	-1.08E+00	8.90E-01	3.21E+00	2.10E-01
MINIMUM			-1.27E+02	-2.68E+00	-2.46E+00	-4.70E-01	-3.52E+00	2.10E-01
MEAN			-2.33E+01	9.00E-01	-1.42E-01	5.26E-01	1.27E+00	2.42E+00
MAXIMUM			6.88E+00	3.81E+00	2.60E+00	1.56E+00	3.86E+00	5.25E+00
+P 99/90			2.47E+02	1.20E+01	9.03E+00	4.05E+00	1.53E+01	1.27E+01
-P 99/90			-2.93E+02	-1.02E+01	-9.32E+00	-3.00E+00	-1.28E+01	-7.86E+00
SIGMA			5.79E+01	2.37E+00	1.97E+00	7.55E-01	3.01E+00	2.20E+00

---

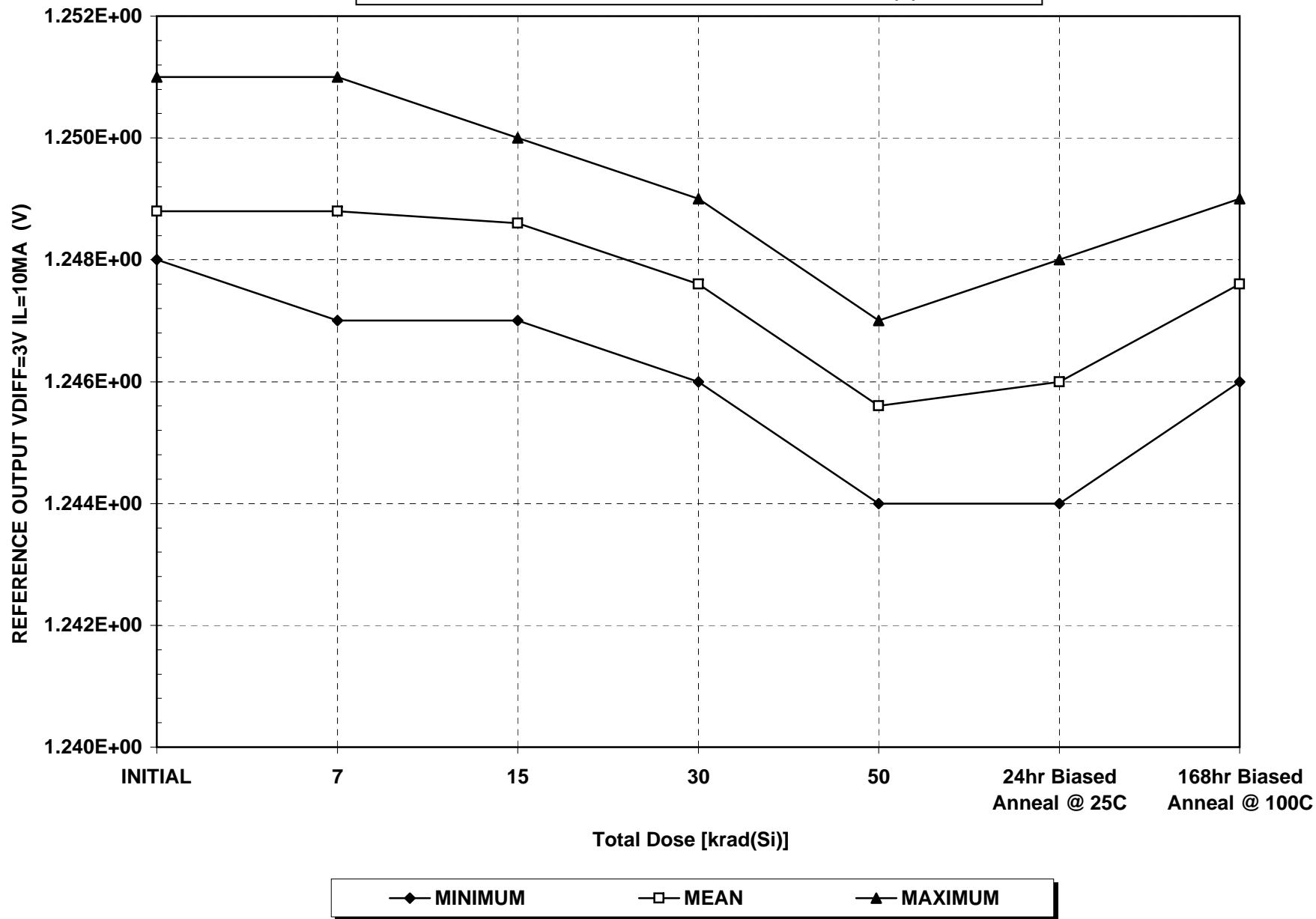
**DEVICE TYPE: RH117H VOLTAGE REGULATOR (LTC)**  
**RADIATION SOURCE: SHEPHERD 484 (Co60), 1.25MeV**  
 Bias Condition # 2 Unbiased  
 D/C 0706A || PACKAGE 3-Lead Can (TO-39) || LOT# A21511.1  
 LOG# 1585 || TEST DATE 08/02/07 || RTP# 689 || Wafter 5  
 P.O.# 46147L

I C S RADIATION TECHNOLOGIES, INC.

RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

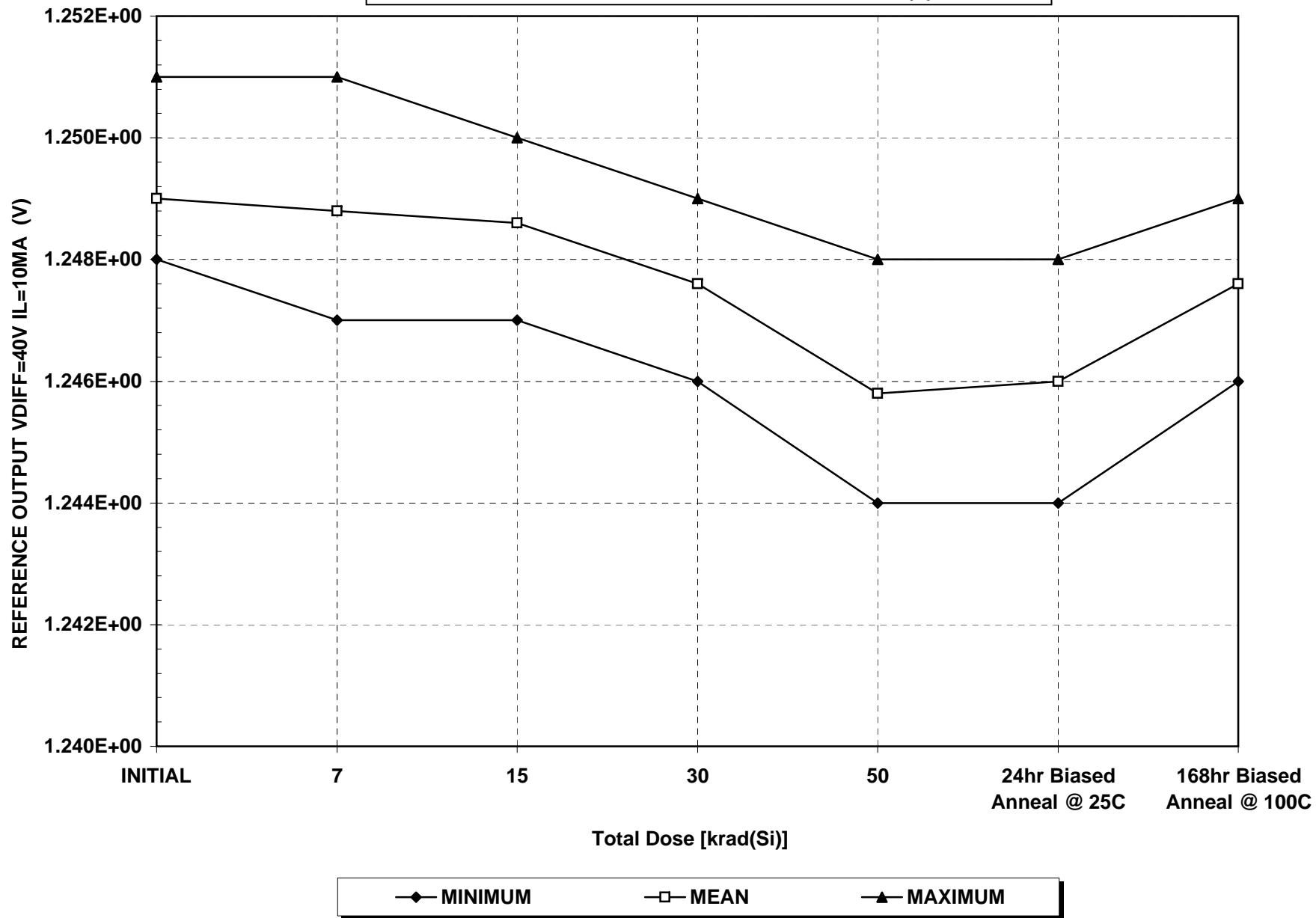
REFERENCE OUTPUT VDIFF=3V IL=10MA (V)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

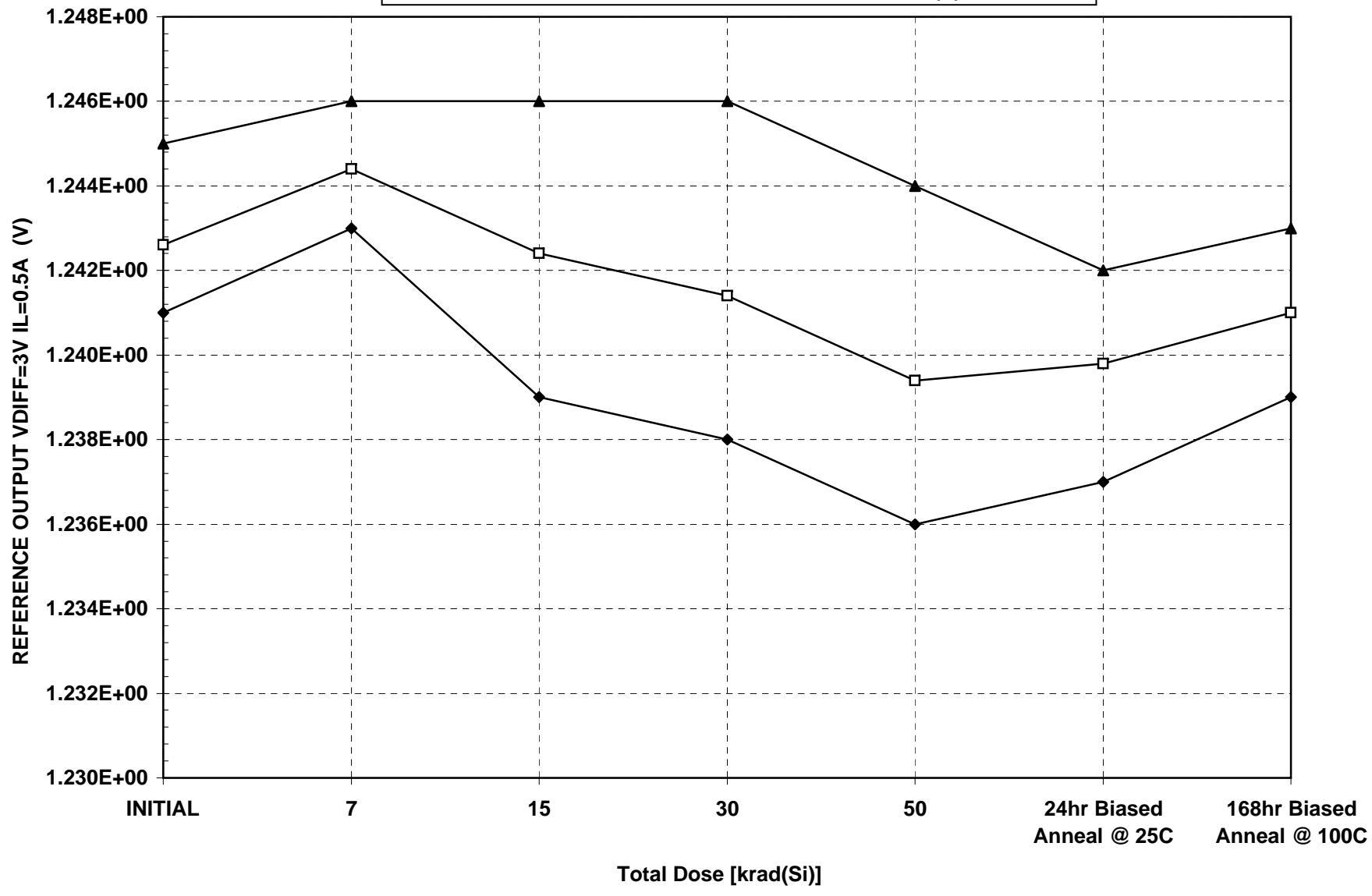
REFERENCE OUTPUT VDIFF=40V IL=10MA (V)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

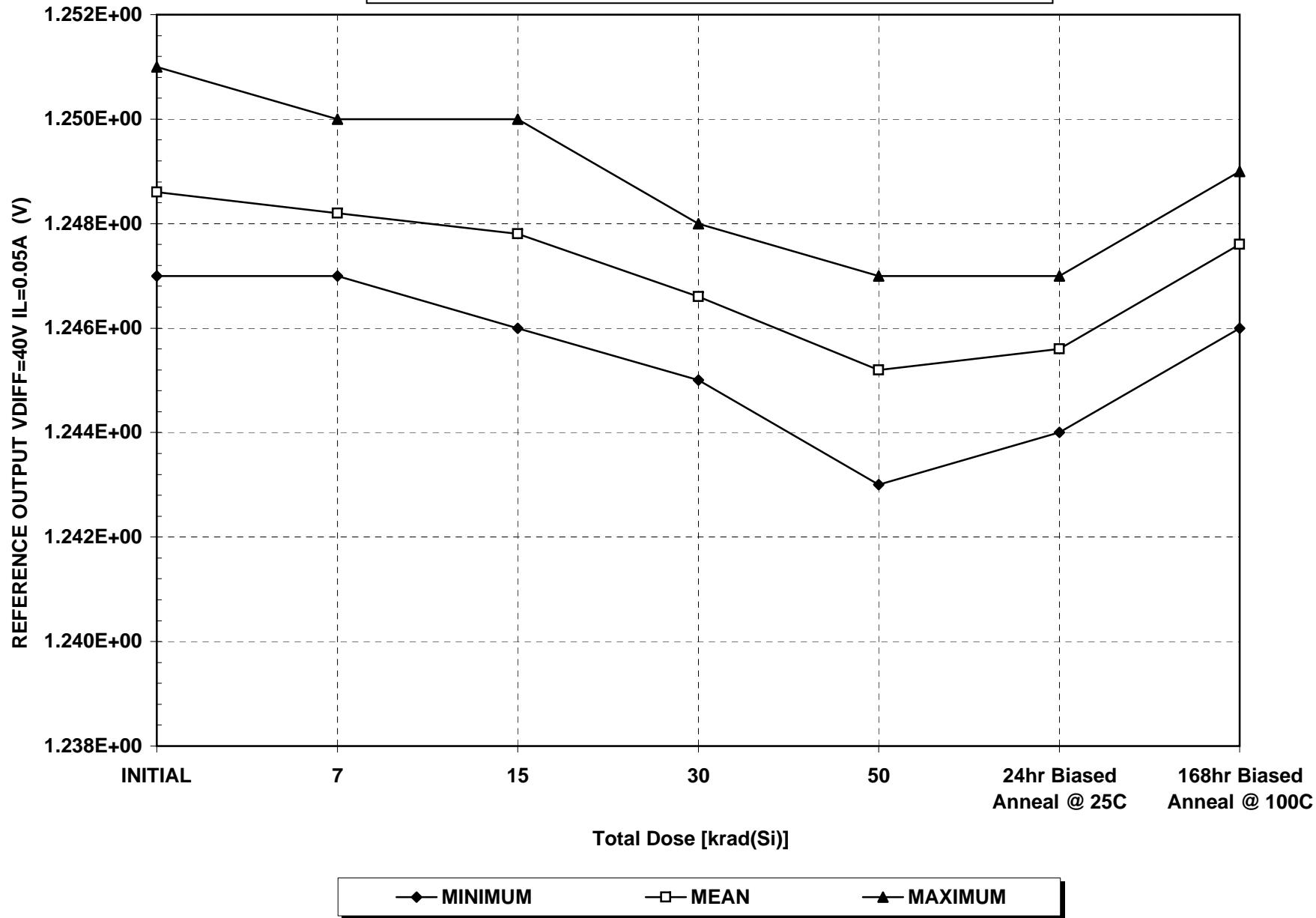
REFERENCE OUTPUT VDIFF=3V IL=0.5A (V)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

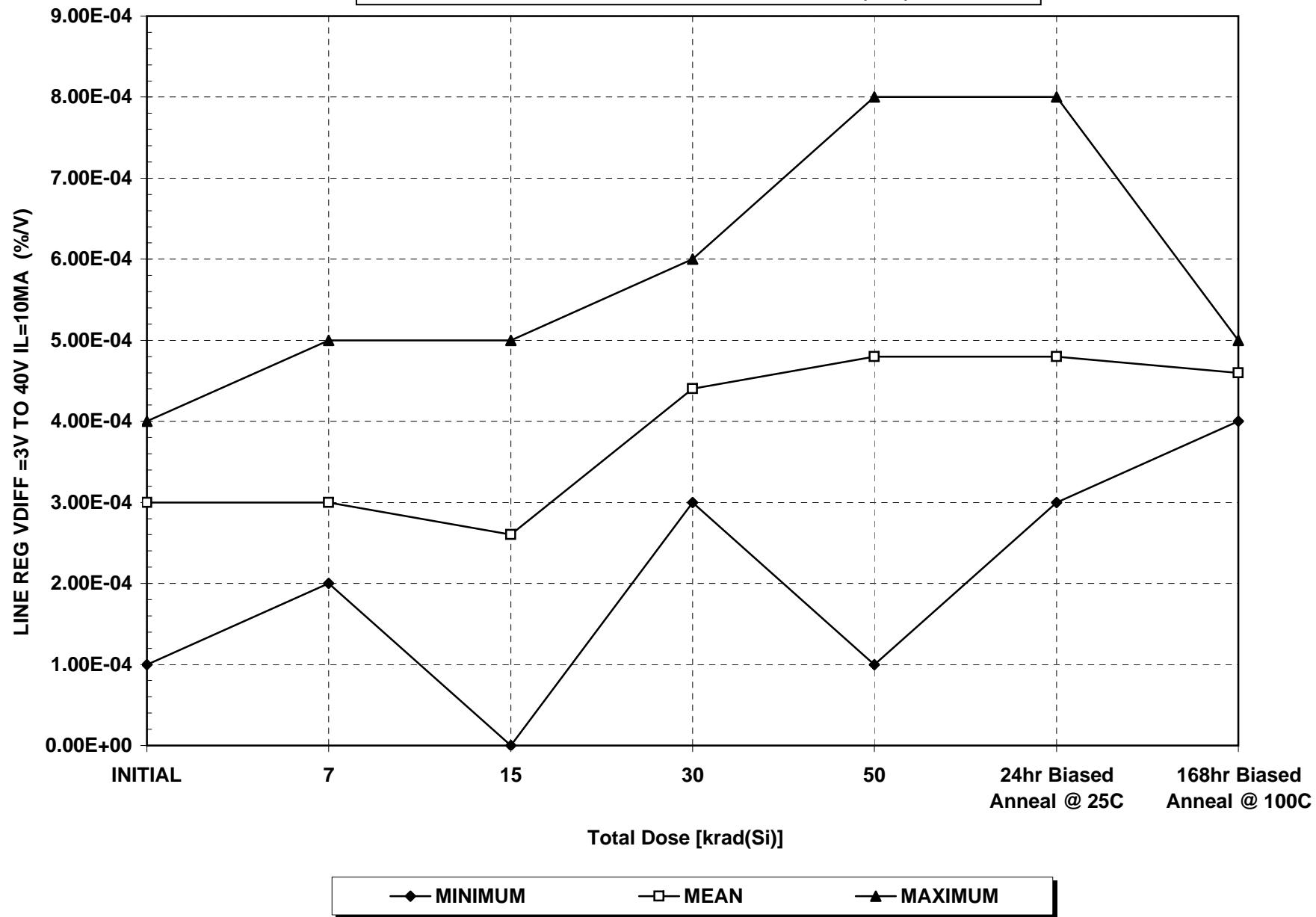
REFERENCE OUTPUT VDIFF=40V IL=0.05A (V)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

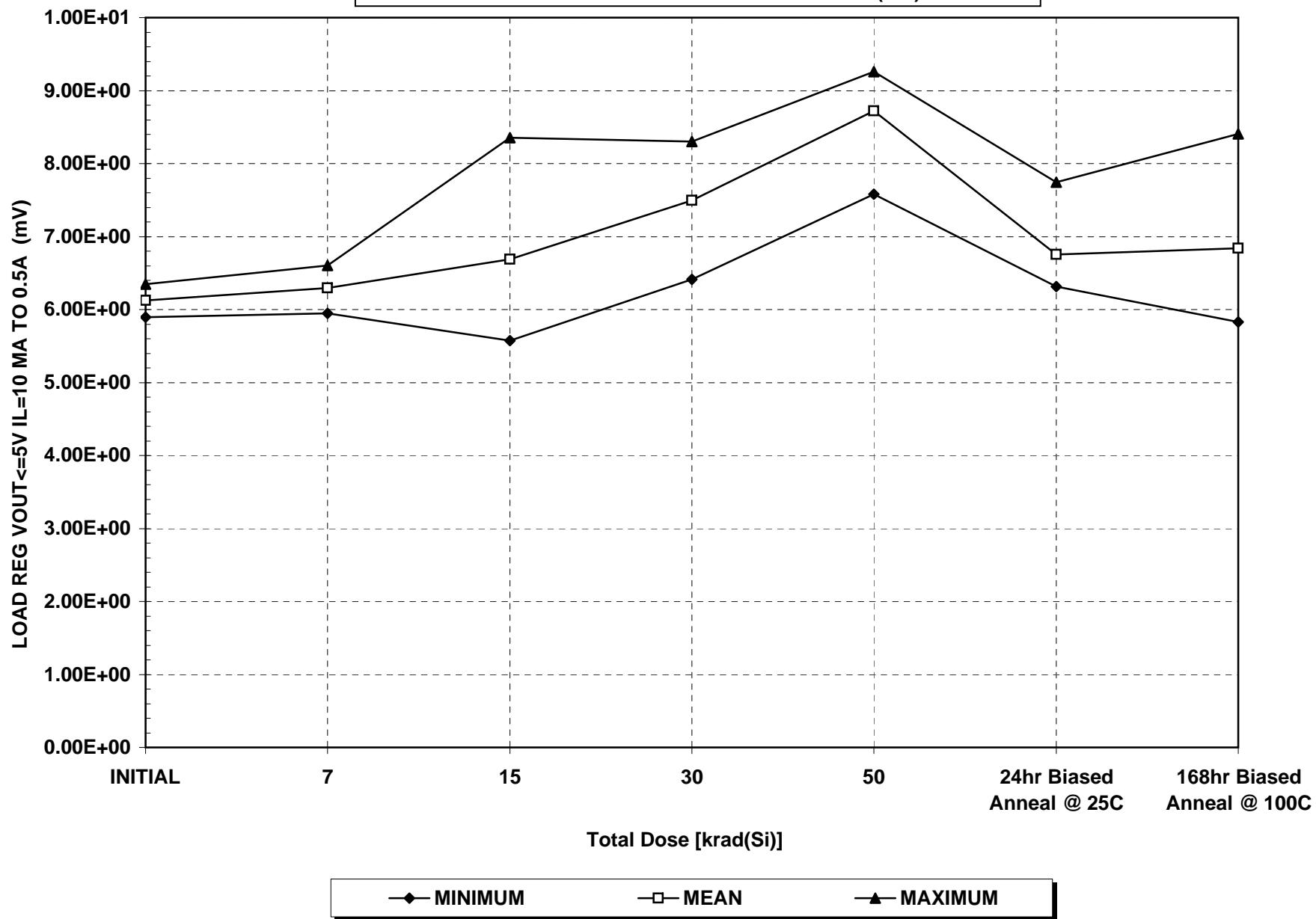
LINE REG VDIFF =3V TO 40V IL=10MA (%/V)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

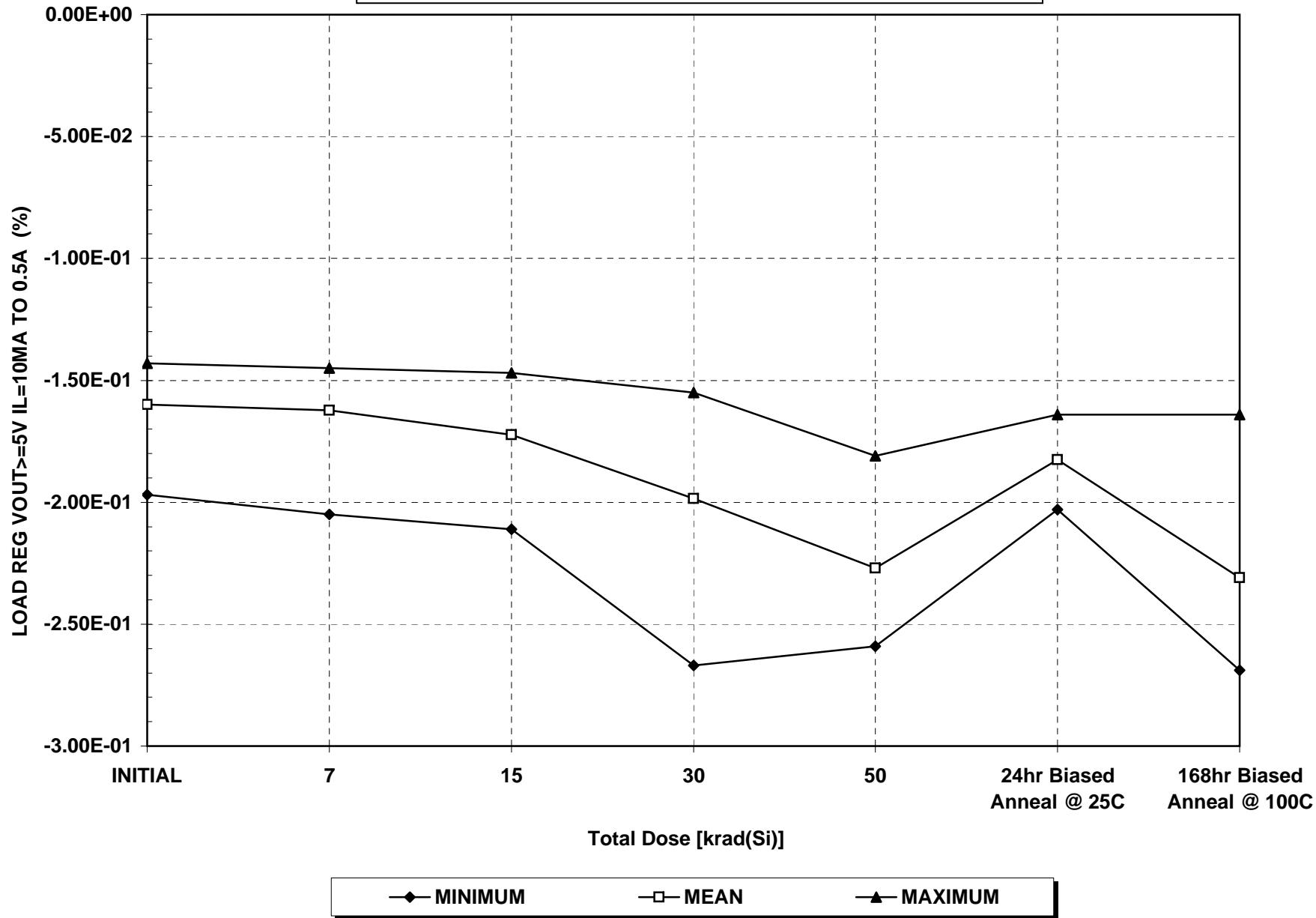
LOAD REG VOUT<=5V IL=10 MA TO 0.5A (mV)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

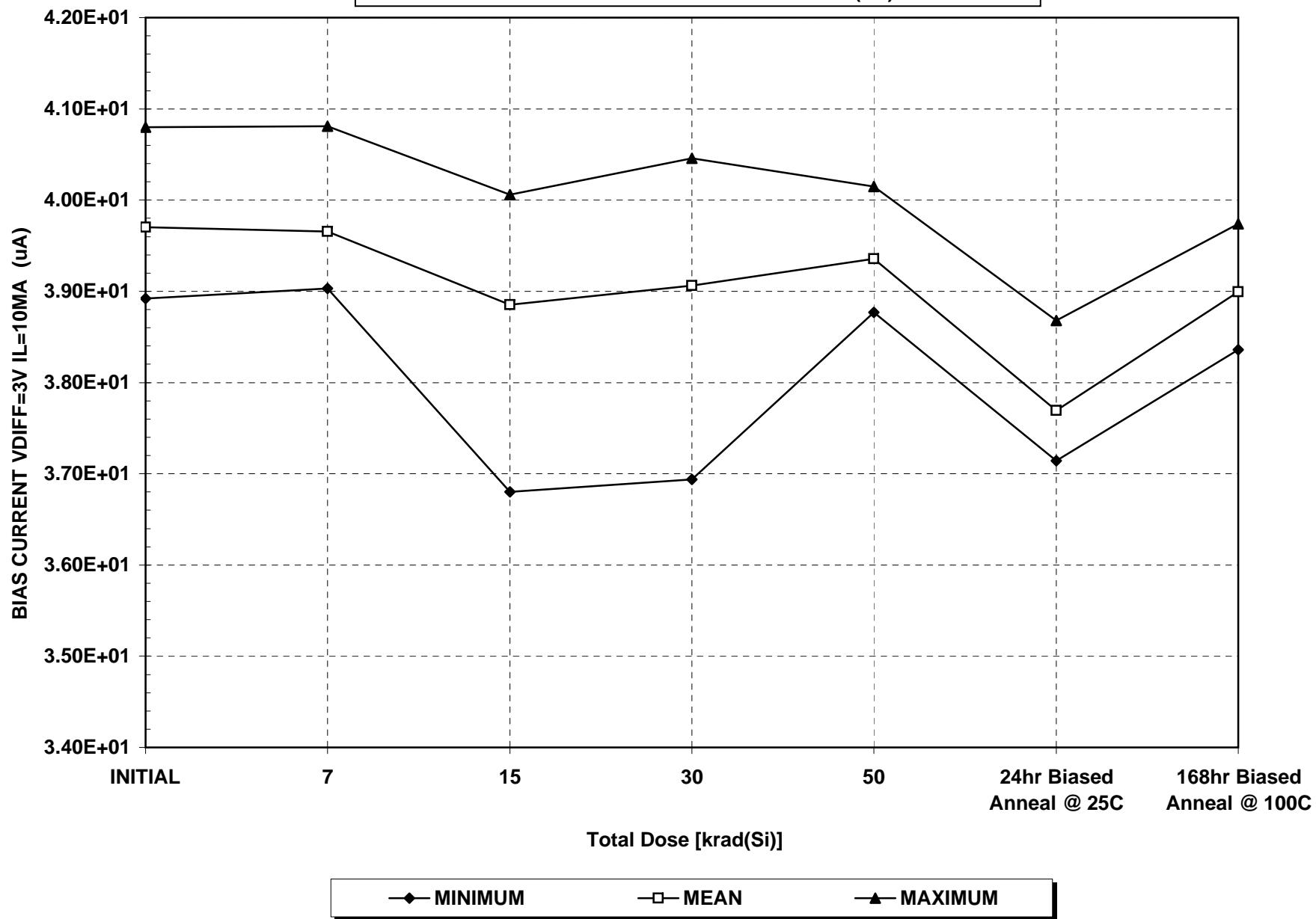
LOAD REG VOUT>=5V IL=10MA TO 0.5A (%)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

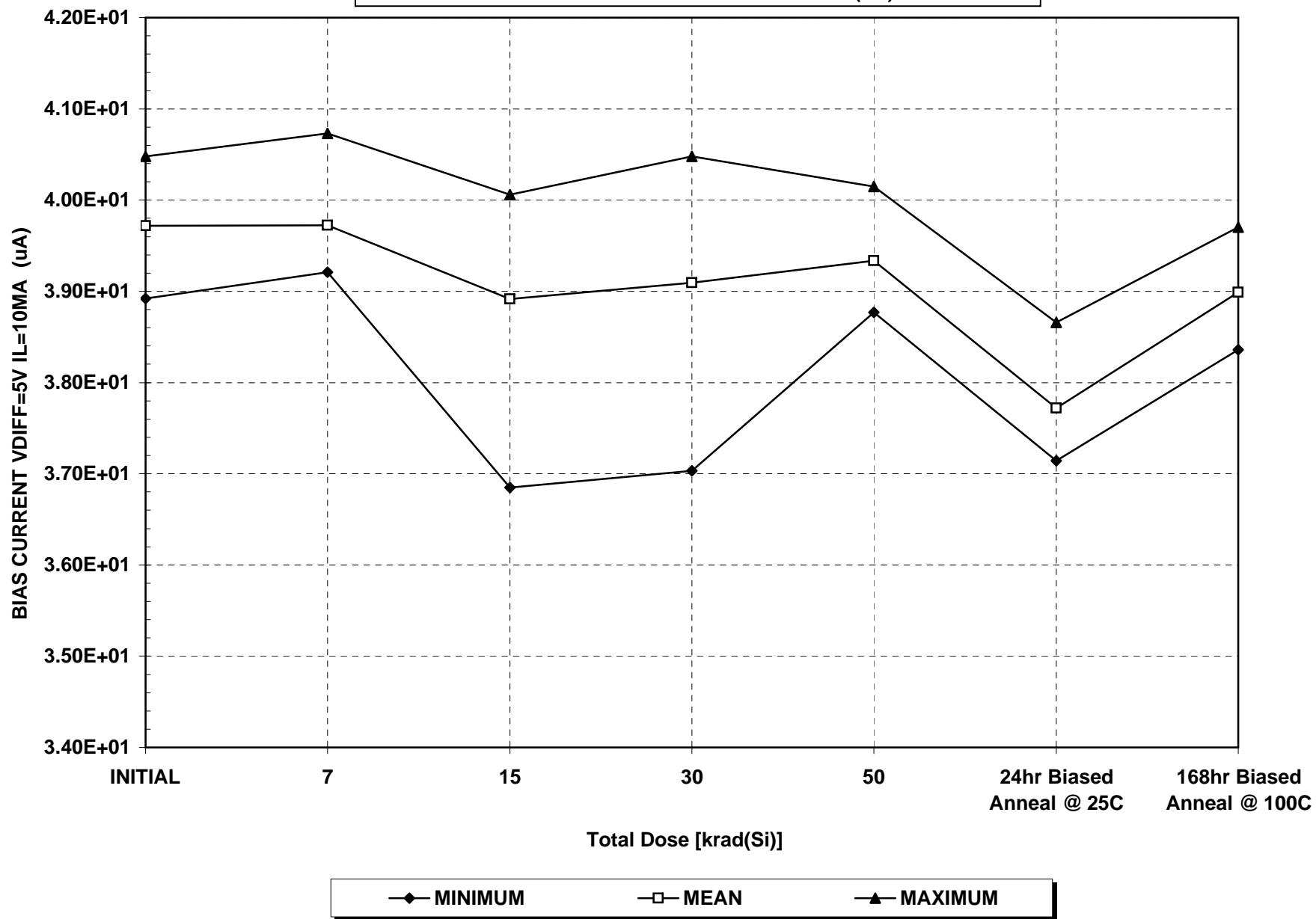
BIAS CURRENT VDIFF=3V IL=10MA (uA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

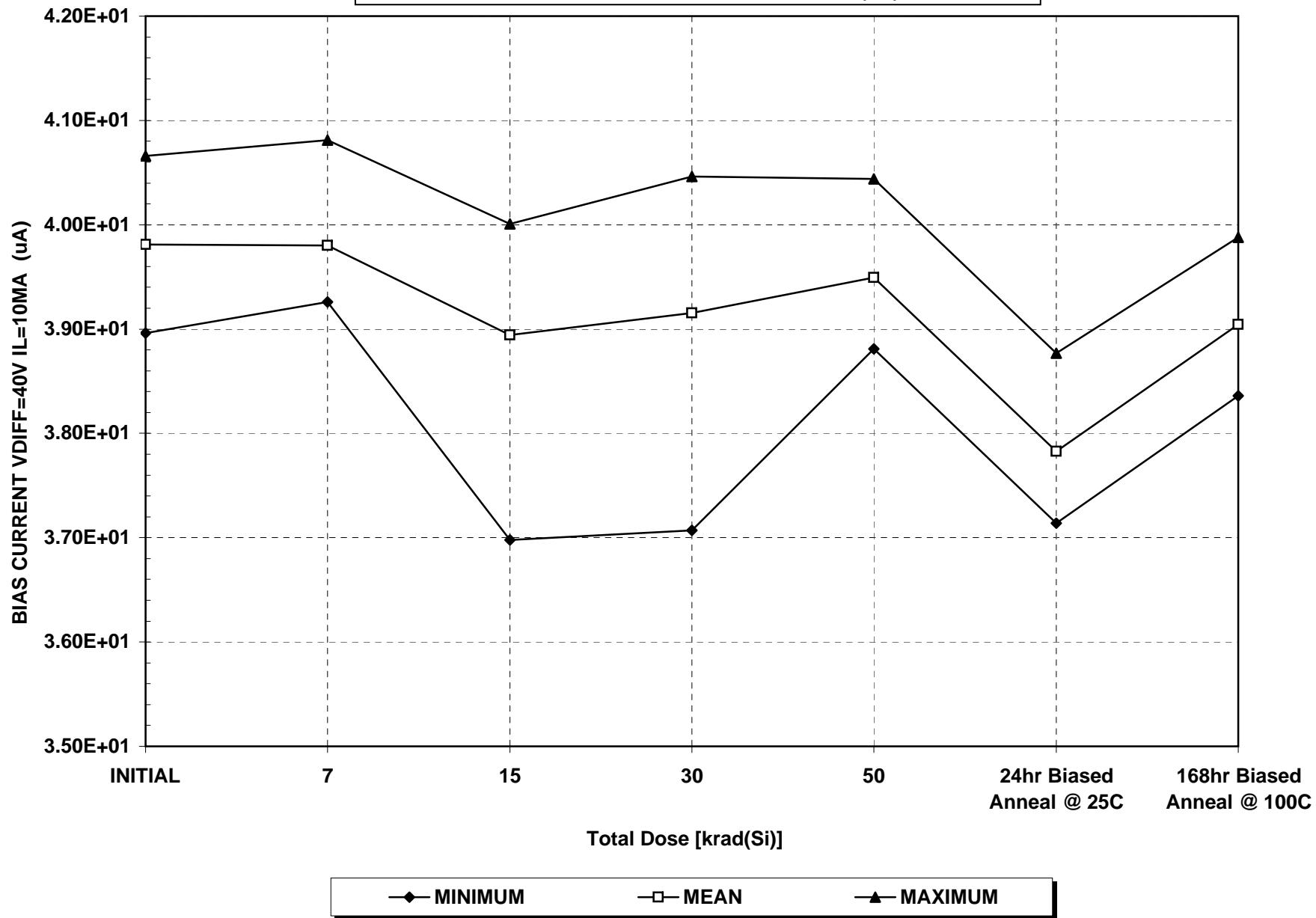
BIAS CURRENT VDIFF=5V IL=10MA (uA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

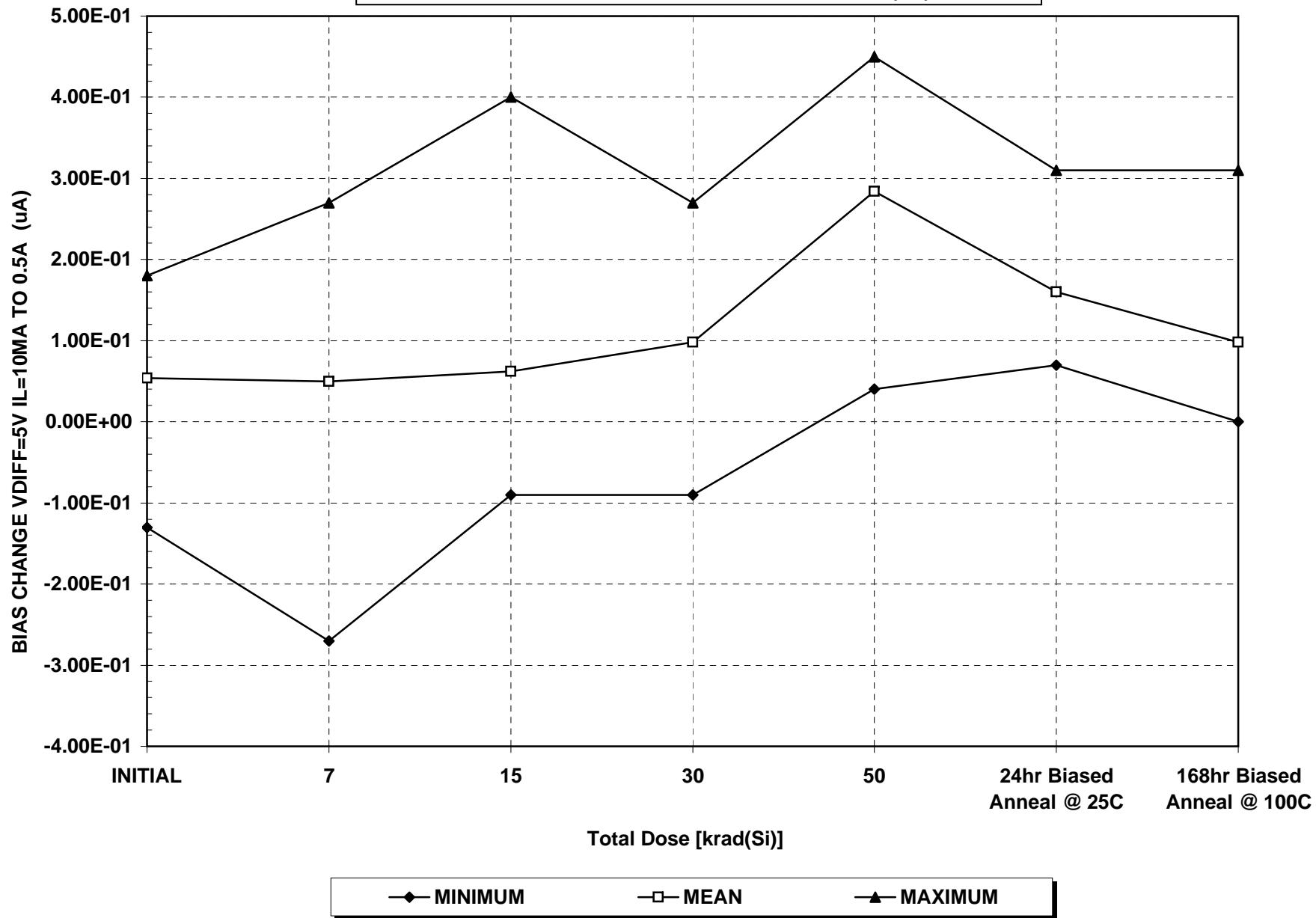
BIAS CURRENT VDIFF=40V IL=10MA (uA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

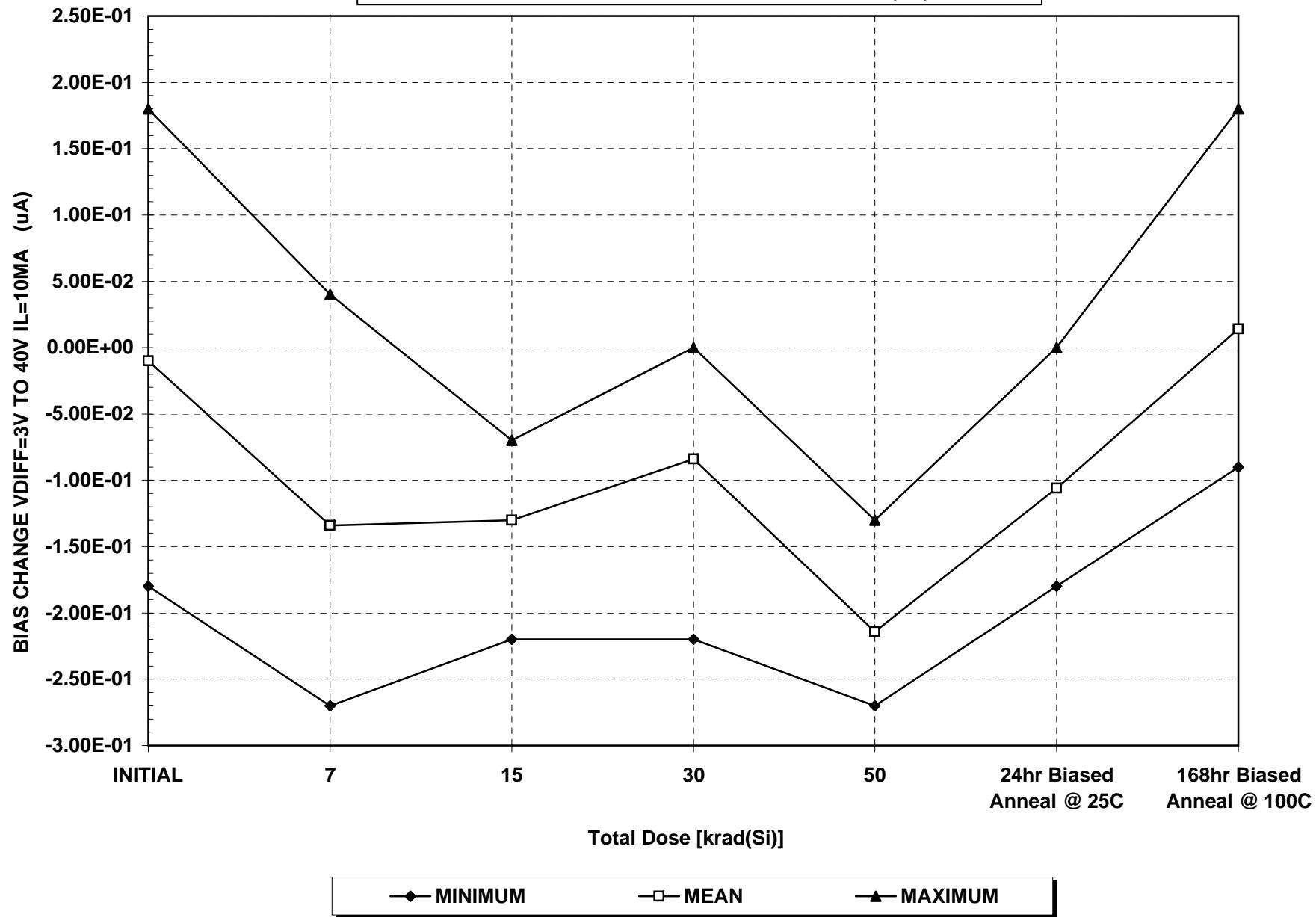
BIAS CHANGE VDIFF=5V IL=10MA TO 0.5A (uA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

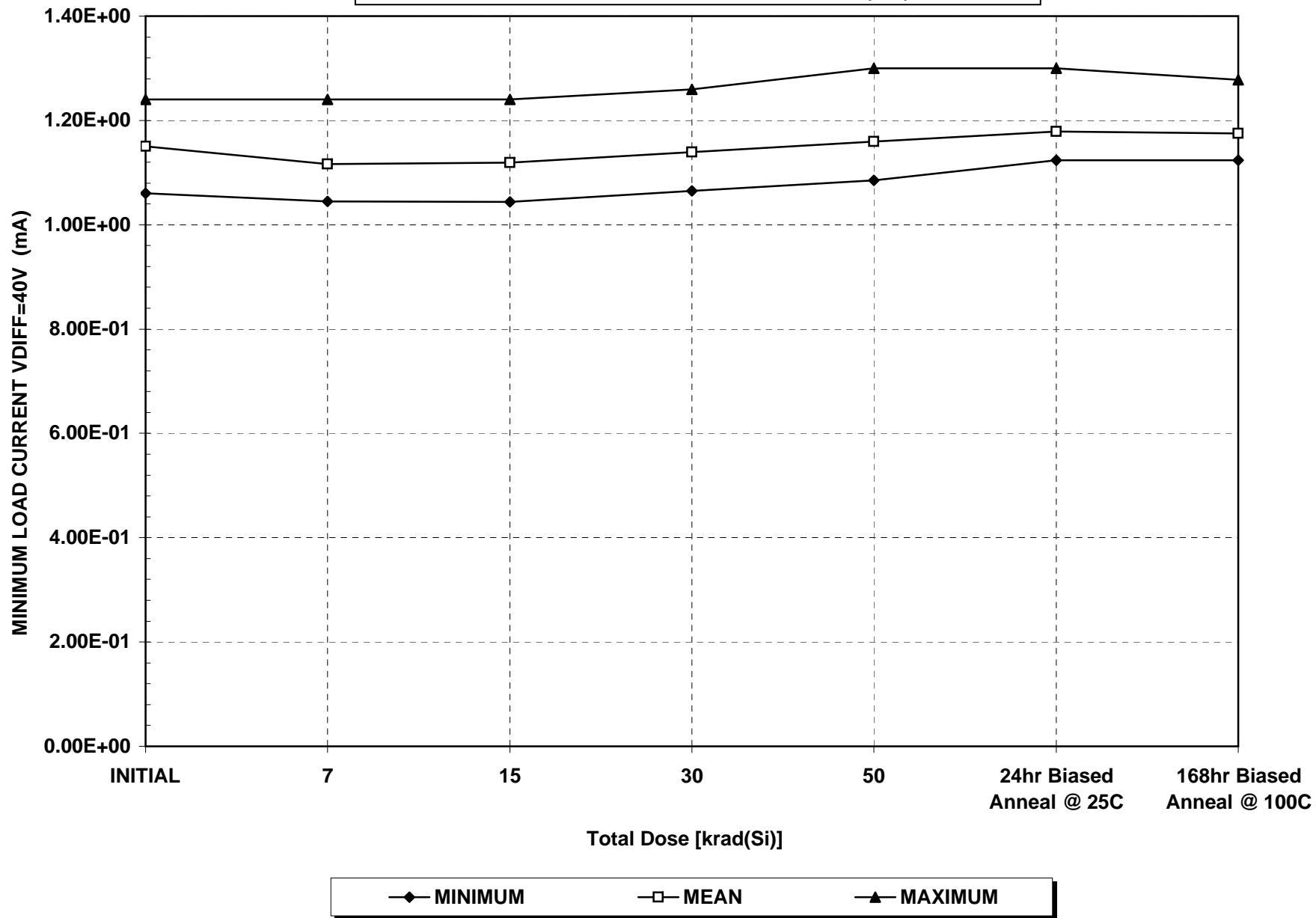
BIAS CHANGE VDIFF=3V TO 40V IL=10MA (uA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

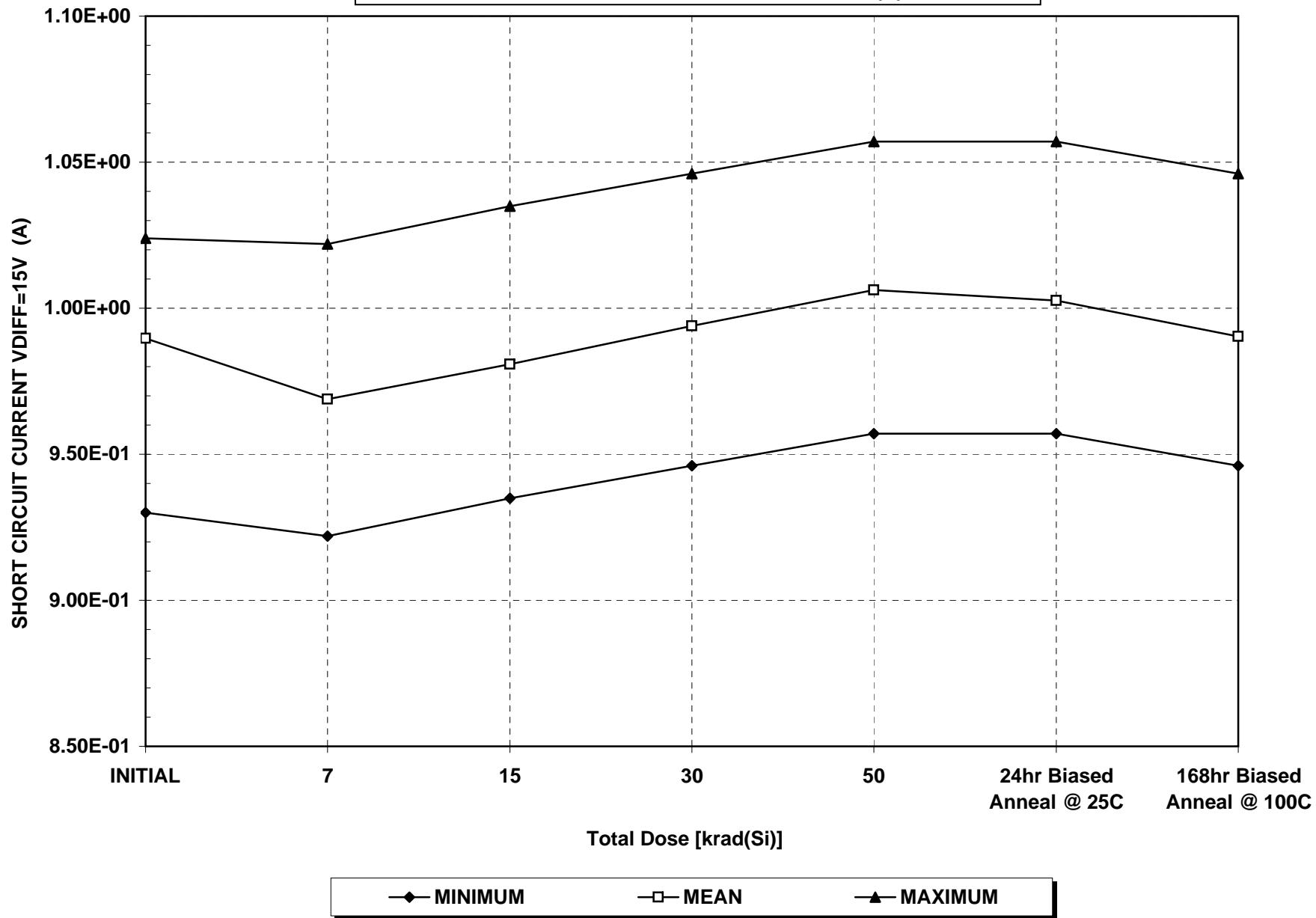
MINIMUM LOAD CURRENT VDIFF=40V (mA)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

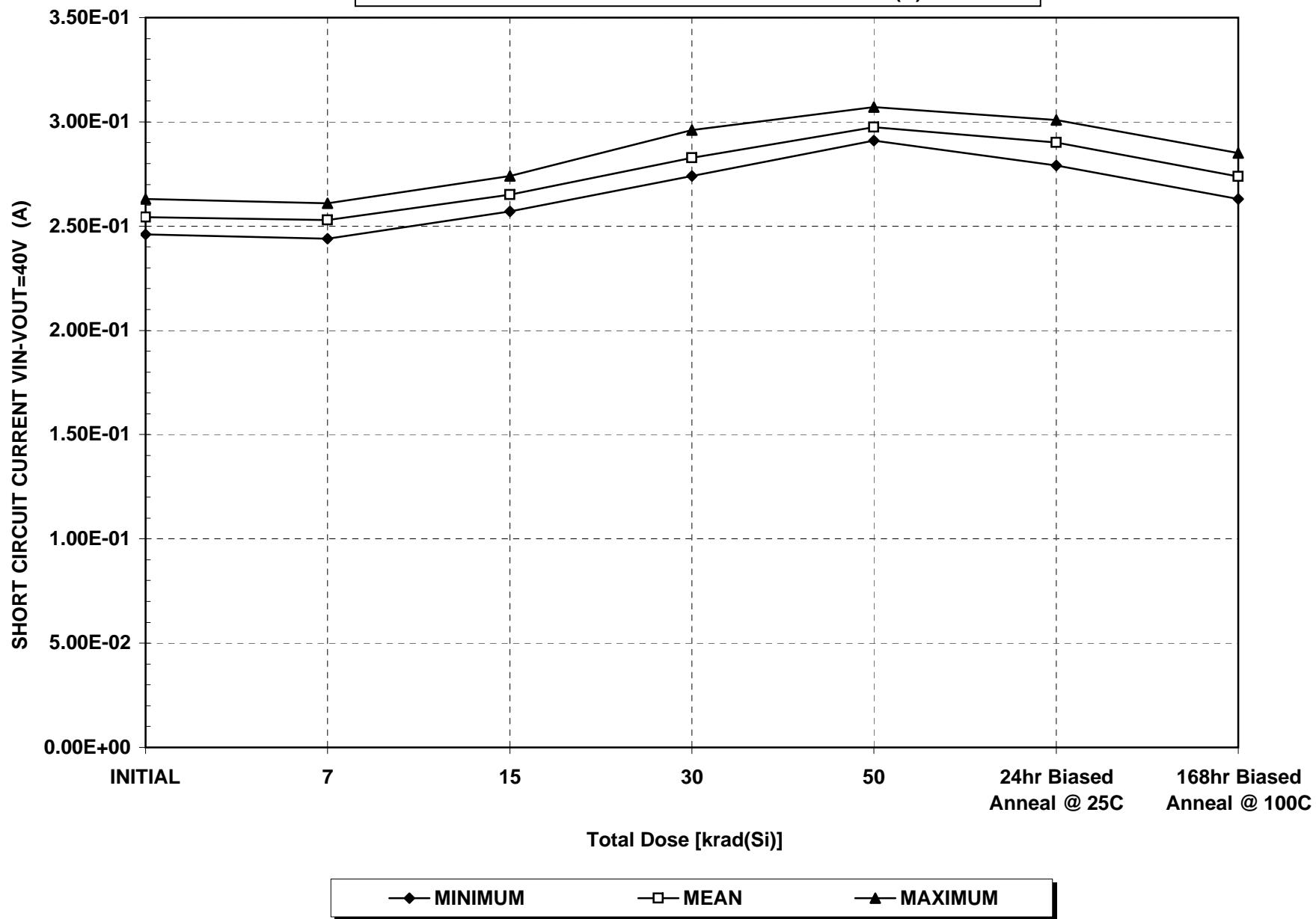
SHORT CIRCUIT CURRENT VDIFF=15V (A)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

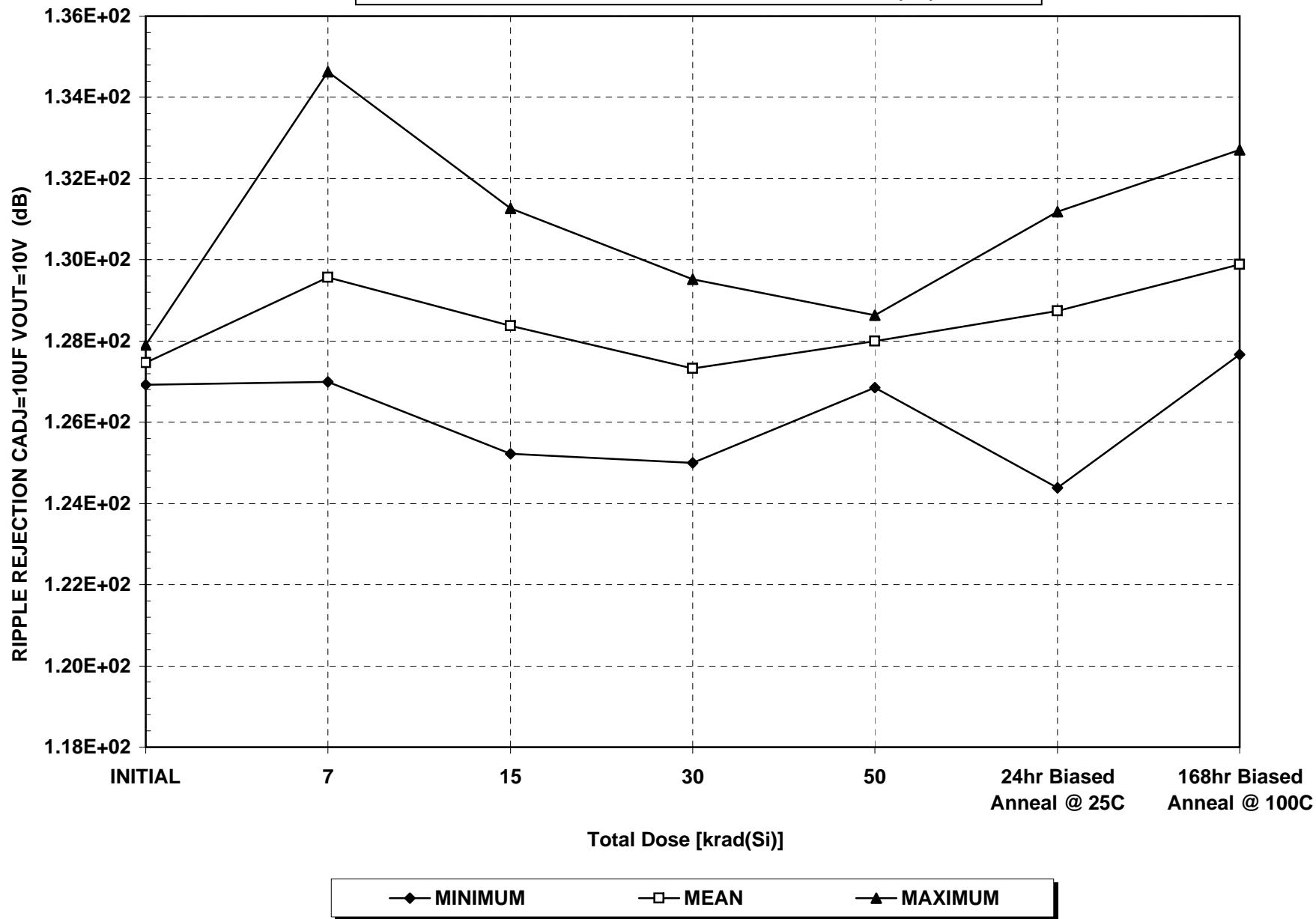
SHORT CIRCUIT CURRENT VIN-VOUT=40V (A)



RH117H VOLTAGE REGULATOR (LTC) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1585 8/02/07

RIPPLE REJECTION CADJ=10UF VOUT=10V (dB)



## ICS Radiation Test Results

**RH117H VOLTAGE REGULATOR  
(BIASED)  
LINEAR TECHNOLOGY CORPORATION  
P.O. # 46146L**

DEVICE TYPE: RH117H VOLTAGE REGULATOR  
LINEAR TECHNOLOGY CORPORATION  
RADIATION SOURCE: SHEPHERD LOW DOSE, 1.25MeV

D/C 0706A || PACKAGE H 3-PIN CAN (TO-5) || LOT# A21511.1,W-5  
LOG# 1586 || TEST DATE 05/10/07 || RTP# 695  
P.O.#46146L

Test Conductor: AJ Kenna  
Test Administrator: Dr. Michael K. Gauthier

**ICS RADIATION TECHNOLOGIES, INC.**  
**8416 Florence Ave, Suite 207**  
**Downey, CA 90240-3949**

**TEL: 800-297-8688**

TEL: 562-923-1837

**FAX: 562-923-3609**

**INTERNET e-mail:** support@icsrad.com  
**www.icsrad.com**

## Radiation Test Results

**RH117H**  
**Positive Voltage Regulator**  
**Linear Technology Corporation**  
D/C 0706A, Lot# A21511.1, Wafer # 5  
Test Date 05-10-07  
Log# 1586 and 1587, ELDRS Test  
P.O.# 46147L

This test consisted of two test logs, 1586 and 1587. The test was to compare the radiation effects differences between two bias conditions: Log 1586, had +30 volts and Log 1587 was unbiased with all leads grounded. The 15 test requirements and one "Information Only" test are stated in test procedure RTP 695, dated March 23, 2007.

These devices were ELDRS irradiated at a dose rate of 0.0082rad(Si)/second.

The test results indicated were very little difference between the two bias conditions for all parameters. The test results of the two tests (biased and unbiased) were less than the LTC data sheet limits of 20krad(Si) at the 50krad(Si) test level.

These lots **PASSED** the 15 test requirements as stated in the Radiation Test Procedure RTP 695, dated March 23, 2007.

**NOTE:** To simplify the following data analysis, all negative numbers have been converted to Absolute numbers. This matches with the Absolute numbers used on the manufacturers data sheets.

### **ELDRS BIASED DEVICES, Log 1586**

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.245V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.240V and minimum voltage was 1.237V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0006%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 7.19mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.167%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.5 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.25 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.3mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.957A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 126dB.

## ELDRS UNBIASED (GROUNDED) DEVICES, Log 1587

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.240V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.240V and minimum voltage was 1.233V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.239V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0007%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 7.83mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.184%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.0 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.1 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.0 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.38 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.39mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.991A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 125dB.

## **ANOMOLIES:**

There were no device anomalies during this test.

If you should require any further clarification on this matter, please contact me directly: TEL-562-923-1837, FAX-562-923-3609, or E-Mail [mike@icsrad.com](mailto:mike@icsrad.com).

ICS Radiation Technologies, Inc.

Dr. Michael K. Gauthier, P.E.  
President  
September 22, 2007

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.  
**Lot No:** Date Code:

Package Type: H 3-lead Can (TO-39)

No. of Devices Supplied: 11

No. of Devices to be tested: Bias Condition #1, 5 Devices  
Bias Condition #2, 5 Devices  
Control, 1 Device

=====

**RADIATION CONDITIONS:** MIL-STD-883E, Method 1019.6

Facility: Shepherd Low Dose, Co60 Energy: 1.25 MeV

Total Dose krad(Si)	7	15	30	50	Biased Anneal 24 hr @ 25°C	Biased Anneal 168 hr @ 100°C
Dose Rate rad(Si)/s	Less than 0.010 [36rad (Si)/hour]					

**BIAS CONDITIONS DURING IRRADIATION:**

“ON” BIAS CONDITION # 1

Pin #	Name	Voltage
1	Input	+15 Volts, 0.1µF to -15 Volts.
2	Adjust	2kΩ to -15Volts
3	Output	61.9Ω to -15 Volts

“OFF” BIAS CONDITION # 2 All pins to GROUND.

RADIATION TEST PROCEDURE

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

TEST	TEST NAME	TEST CONDITIONS	Limits			Units
			Exposure Levels	20k	50k	
1	Voltage Reference	VDIF=3V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
2	Voltage Reference	VDIF=40V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
3	Voltage Reference	VDIF=3V, IL=0.5A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
4	Voltage Reference	VDIF=40V, IL=0.05A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
5	Line Regulation	3V ≤ (Vin-Vout) ≤ 40V Iout=10mA	0.02	0.02	0.03	%/V Max
6	Load Regulation 1	10mA ≤ Iout ≤ Imax Vout ≤ 5V	42	48	60	mV Max
7	Load Regulation 2	10mA ≤ Iout ≤ Imax Vout ≥ 5V	0.84	0.96	1.20	% Max
8	Adjust Pin Current 1	VDIF=3V, IL=10mA	100	100	100	µA Max
9	Adjust Pin Current 2	VDIF=5V, IL=10mA	100	100	100	µA Max
10	Adjust Pin Current 3	VDIF=40V, IL=10mA	100	100	100	µA Max
11	Adjust Pin Current Change	VDIF=5V 10mA ≤ Iout ≤ 0.5A	5	5	5	µA Max
12	Adjust Pin Current Change	VDIF=3V to 40V IL=10mA	5	5	5	µA Max
13	Minimum Load Current	VDIF=40V	5	5	5	mA Max
14	Short Circuit Current	VDIF=15V	0.5	0.5	0.5	A Min
15	Short Circuit Current	VDIF=40V	0.15	0.15	0.15	A Min
16	Ripple Rejection	CADJ=10µF, Vout=10V	Record	Record	Record	dB

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

Measurements shall be made at room (ambient) temperature.

Test conducted using an Analog Devices LTS-2020 Component Test System, with the LTS-2101 Family Board, LTS0606 Regulator Socket Assembly, LTS0325/RH117 DUT board .

Software: RH117H/K 1.02 program.

Data Processing use King Program: P99/90 Ktl =4.666 for 5 devices

Return samples to customer.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

VOLTAGE REFERENCE VDIF=3V IL=10mA

(V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610	1.245E+00	1.244E+00	1.244E+00	1.244E+00	1.245E+00	1.244E+00	1.244E+00
	615	1.250E+00	1.250E+00	1.249E+00	1.246E+00	1.244E+00	1.244E+00	1.244E+00
	616	1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.244E+00	1.244E+00	1.245E+00
	618	1.251E+00	1.250E+00	1.250E+00	1.246E+00	1.245E+00	1.245E+00	1.245E+00
	619	1.251E+00	1.251E+00	1.250E+00	1.248E+00	1.246E+00	1.246E+00	1.246E+00
	620	1.252E+00	1.252E+00	1.252E+00	1.249E+00	1.247E+00	1.247E+00	1.247E+00
MINIMUM		1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.244E+00	1.244E+00	1.244E+00
MEAN		1.251E+00	1.250E+00	1.250E+00	1.247E+00	1.245E+00	1.245E+00	1.245E+00
MAXIMUM		1.252E+00	1.252E+00	1.252E+00	1.249E+00	1.247E+00	1.247E+00	1.247E+00
+P 99/90		1.256E+00	1.256E+00	1.257E+00	1.254E+00	1.251E+00	1.251E+00	1.251E+00
-P 99/90		1.245E+00	1.245E+00	1.243E+00	1.240E+00	1.239E+00	1.239E+00	1.240E+00
SIGMA		1.140E-03	1.140E-03	1.483E-03	1.414E-03	1.304E-03	1.304E-03	1.140E-03

---

VOLTAGE REFERENCE VDIF=3V IL=10mA

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610		-1.000E-03	-1.000E-03	-1.000E-03	0.000E+00	-1.000E-03	-1.000E-03
	615		0.000E+00	-1.000E-03	-4.000E-03	-6.000E-03	-6.000E-03	-6.000E-03
	616		0.000E+00	-1.000E-03	-3.000E-03	-5.000E-03	-5.000E-03	-4.000E-03
	618		-1.000E-03	-1.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-6.000E-03
	619		0.000E+00	-1.000E-03	-3.000E-03	-5.000E-03	-5.000E-03	-5.000E-03
	620		0.000E+00	0.000E+00	-3.000E-03	-5.000E-03	-5.000E-03	-5.000E-03
MINIMUM			-1.000E-03	-1.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-6.000E-03
MEAN			-2.000E-04	-8.000E-04	-3.600E-03	-5.400E-03	-5.400E-03	-5.200E-03
MAXIMUM			0.000E+00	0.000E+00	-3.000E-03	-5.000E-03	-5.000E-03	-4.000E-03
+P 99/90			1.887E-03	1.287E-03	5.734E-04	-2.844E-03	-2.844E-03	-1.296E-03
-P 99/90			-2.287E-03	-2.887E-03	-7.773E-03	-7.956E-03	-7.956E-03	-9.104E-03
SIGMA			4.472E-04	4.472E-04	8.944E-04	5.477E-04	5.477E-04	8.367E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

VOLTAGE REFERENCE VDIF=40V IL=10mA

(V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

S/N									
CONTROL	610	1.245E+00	1.244E+00						
	615	1.250E+00	1.250E+00	1.249E+00	1.246E+00	1.245E+00	1.244E+00	1.245E+00	
	616	1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.245E+00	1.244E+00	1.245E+00	
	618	1.251E+00	1.250E+00	1.250E+00	1.246E+00	1.245E+00	1.245E+00	1.245E+00	
	619	1.251E+00	1.251E+00	1.250E+00	1.247E+00	1.246E+00	1.246E+00	1.246E+00	
	620	1.252E+00	1.252E+00	1.249E+00	1.247E+00	1.247E+00	1.247E+00	1.248E+00	
MINIMUM		1.249E+00	1.249E+00	1.248E+00	1.246E+00	1.245E+00	1.244E+00	1.245E+00	
MEAN		1.251E+00	1.250E+00	1.250E+00	1.247E+00	1.246E+00	1.245E+00	1.246E+00	
MAXIMUM		1.252E+00	1.252E+00	1.252E+00	1.249E+00	1.247E+00	1.247E+00	1.248E+00	
+P 99/90		1.256E+00	1.256E+00	1.257E+00	1.253E+00	1.250E+00	1.251E+00	1.252E+00	
-P 99/90		1.245E+00	1.245E+00	1.243E+00	1.241E+00	1.241E+00	1.239E+00	1.240E+00	
SIGMA		1.140E-03	1.140E-03	1.483E-03	1.304E-03	8.944E-04	1.304E-03	1.304E-03	

VOLTAGE REFERENCE VDIF=40V IL=10mA

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

S/N									
CONTROL	610		-1.000E-03						
	615		0.000E+00	-1.000E-03	-4.000E-03	-5.000E-03	-6.000E-03	-5.000E-03	-5.000E-03
	616		0.000E+00	-1.000E-03	-3.000E-03	-4.000E-03	-5.000E-03	-4.000E-03	
	618		-1.000E-03	-1.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-6.000E-03	
	619		0.000E+00	-1.000E-03	-4.000E-03	-5.000E-03	-5.000E-03	-5.000E-03	
	620		0.000E+00	0.000E+00	-3.000E-03	-5.000E-03	-5.000E-03	-4.000E-03	
MINIMUM			-1.000E-03	-1.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-6.000E-03	
MEAN			-2.000E-04	-8.000E-04	-3.800E-03	-5.000E-03	-5.400E-03	-4.800E-03	
MAXIMUM			0.000E+00	0.000E+00	-3.000E-03	-4.000E-03	-5.000E-03	-4.000E-03	
+P 99/90			1.887E-03	1.287E-03	1.039E-04	-1.701E-03	-2.844E-03	-8.961E-04	
-P 99/90			-2.287E-03	-2.887E-03	-7.704E-03	-8.299E-03	-7.956E-03	-8.704E-03	
SIGMA			4.472E-04	4.472E-04	8.367E-04	7.071E-04	5.477E-04	8.367E-04	

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

VOLTAGE REFERENCE VDIF=3V IL=0.5 A

(V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610	1.238E+00	1.238E+00	1.238E+00	1.238E+00	1.237E+00	1.236E+00	1.238E+00
	615	1.244E+00	1.243E+00	1.242E+00	1.239E+00	1.238E+00	1.234E+00	1.237E+00
	616	1.243E+00	1.243E+00	1.242E+00	1.239E+00	1.237E+00	1.234E+00	1.237E+00
	618	1.245E+00	1.244E+00	1.243E+00	1.239E+00	1.238E+00	1.235E+00	1.238E+00
	619	1.245E+00	1.244E+00	1.243E+00	1.241E+00	1.240E+00	1.237E+00	1.240E+00
	620	1.246E+00	1.246E+00	1.245E+00	1.241E+00	1.240E+00	1.240E+00	1.240E+00
MINIMUM		1.243E+00	1.243E+00	1.242E+00	1.239E+00	1.237E+00	1.234E+00	1.237E+00
MEAN		1.245E+00	1.244E+00	1.243E+00	1.240E+00	1.239E+00	1.236E+00	1.238E+00
MAXIMUM		1.246E+00	1.246E+00	1.245E+00	1.241E+00	1.240E+00	1.240E+00	1.240E+00
+P 99/90		1.250E+00	1.250E+00	1.249E+00	1.245E+00	1.245E+00	1.248E+00	1.245E+00
-P 99/90		1.239E+00	1.238E+00	1.237E+00	1.235E+00	1.232E+00	1.224E+00	1.231E+00
SIGMA		1.140E-03	1.225E-03	1.095E-03	1.342E-03	2.550E-03	1.517E-03	

---

VOLTAGE REFERENCE VDIF=3V IL=0.5 A

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610		0.000E+00	0.000E+00	0.000E+00	-1.000E-03	-2.000E-03	0.000E+00
	615		-1.000E-03	-2.000E-03	-5.000E-03	-6.000E-03	-1.000E-02	-7.000E-03
	616		0.000E+00	-1.000E-03	-4.000E-03	-6.000E-03	-9.000E-03	-6.000E-03
	618		-1.000E-03	-2.000E-03	-6.000E-03	-7.000E-03	-1.000E-02	-7.000E-03
	619		-1.000E-03	-2.000E-03	-4.000E-03	-5.000E-03	-8.000E-03	-5.000E-03
	620		0.000E+00	-1.000E-03	-5.000E-03	-6.000E-03	-6.000E-03	-6.000E-03
MINIMUM			-1.000E-03	-2.000E-03	-6.000E-03	-7.000E-03	-1.000E-02	-7.000E-03
MEAN			-6.000E-04	-1.600E-03	-4.800E-03	-6.000E-03	-8.600E-03	-6.200E-03
MAXIMUM			0.000E+00	-1.000E-03	-4.000E-03	-5.000E-03	-6.000E-03	-5.000E-03
+P 99/90			1.956E-03	9.557E-04	-8.961E-04	-2.701E-03	-7.923E-04	-2.296E-03
-P 99/90			-3.156E-03	-4.156E-03	-8.704E-03	-9.299E-03	-1.641E-02	-1.010E-02
SIGMA			5.477E-04	5.477E-04	8.367E-04	7.071E-04	1.673E-03	8.367E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

VOLTAGE REFERENCE VDIF=40V IL=0.05A

(V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N	610	1.244E+00	1.244E+00	1.244E+00	1.244E+00	1.244E+00	1.244E+00
		615	1.250E+00	1.249E+00	1.248E+00	1.245E+00	1.244E+00	1.243E+00
		616	1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.244E+00	1.244E+00
		618	1.251E+00	1.250E+00	1.250E+00	1.246E+00	1.245E+00	1.244E+00
		619	1.250E+00	1.250E+00	1.247E+00	1.246E+00	1.245E+00	1.246E+00
		620	1.252E+00	1.252E+00	1.251E+00	1.248E+00	1.247E+00	1.247E+00
MINIMUM			1.248E+00	1.248E+00	1.247E+00	1.245E+00	1.244E+00	1.244E+00
MEAN			1.250E+00	1.250E+00	1.249E+00	1.246E+00	1.245E+00	1.245E+00
MAXIMUM			1.252E+00	1.252E+00	1.251E+00	1.248E+00	1.247E+00	1.247E+00
+P 99/90			1.257E+00	1.257E+00	1.257E+00	1.252E+00	1.251E+00	1.252E+00
-P 99/90			1.243E+00	1.243E+00	1.242E+00	1.240E+00	1.239E+00	1.238E+00
SIGMA			1.483E-03	1.483E-03	1.643E-03	1.304E-03	1.517E-03	1.414E-03

---

VOLTAGE REFERENCE VDIF=40V IL=0.05A

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N	610		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
		615		-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-7.000E-03
		616		0.000E+00	2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03
		618		-1.000E-03	-1.000E-03	-5.000E-03	-6.000E-03	-7.000E-03
		619		0.000E+00	1.000E-03	-3.000E-03	-4.000E-03	-5.000E-03
		620		0.000E+00	-1.000E-03	-4.000E-03	-5.000E-03	-5.000E-03
MINIMUM				-1.000E-03	-3.000E-03	-5.000E-03	-6.000E-03	-7.000E-03
MEAN				-4.000E-04	-4.000E-04	-4.000E-03	-5.000E-03	-5.600E-03
MAXIMUM				0.000E+00	2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03
+P 99/90				2.156E-03	8.696E-03	6.660E-04	-3.340E-04	6.601E-04
-P 99/90				-2.956E-03	-9.496E-03	-8.666E-03	-9.666E-03	-1.186E-02
SIGMA				5.477E-04	1.949E-03	1.000E-03	1.000E-03	1.342E-03

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

LINE REGULATION 3V ≤ (Vin-Vout) ≤ 40V Iout=10mA (%)/V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610	1.00E-04	3.00E-04	3.00E-04	0.00E+00	1.00E-04	-1.00E-04	2.00E-04
	615	1.00E-04	1.00E-04	3.00E-04	7.00E-04	5.00E-04	4.00E-04	6.00E-04
	616	3.00E-04	3.00E-04	4.00E-04	3.00E-04	4.00E-04	6.00E-04	6.00E-04
	618	3.00E-04	3.00E-04	3.00E-04	5.00E-04	6.00E-04	5.00E-04	5.00E-04
	619	2.00E-04	2.00E-04	3.00E-04	3.00E-04	1.00E-04	7.00E-04	3.00E-04
	620	3.00E-04	3.00E-04	4.00E-04	6.00E-04	6.00E-04	3.00E-04	2.00E-04
MINIMUM		1.00E-04	1.00E-04	3.00E-04	3.00E-04	1.00E-04	3.00E-04	2.00E-04
MEAN		2.40E-04	2.40E-04	3.40E-04	4.80E-04	4.40E-04	5.00E-04	4.40E-04
MAXIMUM		3.00E-04	3.00E-04	4.00E-04	7.00E-04	6.00E-04	7.00E-04	6.00E-04
+P 99/90		6.57E-04	6.57E-04	5.96E-04	1.31E-03	1.41E-03	1.24E-03	1.29E-03
-P 99/90		-1.77E-04	-1.77E-04	8.44E-05	-3.55E-04	-5.28E-04	-2.38E-04	-4.08E-04
SIGMA		8.94E-05	8.94E-05	5.48E-05	1.79E-04	2.07E-04	1.58E-04	1.82E-04

---

LINE REGULATION 3V ≤ (Vin-Vout) ≤ 40V Iout=10mA

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N							
	610		2.00E-04	2.00E-04	-1.00E-04	0.00E+00	-2.00E-04	1.00E-04
	615		0.00E+00	2.00E-04	6.00E-04	4.00E-04	3.00E-04	5.00E-04
	616		0.00E+00	1.00E-04	0.00E+00	1.00E-04	3.00E-04	3.00E-04
	618		0.00E+00	0.00E+00	2.00E-04	3.00E-04	2.00E-04	2.00E-04
	619		0.00E+00	1.00E-04	1.00E-04	-1.00E-04	5.00E-04	1.00E-04
	620		0.00E+00	1.00E-04	3.00E-04	3.00E-04	0.00E+00	-1.00E-04
MINIMUM			0.00E+00	0.00E+00	0.00E+00	-1.00E-04	0.00E+00	-1.00E-04
MEAN			0.00E+00	1.00E-04	2.40E-04	2.00E-04	2.60E-04	2.00E-04
MAXIMUM			0.00E+00	2.00E-04	6.00E-04	4.00E-04	5.00E-04	5.00E-04
+P 99/90			0.00E+00	4.30E-04	1.31E-03	1.13E-03	1.11E-03	1.24E-03
-P 99/90			0.00E+00	-2.30E-04	-8.34E-04	-7.33E-04	-5.88E-04	-8.43E-04
SIGMA			0.00E+00	7.07E-05	2.30E-04	2.00E-04	1.82E-04	2.24E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

LOAD REGULATION 1 10mA ≤ Iout ≤ Imax Vout ≤ 5V (mV)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
-----	S/N							
CONTROL	610	6.10E+00	6.10E+00	6.10E+00	6.16E+00	6.89E+00	8.17E+00	6.15E+00
	615	5.79E+00	5.99E+00	6.29E+00	7.09E+00	6.75E+00	1.03E+01	6.97E+00
	616	5.93E+00	5.95E+00	6.15E+00	6.97E+00	7.19E+00	1.03E+01	6.89E+00
	618	5.96E+00	6.06E+00	6.16E+00	6.97E+00	6.74E+00	8.67E+00	6.79E+00
	619	5.29E+00	5.30E+00	5.71E+00	6.62E+00	6.72E+00	8.86E+00	6.53E+00
	620	6.05E+00	6.15E+00	6.35E+00	6.84E+00	6.62E+00	7.43E+00	6.70E+00
MINIMUM		5.29E+00	5.30E+00	5.71E+00	6.62E+00	6.62E+00	7.43E+00	6.53E+00
MEAN		5.80E+00	5.89E+00	6.13E+00	6.90E+00	6.80E+00	9.10E+00	6.78E+00
MAXIMUM		6.05E+00	6.15E+00	6.35E+00	7.09E+00	7.19E+00	1.03E+01	6.97E+00
+P 99/90		7.21E+00	7.47E+00	7.31E+00	7.74E+00	7.84E+00	1.47E+01	7.57E+00
-P 99/90		4.39E+00	4.31E+00	4.96E+00	6.06E+00	5.76E+00	3.49E+00	5.99E+00
SIGMA		3.02E-01	3.39E-01	2.52E-01	1.80E-01	2.23E-01	1.20E+00	1.70E-01

---

LOAD REGULATION 1 10mA ≤ Iout ≤ Imax Vout ≤ 5V

[DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
-----	S/N							
CONTROL	610		4.00E-03	4.00E-03	6.80E-02	7.92E-01	2.07E+00	5.10E-02
	615		2.00E-01	5.00E-01	1.18E+00	9.60E-01	4.46E+00	1.18E+00
	616		2.00E-02	2.18E-01	1.04E+00	1.26E+00	2.75E+00	9.60E-01
	618		1.00E-01	2.00E-01	6.56E-01	7.74E-01	2.90E+00	8.25E-01
	619		1.10E-02	4.19E-01	1.55E+00	1.43E+00	2.14E+00	1.25E+00
	620		1.00E-01	3.00E-01	7.91E-01	5.72E-01	1.38E+00	6.57E-01
MINIMUM			1.10E-02	2.00E-01	6.56E-01	5.72E-01	1.38E+00	6.57E-01
MEAN			8.62E-02	3.27E-01	1.04E+00	1.00E+00	2.72E+00	9.73E-01
MAXIMUM			2.00E-01	5.00E-01	1.55E+00	1.43E+00	4.46E+00	1.25E+00
+P 99/90			4.43E-01	9.32E-01	2.67E+00	2.63E+00	8.04E+00	2.11E+00
-P 99/90			-2.70E-01	-2.77E-01	-5.86E-01	-6.34E-01	-2.60E+00	-1.67E-01
SIGMA			7.64E-02	1.30E-01	3.49E-01	3.50E-01	1.14E+00	2.44E-01

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

LOAD REGULATION 2 10mA ≤ Iout ≤ Imax Vout ≥ 5V (%)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	-2.04E-01	0.00E+00	0.00E+00	-1.86E-01	-2.01E-01	-2.00E-01	-2.15E-01
	615	-1.46E-01	-1.56E-01	-1.66E-01	-1.90E-01	-1.70E-01	-2.51E-01	-1.61E+00
	616	-1.52E-01	-1.72E-01	-1.97E-01	-2.94E-01	-1.76E-01	-2.43E-01	-1.69E-01
	618	-1.45E-01	-1.55E-01	-1.75E-01	-2.42E-01	-1.73E-01	-2.08E-01	-1.70E-01
	619	-1.44E-01	-1.55E-01	-1.70E-01	-1.89E-01	-1.73E-01	-2.03E-01	-1.67E-01
	620	-1.53E-01	-1.58E-01	-1.65E-01	-1.72E-01	-1.69E-01	-1.72E-01	-1.80E-01
MINIMUM		-1.53E-01	-1.72E-01	-1.97E-01	-2.94E-01	-1.76E-01	-2.51E-01	-1.61E+00
MEAN		-1.48E-01	-1.59E-01	-1.75E-01	-2.17E-01	-1.72E-01	-2.15E-01	-4.58E-01
MAXIMUM		-1.44E-01	-1.55E-01	-1.65E-01	-1.72E-01	-1.69E-01	-1.72E-01	-1.67E-01
+P 99/90		-1.28E-01	-1.25E-01	-1.13E-01	1.70E-02	-1.59E-01	-6.56E-02	2.53E+00
-P 99/90		-1.68E-01	-1.93E-01	-2.36E-01	-4.52E-01	-1.85E-01	-3.65E-01	-3.45E+00
SIGMA		4.18E-03	7.26E-03	1.31E-02	5.02E-02	2.77E-03	3.21E-02	6.41E-01

---

LOAD REGULATION 2 10mA ≤ Iout ≤ Imax Vout ≥ 5V

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	2.04E-01	2.04E-01	1.80E-02	3.00E-03	4.00E-03	-1.10E-02	
	615	-1.00E-02	-2.00E-02	-4.40E-02	-2.40E-02	-1.05E-01	-1.46E+00	
	616	-2.00E-02	-4.50E-02	-1.42E-01	-2.40E-02	-9.10E-02	-1.70E-02	
	618	-1.00E-02	-3.00E-02	-9.70E-02	-2.80E-02	-6.30E-02	-2.50E-02	
	619	-1.10E-02	-2.60E-02	-4.50E-02	-2.90E-02	-5.90E-02	-2.30E-02	
	620	-5.00E-03	-1.20E-02	-1.90E-02	-1.60E-02	-1.90E-02	-2.70E-02	
MINIMUM		-2.00E-02	-4.50E-02	-1.42E-01	-2.90E-02	-1.05E-01	-1.46E+00	
MEAN		-1.12E-02	-2.66E-02	-6.94E-02	-2.42E-02	-6.74E-02	-3.10E-01	
MAXIMUM		-5.00E-03	-1.20E-02	-1.90E-02	-1.60E-02	-1.90E-02	-1.70E-02	
+P 99/90		1.42E-02	3.09E-02	1.62E-01	-3.17E-04	8.74E-02	2.69E+00	
-P 99/90		-3.66E-02	-8.41E-02	-3.01E-01	-4.81E-02	-2.22E-01	-3.31E+00	
SIGMA		5.45E-03	1.23E-02	4.95E-02	5.12E-03	3.32E-02	6.42E-01	

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

# I C S Radiation Test Results

## RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

ADJUST PIN CURRENT 1 VDIFF=3V IL=10mA				(µA)				
FLUENCE	krad(Si) FLUX rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	4.03E+01	4.03E+01	4.03E+01	4.02E+01	4.07E+01	3.71E+01	3.96E+01
	615	4.07E+01	4.06E+01	4.03E+01	3.97E+01	4.00E+01	3.96E+01	3.94E+01
	616	3.99E+01	3.98E+01	3.96E+01	3.92E+01	3.94E+01	3.59E+01	3.87E+01
	618	4.01E+01	4.00E+01	3.99E+01	3.95E+01	3.97E+01	3.91E+01	3.89E+01
	619	3.99E+01	3.98E+01	3.92E+01	3.89E+01	3.88E+01	3.86E+01	3.86E+01
	620	4.13E+01	4.11E+01	4.09E+01	4.03E+01	4.04E+01	4.06E+01	3.99E+01
MINIMUM		3.99E+01	3.98E+01	3.92E+01	3.89E+01	3.88E+01	3.59E+01	3.86E+01
MEAN		4.04E+01	4.03E+01	4.00E+01	3.95E+01	3.97E+01	3.88E+01	3.91E+01
MAXIMUM		4.13E+01	4.11E+01	4.09E+01	4.03E+01	4.04E+01	4.06E+01	3.99E+01
+P 99/90		4.31E+01	4.28E+01	4.29E+01	4.20E+01	4.26E+01	4.70E+01	4.16E+01
-P 99/90		3.77E+01	3.77E+01	3.70E+01	3.70E+01	3.67E+01	3.06E+01	3.66E+01
SIGMA		5.82E-01	5.52E-01	6.30E-01	5.38E-01	6.28E-01	1.76E+00	5.33E-01

ADJUST PIN CURRENT 1 VDIFF=3V IL=10mA				[DELTA]				
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-4.00E-02	-4.00E-02	-1.30E-01	3.60E-01	-3.24E+00	-7.10E-01
	615		-1.00E-01	-4.00E-01	-9.50E-01	-6.60E-01	-1.05E+00	-1.27E+00
	616		-1.00E-01	-3.00E-01	-7.00E-01	-5.70E-01	-4.01E+00	-1.24E+00
	618		-1.00E-01	-2.40E-01	-6.60E-01	-4.40E-01	-9.80E-01	-1.20E+00
	619		-1.40E-01	-7.10E-01	-1.06E+00	-1.15E+00	-1.29E+00	-1.33E+00
	620		-2.00E-01	-4.00E-01	-9.70E-01	-8.40E-01	-6.70E-01	-1.40E+00
	MINIMUM		-2.00E-01	-7.10E-01	-1.06E+00	-1.15E+00	-4.01E+00	-1.40E+00
	MEAN		-1.28E-01	-4.10E-01	-8.68E-01	-7.32E-01	-1.60E+00	-1.29E+00
	MAXIMUM		-1.00E-01	-2.40E-01	-6.60E-01	-4.40E-01	-6.70E-01	-1.20E+00
+P 99/90			7.65E-02	4.35E-01	-4.16E-02	5.52E-01	4.77E+00	-9.21E-01
-P 99/90			-3.32E-01	-1.26E+00	-1.69E+00	-2.02E+00	-7.97E+00	-1.65E+00
SIGMA			4.38E-02	1.81E-01	1.77E-01	2.75E-01	1.37E+00	7.85E-02

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

**ICS RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

ADJUST PIN CURRENT 2 VDIFF=5V IL=10mA			[ $\mu$ A]					
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	4.03E+01	4.03E+01	4.03E+01	4.02E+01	4.06E+01	3.71E+01	3.95E+01
	615	4.04E+01	4.03E+01	4.01E+01	3.98E+01	3.99E+01	3.96E+01	3.95E+01
	616	3.99E+01	3.98E+01	3.96E+01	3.92E+01	3.96E+01	3.59E+01	3.86E+01
	618	4.01E+01	4.00E+01	3.98E+01	3.94E+01	3.98E+01	3.93E+01	3.88E+01
	619	3.98E+01	3.97E+01	3.92E+01	3.89E+01	3.88E+01	3.85E+01	3.84E+01
	620	4.14E+01	4.14E+01	4.10E+01	4.03E+01	4.05E+01	4.08E+01	3.98E+01
MINIMUM		3.98E+01	3.97E+01	3.92E+01	3.89E+01	3.88E+01	3.59E+01	3.84E+01
MEAN		4.03E+01	4.02E+01	3.99E+01	3.95E+01	3.97E+01	3.88E+01	3.90E+01
MAXIMUM		4.14E+01	4.14E+01	4.10E+01	4.03E+01	4.05E+01	4.08E+01	3.98E+01
+P 99/90		4.33E+01	4.34E+01	4.31E+01	4.21E+01	4.26E+01	4.73E+01	4.18E+01
-P 99/90		3.73E+01	3.70E+01	3.67E+01	3.70E+01	3.69E+01	3.03E+01	3.62E+01
SIGMA		6.47E-01	6.86E-01	6.85E-01	5.47E-01	6.11E-01	1.81E+00	5.97E-01

---

ADJUST PIN CURRENT 2 VDIFF=5V IL=10mA			[ $\Delta$ ]					
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-1.00E-02	-1.00E-02	-1.00E-01	2.50E-01	-3.19E+00	-7.70E-01
	615		-1.00E-01	-3.00E-01	-6.60E-01	-4.80E-01	-8.00E-01	-9.30E-01
	616		-1.00E-01	-3.00E-01	-6.60E-01	-3.10E-01	-3.97E+00	-1.29E+00
	618		-1.10E-01	-2.90E-01	-7.50E-01	-3.50E-01	-8.50E-01	-1.33E+00
	619		-1.00E-01	-6.50E-01	-9.30E-01	-1.00E+00	-1.34E+00	-1.38E+00
	620		-1.00E-02	-4.20E-01	-1.10E+00	-9.20E-01	-6.30E-01	-1.60E+00
MINIMUM			-1.10E-01	-6.50E-01	-1.10E+00	-1.00E+00	-3.97E+00	-1.60E+00
MEAN			-8.40E-02	-3.92E-01	-8.20E-01	-6.12E-01	-1.52E+00	-1.31E+00
MAXIMUM			-1.00E-02	-2.90E-01	-6.60E-01	-3.10E-01	-6.30E-01	-9.30E-01
+P 99/90			1.10E-01	3.26E-01	7.33E-02	9.05E-01	5.00E+00	-1.77E-01
-P 99/90			-2.78E-01	-1.11E+00	-1.71E+00	-2.13E+00	-8.03E+00	-2.43E+00
SIGMA			4.16E-02	1.54E-01	1.91E-01	3.25E-01	1.40E+00	2.42E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

ADJUST PIN CURRENT 3 VDIF=40V IL=10mA		[ $\mu$ A]						
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	4.04E+01	4.04E+01	4.04E+01	4.03E+01	4.07E+01	3.72E+01	3.96E+01
	615	4.08E+01	4.07E+01	4.04E+01	3.97E+01	4.01E+01	3.97E+01	3.96E+01
	616	4.00E+01	3.99E+01	3.97E+01	3.92E+01	3.93E+01	3.59E+01	3.87E+01
	618	4.01E+01	4.00E+01	3.99E+01	3.95E+01	3.98E+01	3.94E+01	3.90E+01
	619	3.99E+01	3.98E+01	3.93E+01	3.89E+01	3.89E+01	3.87E+01	3.85E+01
	620	4.14E+01	4.14E+01	4.19E+01	4.04E+01	4.04E+01	4.08E+01	3.99E+01
MINIMUM		3.99E+01	3.98E+01	3.93E+01	3.89E+01	3.89E+01	3.59E+01	3.85E+01
MEAN		4.04E+01	4.04E+01	4.02E+01	3.95E+01	3.97E+01	3.89E+01	3.91E+01
MAXIMUM		4.14E+01	4.14E+01	4.19E+01	4.04E+01	4.04E+01	4.08E+01	3.99E+01
+P 99/90		4.34E+01	4.35E+01	4.49E+01	4.23E+01	4.26E+01	4.74E+01	4.20E+01
-P 99/90		3.75E+01	3.72E+01	3.55E+01	3.68E+01	3.68E+01	3.04E+01	3.63E+01
SIGMA		6.27E-01	6.77E-01	1.01E+00	5.93E-01	6.14E-01	1.83E+00	6.03E-01

---

ADJUST PIN CURRENT 3 VDIF=40V IL=10mA		[ $\Delta$ ]						
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-2.00E-02	-2.00E-02	-1.20E-01	2.30E-01	-3.21E+00	-8.40E-01
	615		-1.00E-01	-4.00E-01	-1.06E+00	-7.10E-01	-1.07E+00	-2.09E+00
	616		-8.00E-02	-3.20E-01	-8.00E-01	-6.60E-01	-4.06E+00	-9.80E-01
	618		-1.00E-01	-2.60E-01	-6.30E-01	-3.70E-01	-6.90E-01	-1.62E+00
	619		-1.20E-01	-6.20E-01	-1.02E+00	-1.02E+00	-1.17E+00	5.00E-02
	620		3.00E-02	5.20E-01	-9.30E-01	-9.30E-01	-5.90E-01	-1.42E+00
MINIMUM			-1.20E-01	-6.20E-01	-1.06E+00	-1.02E+00	-4.06E+00	-2.09E+00
MEAN			-7.40E-02	-2.16E-01	-8.88E-01	-7.38E-01	-1.52E+00	-1.21E+00
MAXIMUM			3.00E-02	5.20E-01	-6.30E-01	-3.70E-01	-5.90E-01	5.00E-02
+P 99/90			2.05E-01	1.81E+00	-6.95E-02	4.49E-01	5.22E+00	2.57E+00
-P 99/90			-3.53E-01	-2.24E+00	-1.71E+00	-1.92E+00	-8.25E+00	-4.99E+00
SIGMA			5.98E-02	4.33E-01	1.75E-01	2.54E-01	1.44E+00	8.10E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A (μA)								
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	2.00E-01	2.00E-01	2.00E-01	2.20E-01	4.00E-02	-4.00E-02	1.80E-01
	615	-3.30E-01	-3.30E-01	-2.80E-01	3.10E-01	-2.70E-01	1.80E-01	-9.00E-02
	616	4.00E-02	1.00E-02	7.00E-02	-1.80E-01	2.20E-01	1.10E-01	4.50E-01
	618	2.50E-01	2.20E-01	1.70E-01	9.00E-02	-9.00E-02	3.60E-01	2.70E-01
	619	-1.80E-01	-1.60E-01	-1.00E-01	0.00E+00	-2.00E-02	1.30E-01	1.80E-01
	620	1.80E-01	1.80E-01	1.80E-01	-1.80E-01	1.11E+00	4.20E-01	
MINIMUM		-3.30E-01	-3.30E-01	-2.80E-01	-1.80E-01	-2.70E-01	1.10E-01	-9.00E-02
MEAN		-8.00E-03	-1.60E-02	8.00E-03	8.00E-02	-6.80E-02	3.78E-01	2.46E-01
MAXIMUM		2.50E-01	2.20E-01	1.80E-01	3.10E-01	2.20E-01	1.11E+00	4.50E-01
+P 99/90		1.13E+00	1.06E+00	9.24E-01	9.44E-01	8.02E-01	2.34E+00	1.26E+00
-P 99/90		-1.14E+00	-1.10E+00	-9.08E-01	-7.84E-01	-9.38E-01	-1.59E+00	-7.70E-01
SIGMA		2.44E-01	2.31E-01	1.96E-01	1.85E-01	1.86E-01	4.21E-01	2.18E-01

---

ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A [DELTA]								
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	2.00E-02	-1.60E-01	-2.40E-01	-2.00E-02
	615		0.00E+00	5.00E-02	6.40E-01	6.00E-02	5.10E-01	2.40E-01
	616		-3.00E-02	3.00E-02	-2.20E-01	1.80E-01	7.00E-02	4.10E-01
	618		-3.00E-02	-8.00E-02	-1.60E-01	-3.40E-01	1.10E-01	2.00E-02
	619		2.00E-02	8.00E-02	1.80E-01	1.60E-01	3.10E-01	3.60E-01
	620		0.00E+00	0.00E+00	0.00E+00	-3.60E-01	9.30E-01	2.40E-01
MINIMUM			-3.00E-02	-8.00E-02	-2.20E-01	-3.60E-01	7.00E-02	2.00E-02
MEAN			-8.00E-03	1.60E-02	8.80E-02	-6.00E-02	3.86E-01	2.54E-01
MAXIMUM			2.00E-02	8.00E-02	6.40E-01	1.80E-01	9.30E-01	4.10E-01
+P 99/90			9.32E-02	3.01E-01	1.70E+00	1.19E+00	2.02E+00	9.57E-01
-P 99/90			-1.09E-01	-2.69E-01	-1.52E+00	-1.31E+00	-1.25E+00	-4.49E-01
SIGMA			2.17E-02	6.11E-02	3.45E-01	2.69E-01	3.51E-01	1.51E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA								
			(µA)					
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	-9.00E-02	-9.00E-02	-9.00E-02	-9.00E-02	1.80E-01	-9.00E-02	0.00E+00
	615	-2.70E-01	-2.00E-01	-1.50E-01	-4.00E-02	-2.50E-01	-1.80E-01	-1.80E-01
	616	9.00E-02	8.00E-02	6.00E-02	0.00E+00	-1.30E-01	-9.00E-02	-9.00E-02
	618	4.00E-02	3.00E-02	5.00E-02	7.00E-02	-9.00E-02	-1.80E-01	-1.30E-01
	619	1.30E-01	1.00E-01	7.00E-02	0.00E+00	-1.30E-01	0.00E+00	9.00E-02
	620	-9.00E-02	-9.00E-02	-1.50E-01	-2.00E-01	-9.00E-02	-1.80E+01	-1.30E-01
MINIMUM		-2.70E-01	-2.00E-01	-1.50E-01	-2.00E-01	-2.50E-01	-1.80E+01	-1.80E-01
MEAN		-2.00E-02	-1.60E-02	-2.40E-02	-3.40E-02	-1.38E-01	-3.69E+00	-8.80E-02
MAXIMUM		1.30E-01	1.00E-01	7.00E-02	7.00E-02	-9.00E-02	0.00E+00	9.00E-02
+P 99/90		7.38E-01	5.75E-01	5.14E-01	4.37E-01	1.69E-01	3.36E+01	4.00E-01
-P 99/90		-7.78E-01	-6.07E-01	-5.62E-01	-5.05E-01	-4.45E-01	-4.10E+01	-5.76E-01
SIGMA		1.62E-01	1.27E-01	1.15E-01	1.01E-01	6.57E-02	8.00E+00	1.04E-01

---

ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA								
			[DELTA]					
FLUENCE	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	0.00E+00	2.70E-01	0.00E+00	9.00E-02
	615		7.00E-02	3.30E-01	2.30E-01	2.00E-02	9.00E-02	9.00E-02
	616		-1.00E-02	-4.00E-02	-9.00E-02	-2.20E-01	-1.80E-01	-1.80E-01
	618		-1.00E-02	3.00E-02	3.00E-02	-1.30E-01	-2.20E-01	-1.70E-01
	619		-3.00E-02	-2.80E-01	-1.30E-01	-2.60E-01	-1.30E-01	-4.00E-02
	620		0.00E+00	-6.00E-02	-1.10E-01	0.00E+00	-1.79E+01	-4.00E-02
MINIMUM			-3.00E-02	-2.80E-01	-1.30E-01	-2.60E-01	-1.79E+01	-1.80E-01
MEAN			4.00E-03	-4.00E-03	-1.40E-02	-1.18E-01	-3.67E+00	-6.80E-02
MAXIMUM			7.00E-02	3.30E-01	2.30E-01	2.00E-02	9.00E-02	9.00E-02
+P 99/90			1.84E-01	1.02E+00	6.86E-01	4.71E-01	3.35E+01	4.51E-01
-P 99/90			-1.76E-01	-1.03E+00	-7.14E-01	-7.07E-01	-4.08E+01	-5.87E-01
SIGMA			3.85E-02	2.20E-01	1.50E-01	1.26E-01	7.96E+00	1.11E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

**MINIMUM LOAD CURRENT VDIF=40V**

(mA)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N	610	1.34E+00	1.34E+00	1.34E+00	1.32E+00	1.34E+00	1.38E+00
		615	1.20E+00	1.22E+00	1.25E+00	1.30E+00	1.30E+00	1.32E+00
		616	1.11E+00	1.11E+00	1.14E+00	1.18E+00	1.18E+00	1.22E+00
		618	1.07E+00	1.08E+00	1.10E+00	1.16E+00	1.14E+00	1.18E+00
		619	1.09E+00	1.10E+00	1.12E+00	1.16E+00	1.16E+00	1.20E+00
		620	1.11E+00	1.12E+00	1.14E+00	1.16E+00	1.18E+00	1.22E+00
	MINIMUM	1.07E+00	1.08E+00	1.10E+00	1.16E+00	1.14E+00	1.18E+00	1.18E+00
	MEAN	1.11E+00	1.13E+00	1.15E+00	1.19E+00	1.20E+00	1.23E+00	1.24E+00
	MAXIMUM	1.20E+00	1.22E+00	1.25E+00	1.30E+00	1.30E+00	1.32E+00	1.34E+00
	+P 99/90	1.35E+00	1.38E+00	1.42E+00	1.48E+00	1.48E+00	1.47E+00	1.52E+00
	-P 99/90	8.73E-01	8.67E-01	8.77E-01	9.10E-01	9.13E-01	9.85E-01	9.53E-01
	SIGMA	5.15E-02	5.54E-02	5.85E-02	6.10E-02	6.05E-02	5.23E-02	6.08E-02

---

**MINIMUM LOAD CURRENT VDIF=40V**

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
CONTROL	S/N	610	0.00E+00	0.00E+00	1.00E-03	-1.70E-02	2.00E-03	4.30E-02
		615	2.00E-02	5.00E-02	1.03E-01	9.90E-02	1.18E-01	1.39E-01
		616	7.00E-03	3.70E-02	7.60E-02	7.80E-02	1.16E-01	1.32E-01
		618	1.00E-02	3.30E-02	9.70E-02	7.80E-02	1.16E-01	1.17E-01
		619	1.40E-02	3.50E-02	7.70E-02	7.80E-02	1.16E-01	1.17E-01
		620	1.00E-02	3.00E-02	5.70E-02	7.80E-02	1.16E-01	1.13E-01
	MINIMUM	7.00E-03	3.00E-02	5.70E-02	7.80E-02	1.16E-01	1.13E-01	
	MEAN	1.22E-02	3.70E-02	8.20E-02	8.22E-02	1.16E-01	1.24E-01	
	MAXIMUM	2.00E-02	5.00E-02	1.03E-01	9.90E-02	1.18E-01	1.39E-01	
	+P 99/90	3.56E-02	7.30E-02	1.68E-01	1.26E-01	1.21E-01	1.76E-01	
	-P 99/90	-1.12E-02	1.01E-03	-3.78E-03	3.84E-02	1.12E-01	7.11E-02	
	SIGMA	5.02E-03	7.71E-03	1.84E-02	9.39E-03	8.94E-04	1.13E-02	

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

**SHORT CIRCUIT CURRENT VDIF=15V**

(A)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.03E+00	1.05E+00
	615	1.00E+00	1.00E+00	1.01E+00	1.04E+00	1.05E+00	1.06E+00	1.06E+00
	616	9.24E-01	9.31E-01	9.38E-01	9.58E-01	9.57E-01	9.67E-01	9.68E-01
	618	9.52E-01	9.53E-01	9.63E-01	9.91E-01	9.91E-01	1.00E+00	1.00E+00
	619	9.41E-01	9.45E-01	9.54E-01	9.74E-01	9.80E-01	9.83E-01	9.85E-01
	620	9.52E-01	9.61E-01	9.71E-01	9.86E-01	9.85E-01	9.89E-01	1.00E+00
MINIMUM		9.24E-01	9.31E-01	9.38E-01	9.58E-01	9.57E-01	9.67E-01	9.68E-01
MEAN		9.54E-01	9.58E-01	9.67E-01	9.89E-01	9.92E-01	9.99E-01	1.00E+00
MAXIMUM		1.00E+00	1.00E+00	1.01E+00	1.04E+00	1.05E+00	1.06E+00	1.06E+00
+P 99/90		1.09E+00	1.08E+00	1.09E+00	1.13E+00	1.15E+00	1.16E+00	1.16E+00
-P 99/90		8.19E-01	8.37E-01	8.40E-01	8.53E-01	8.38E-01	8.40E-01	8.47E-01
SIGMA		2.91E-02	2.60E-02	2.73E-02	2.92E-02	3.29E-02	3.40E-02	3.34E-02

---

**SHORT CIRCUIT CURRENT VDIF=15V**

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	1.00E-03	0.00E+00	-2.00E-03	1.10E-02
	615		-2.00E-03	9.00E-03	3.40E-02	4.40E-02	5.40E-02	5.50E-02
	616		7.00E-03	1.40E-02	3.40E-02	3.30E-02	4.30E-02	4.40E-02
	618		1.00E-03	1.10E-02	3.90E-02	3.90E-02	4.80E-02	5.00E-02
	619		4.00E-03	1.30E-02	3.30E-02	3.90E-02	4.20E-02	4.40E-02
	620		9.00E-03	1.90E-02	3.40E-02	3.30E-02	3.70E-02	5.00E-02
MINIMUM			-2.00E-03	9.00E-03	3.30E-02	3.30E-02	3.70E-02	4.40E-02
MEAN			3.80E-03	1.32E-02	3.48E-02	3.76E-02	4.48E-02	4.86E-02
MAXIMUM			9.00E-03	1.90E-02	3.90E-02	4.40E-02	5.40E-02	5.50E-02
+P 99/90			2.45E-02	3.08E-02	4.59E-02	5.94E-02	7.49E-02	7.04E-02
-P 99/90			-1.69E-02	-4.38E-03	2.37E-02	1.58E-02	1.47E-02	2.68E-02
SIGMA			4.44E-03	3.77E-03	2.39E-03	4.67E-03	6.46E-03	4.67E-03

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

**SHORT CIRCUIT CURRENT VDIF=40V**

(A)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	2.63E-01	2.64E-01	2.64E-01	2.69E-01	2.63E-01	2.67E-01	2.63E-01
	615	2.52E-01	2.62E-01	2.82E-01	3.02E-01	3.13E-01	3.11E-01	3.18E-01
	616	2.41E-01	2.52E-01	2.61E-01	2.80E-01	2.91E-01	2.89E-01	2.91E-01
	618	2.41E-01	2.51E-01	2.62E-01	2.86E-01	2.96E-01	2.95E-01	2.96E-01
	619	2.46E-01	2.56E-01	2.67E-01	2.91E-01	2.96E-01	3.00E-01	3.02E-01
	620	2.57E-01	2.65E-01	2.72E-01	2.91E-01	3.02E-01	3.00E-01	3.02E-01
MINIMUM		2.41E-01	2.51E-01	2.61E-01	2.80E-01	2.91E-01	2.89E-01	2.91E-01
MEAN		2.47E-01	2.57E-01	2.69E-01	2.90E-01	3.00E-01	2.99E-01	3.02E-01
MAXIMUM		2.57E-01	2.65E-01	2.82E-01	3.02E-01	3.13E-01	3.11E-01	3.18E-01
+P 99/90		2.80E-01	2.86E-01	3.09E-01	3.28E-01	3.39E-01	3.37E-01	3.49E-01
-P 99/90		2.15E-01	2.29E-01	2.29E-01	2.52E-01	2.60E-01	2.61E-01	2.54E-01
SIGMA		7.02E-03	6.14E-03	8.58E-03	8.09E-03	8.44E-03	8.09E-03	1.02E-02

---

**SHORT CIRCUIT CURRENT VDIF=40V**

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		1.00E-03	1.00E-03	6.00E-03	0.00E+00	4.00E-03	0.00E+00
	615		1.00E-02	3.00E-02	5.00E-02	6.10E-02	5.90E-02	6.60E-02
	616		1.10E-02	2.00E-02	3.90E-02	5.00E-02	4.80E-02	5.00E-02
	618		1.00E-02	2.10E-02	4.50E-02	5.50E-02	5.40E-02	5.50E-02
	619		1.00E-02	2.10E-02	4.50E-02	5.00E-02	5.40E-02	5.60E-02
	620		8.00E-03	1.50E-02	3.40E-02	4.50E-02	4.30E-02	4.50E-02
MINIMUM			8.00E-03	1.50E-02	3.40E-02	4.50E-02	4.30E-02	4.50E-02
MEAN			9.80E-03	2.14E-02	4.26E-02	5.22E-02	5.16E-02	5.44E-02
MAXIMUM			1.10E-02	3.00E-02	5.00E-02	6.10E-02	5.90E-02	6.60E-02
+P 99/90			1.49E-02	4.67E-02	7.15E-02	8.05E-02	8.05E-02	9.09E-02
-P 99/90			4.69E-03	-3.86E-03	1.37E-02	2.39E-02	2.27E-02	1.79E-02
SIGMA			1.10E-03	5.41E-03	6.19E-03	6.06E-03	6.19E-03	7.83E-03

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

---

RIPPLE REJECTION CADJ=10uF VOUT=10V

(dB)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
-----	S/N							
CONTROL	610	1.28E+02	1.28E+02	1.28E+02	1.29E+02	1.26E+02	1.28E+02	1.30E+02
	615	1.28E+02	1.29E+02	1.29E+02	1.32E+02	1.34E+02	1.28E+02	1.31E+02
	616	1.29E+02	1.29E+02	1.29E+02	1.27E+02	1.26E+02	1.27E+02	1.29E+02
	618	1.27E+02	1.27E+02	1.28E+02	1.30E+02	1.28E+02	1.31E+02	1.30E+02
	619	1.30E+02	1.31E+02	1.32E+02	1.34E+02	1.31E+02	1.27E+02	1.29E+02
	620	1.31E+02	1.32E+02	1.32E+02	1.34E+02	1.28E+02	1.28E+02	1.27E+02
MINIMUM		1.27E+02	1.27E+02	1.28E+02	1.27E+02	1.26E+02	1.27E+02	1.27E+02
MEAN		1.29E+02	1.29E+02	1.30E+02	1.31E+02	1.29E+02	1.28E+02	1.29E+02
MAXIMUM		1.31E+02	1.32E+02	1.32E+02	1.34E+02	1.34E+02	1.31E+02	1.31E+02
+P 99/90		1.37E+02	1.38E+02	1.39E+02	1.45E+02	1.43E+02	1.35E+02	1.37E+02
-P 99/90		1.21E+02	1.20E+02	1.21E+02	1.17E+02	1.15E+02	1.21E+02	1.22E+02
SIGMA		1.69E+00	1.92E+00	1.95E+00	2.99E+00	2.98E+00	1.54E+00	1.63E+00

---

RIPPLE REJECTION CADJ=10uF VOUT=10V

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
-----	S/N							
CONTROL	610		2.00E-01	2.00E-01	8.30E-01	-1.31E+00	3.90E-01	2.68E+00
	615		6.00E-01	1.40E-01	-1.16E+00	5.15E+00	-1.20E-01	2.64E+00
	616		-2.40E-01	-8.50E-01	9.40E-01	-2.99E+00	-1.70E+00	6.30E-01
	618		-1.00E-02	4.61E+00	6.94E+00	1.43E+00	3.66E+00	3.39E+00
	619		6.00E-01	2.01E+00	4.08E+00	4.50E-01	-3.26E+00	-1.15E+00
	620		5.00E-01	8.30E-01	2.90E+00	-3.82E+00	-3.85E+00	-4.62E+00
MINIMUM			-2.40E-01	-8.50E-01	-1.16E+00	-3.82E+00	-3.85E+00	-4.62E+00
MEAN			2.90E-01	1.35E+00	2.74E+00	4.40E-02	-1.05E+00	1.78E-01
MAXIMUM			6.00E-01	4.61E+00	6.94E+00	5.15E+00	3.66E+00	3.39E+00
+P 99/90			2.11E+00	1.11E+01	1.71E+01	1.69E+01	1.30E+01	1.52E+01
-P 99/90			-1.53E+00	-8.45E+00	-1.16E+01	-1.68E+01	-1.51E+01	-1.48E+01
SIGMA			3.90E-01	2.10E+00	3.08E+00	3.62E+00	3.01E+00	3.22E+00

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

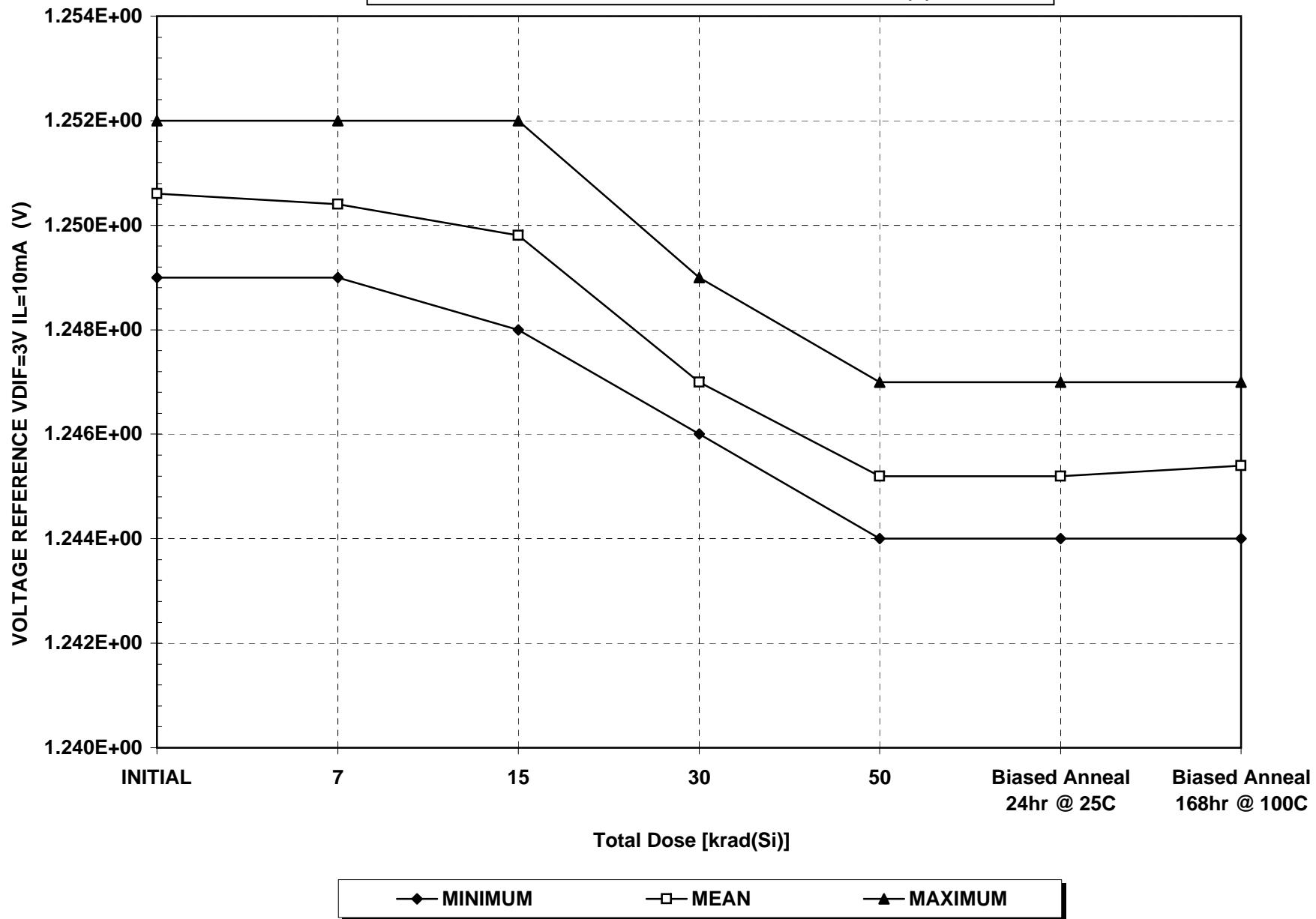
D/C 0706A || PACKAGE H-3 LEAD CAN (TO-5) || LOT# A21511.1  
LOG# 1586 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO# 46146L

I C S RADIATION TECHNOLOGIES, INC.

RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

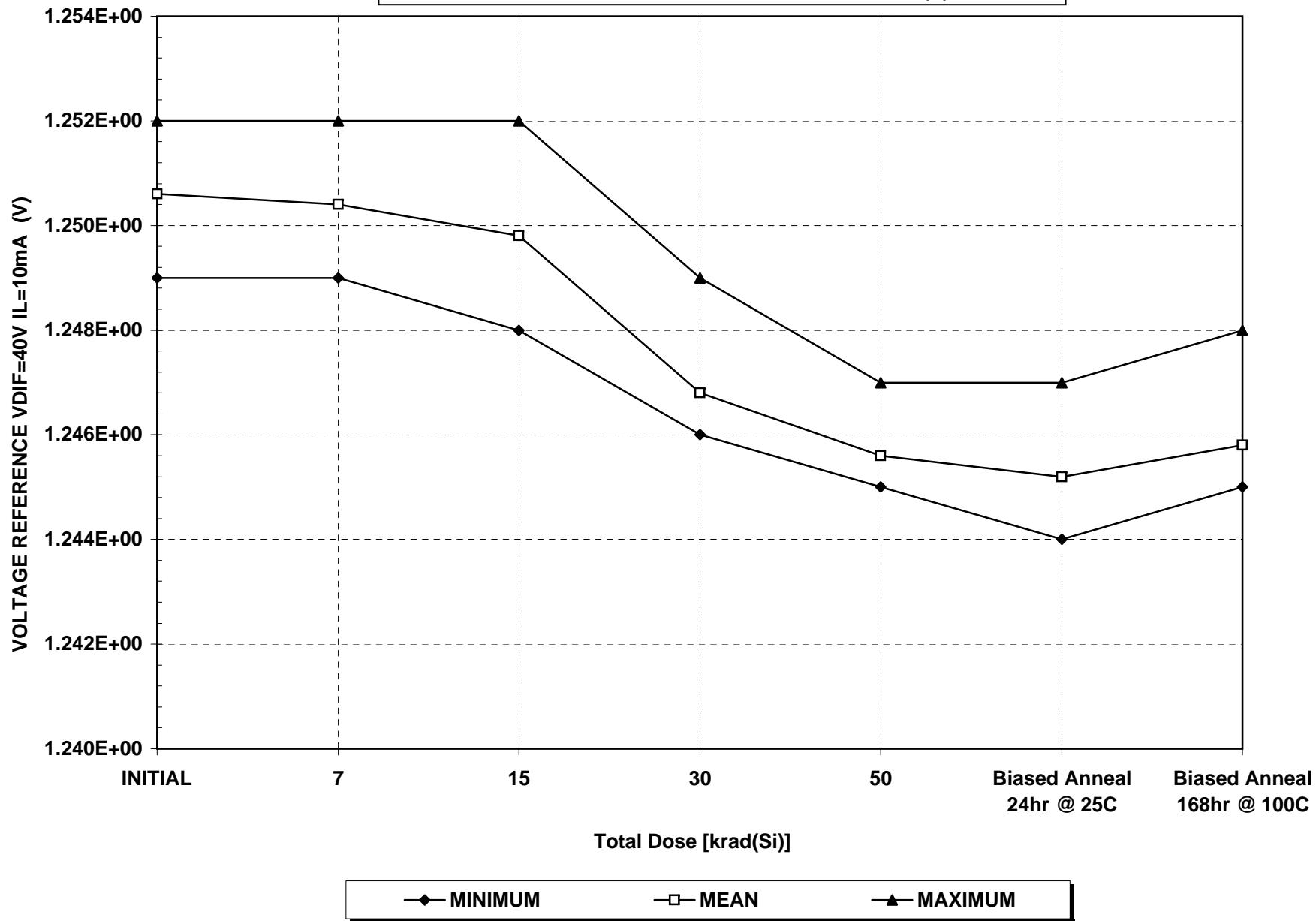
VOLTAGE REFERENCE VDIF=3V IL=10mA (V)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

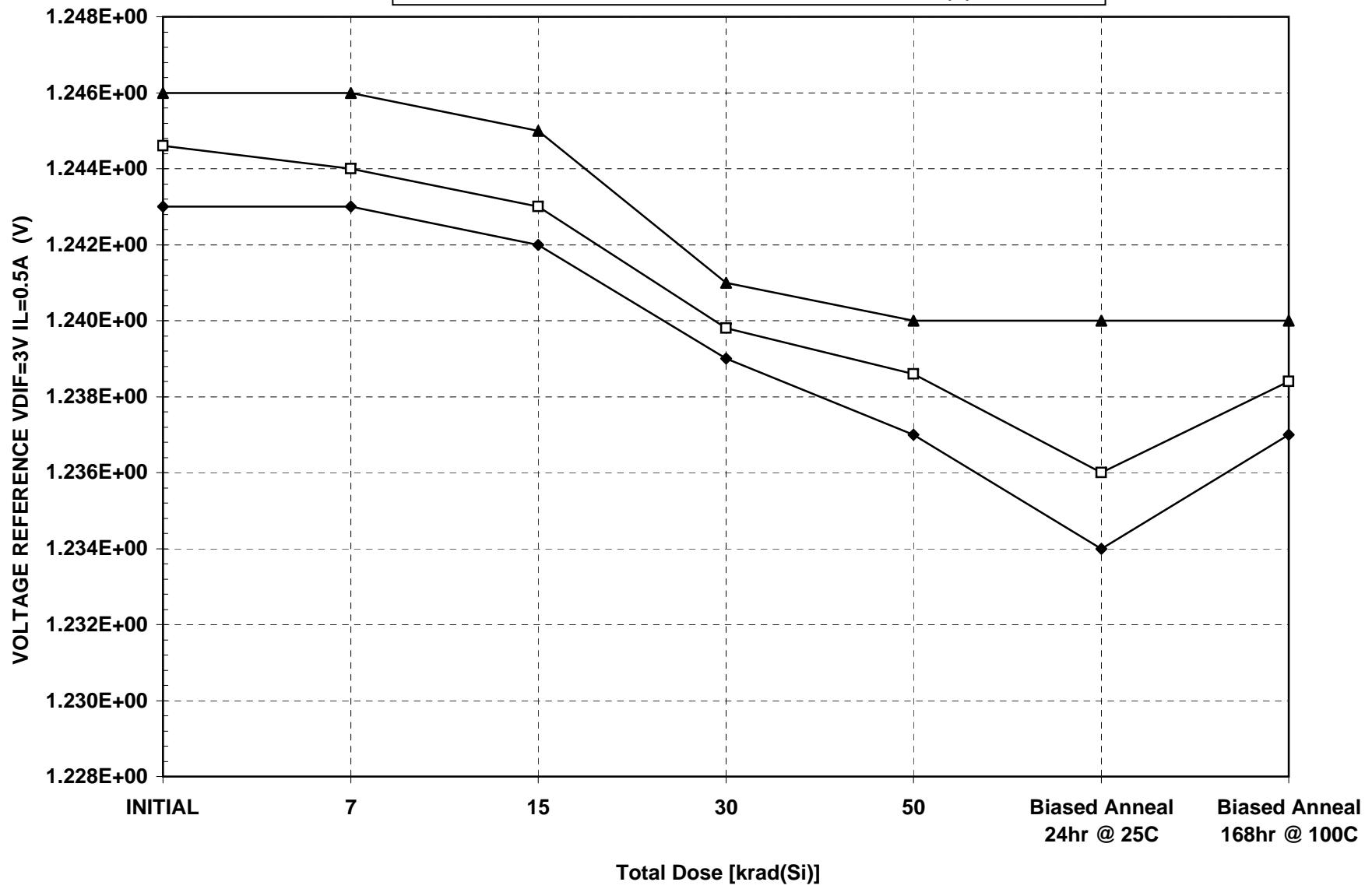
VOLTAGE REFERENCE VDIF=40V IL=10mA (V)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

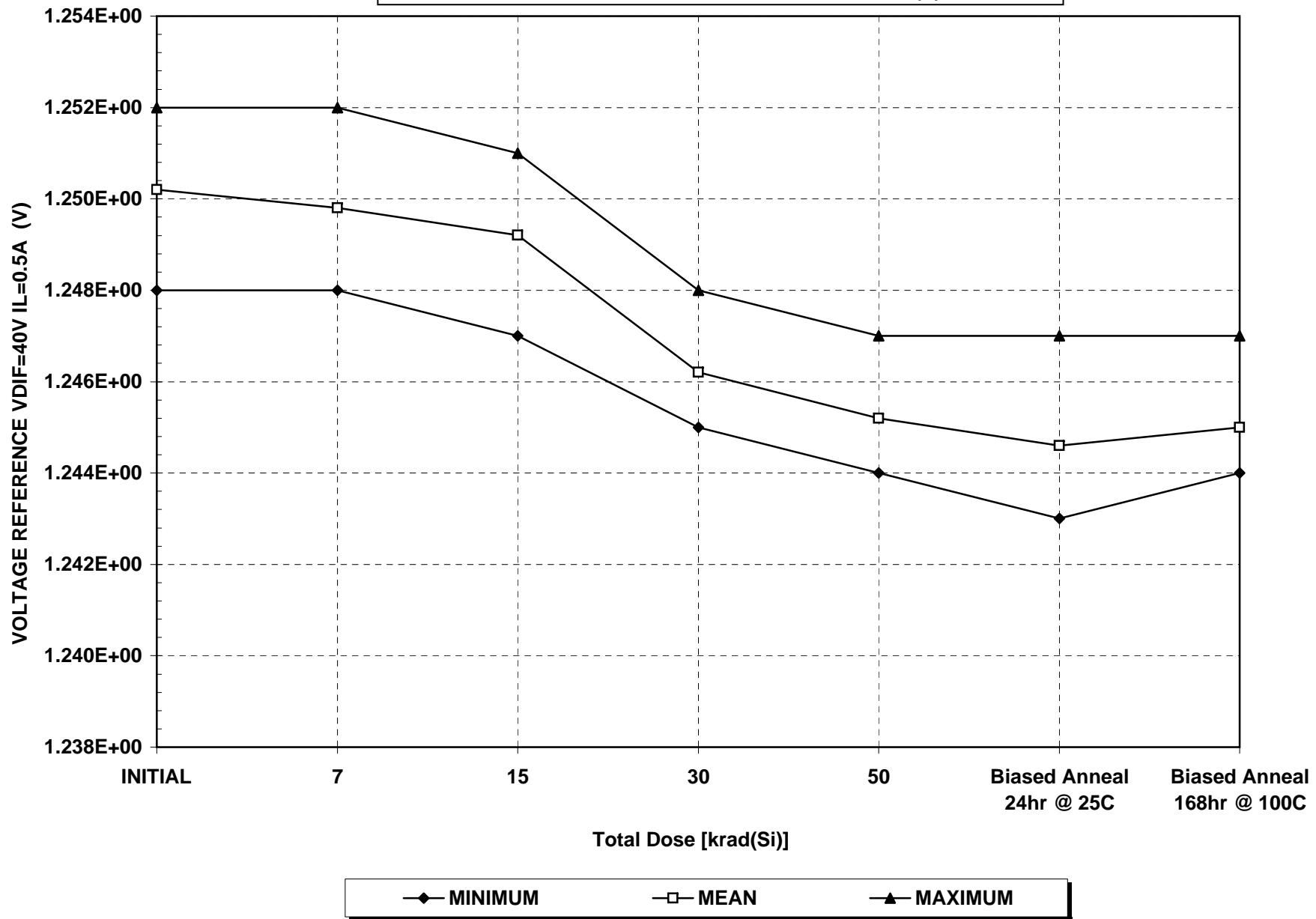
VOLTAGE REFERENCE VDIF=3V IL=0.5A (V)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

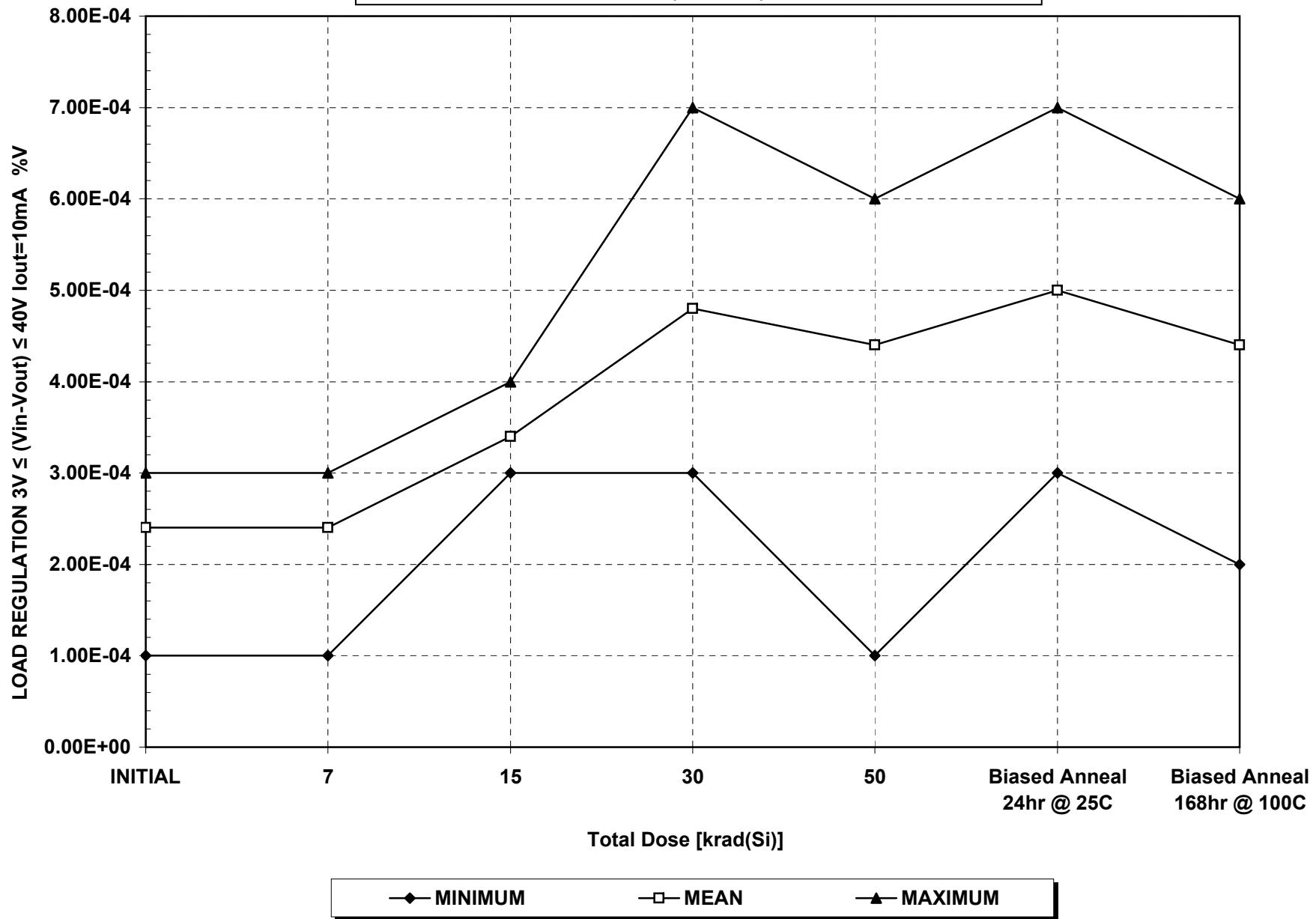
VOLTAGE REFERENCE VDIF=40V IL=0.5A (V)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

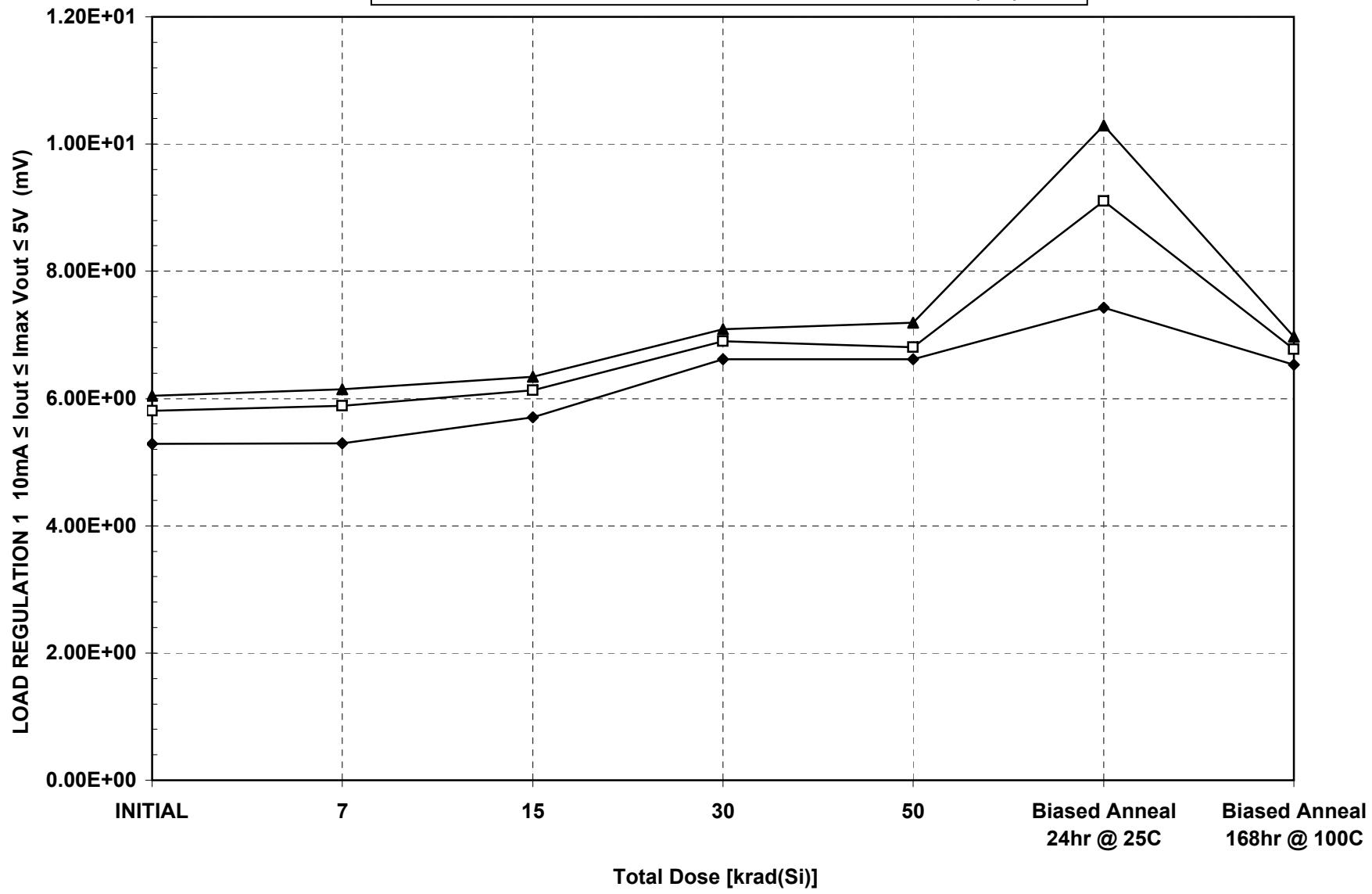
LOAD REGULATION  $3V \leq (Vin-Vout) \leq 40V$  Iout=10mA %V



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

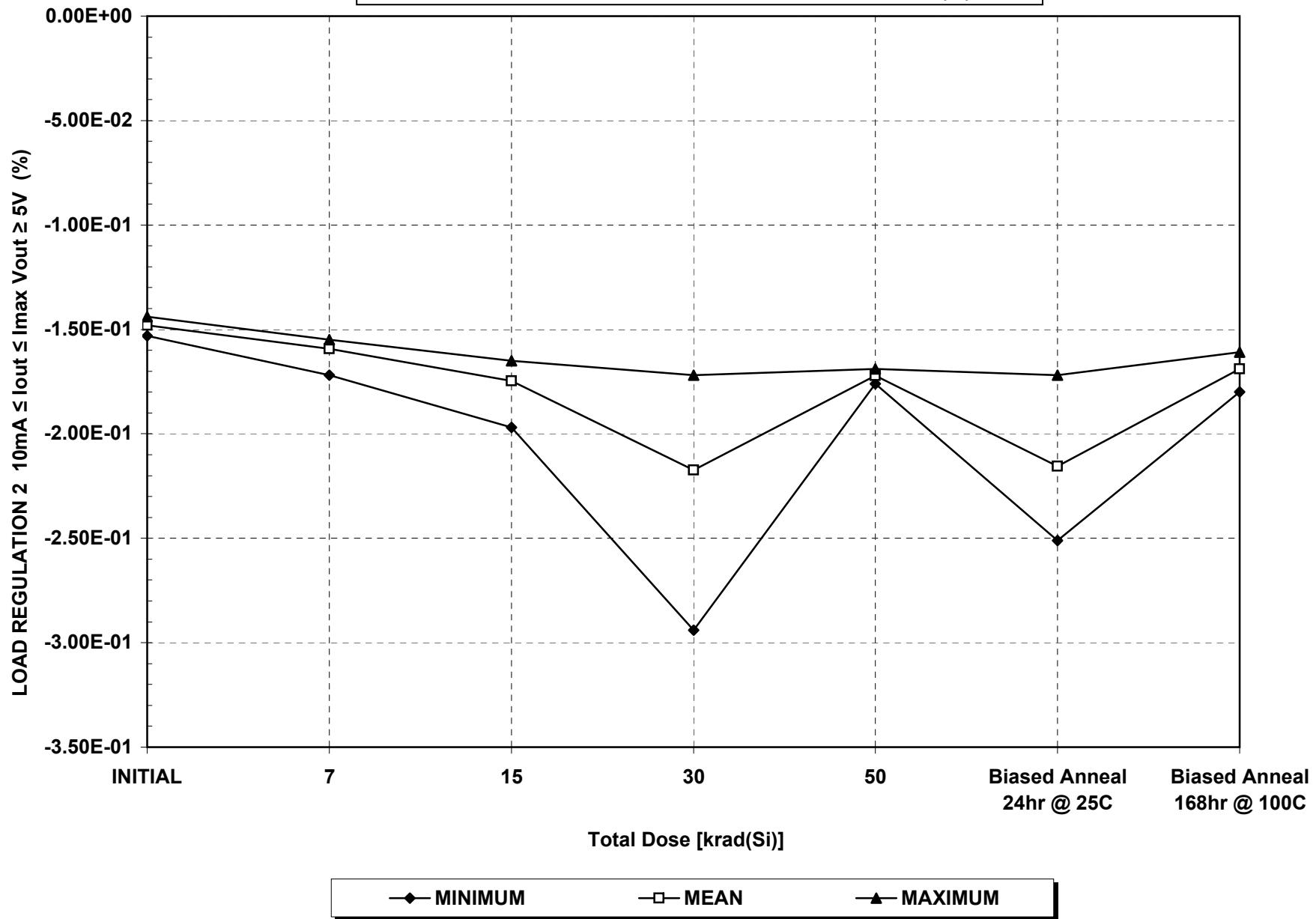
LOAD REGULATION 1  $10\text{mA} \leq I_{out} \leq I_{max}$   $V_{out} \leq 5\text{V}$  (mV)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

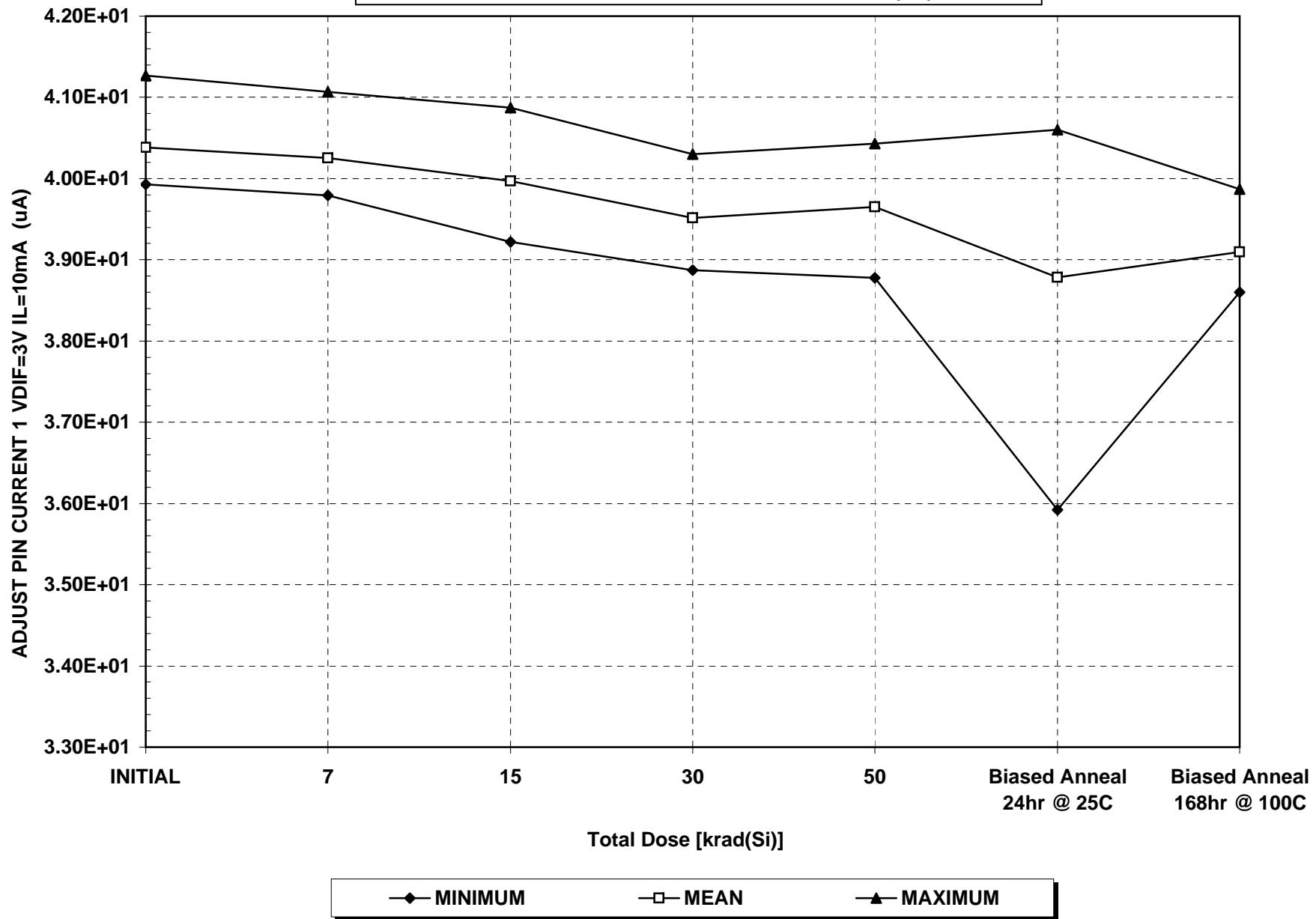
LOAD REGULATION 2  $10\text{mA} \leq I_{\text{out}} \leq I_{\text{max}}$   $V_{\text{out}} \geq 5\text{V}$  (%)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

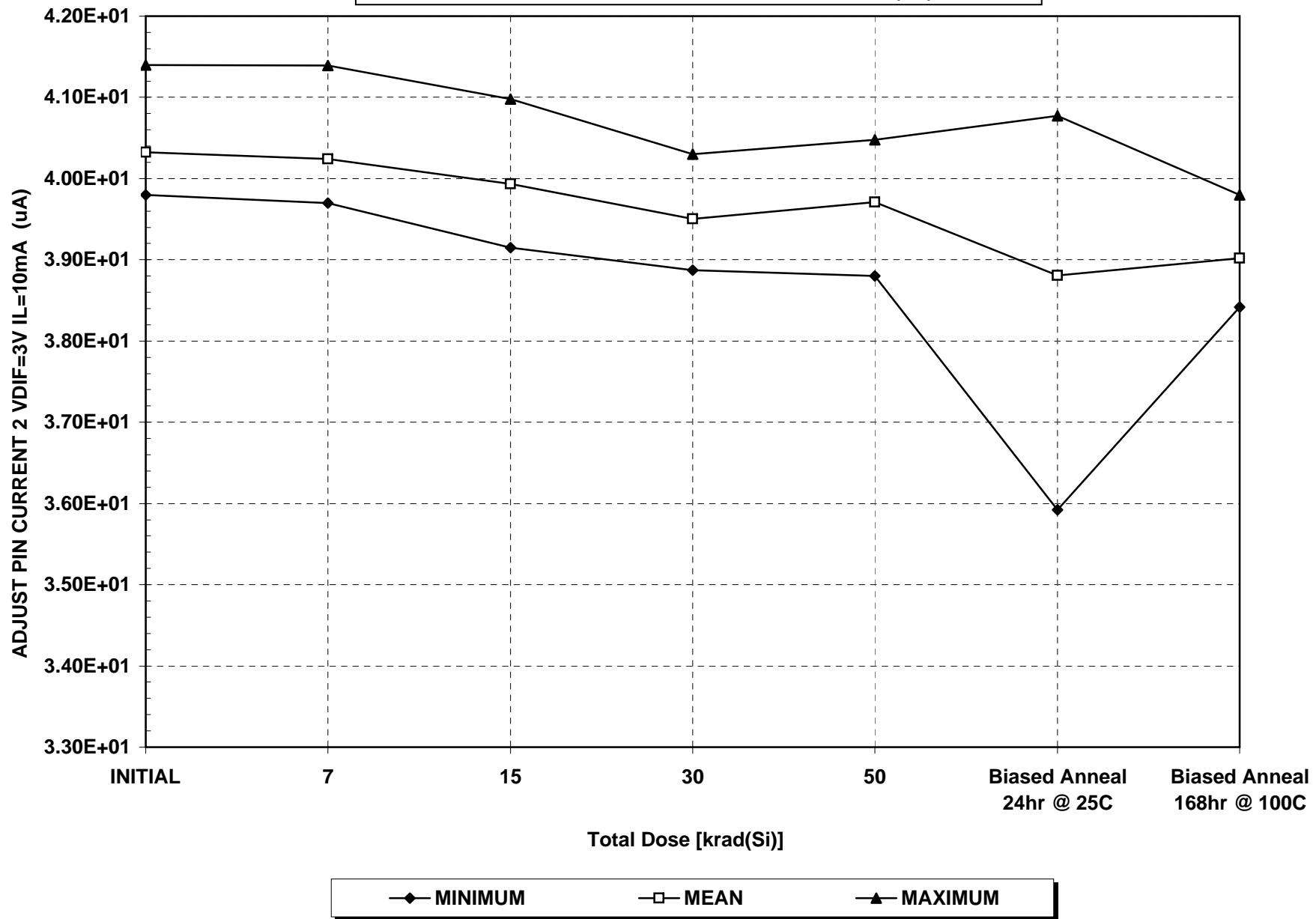
ADJUST PIN CURRENT 1 VDIF=3V IL=10mA (uA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

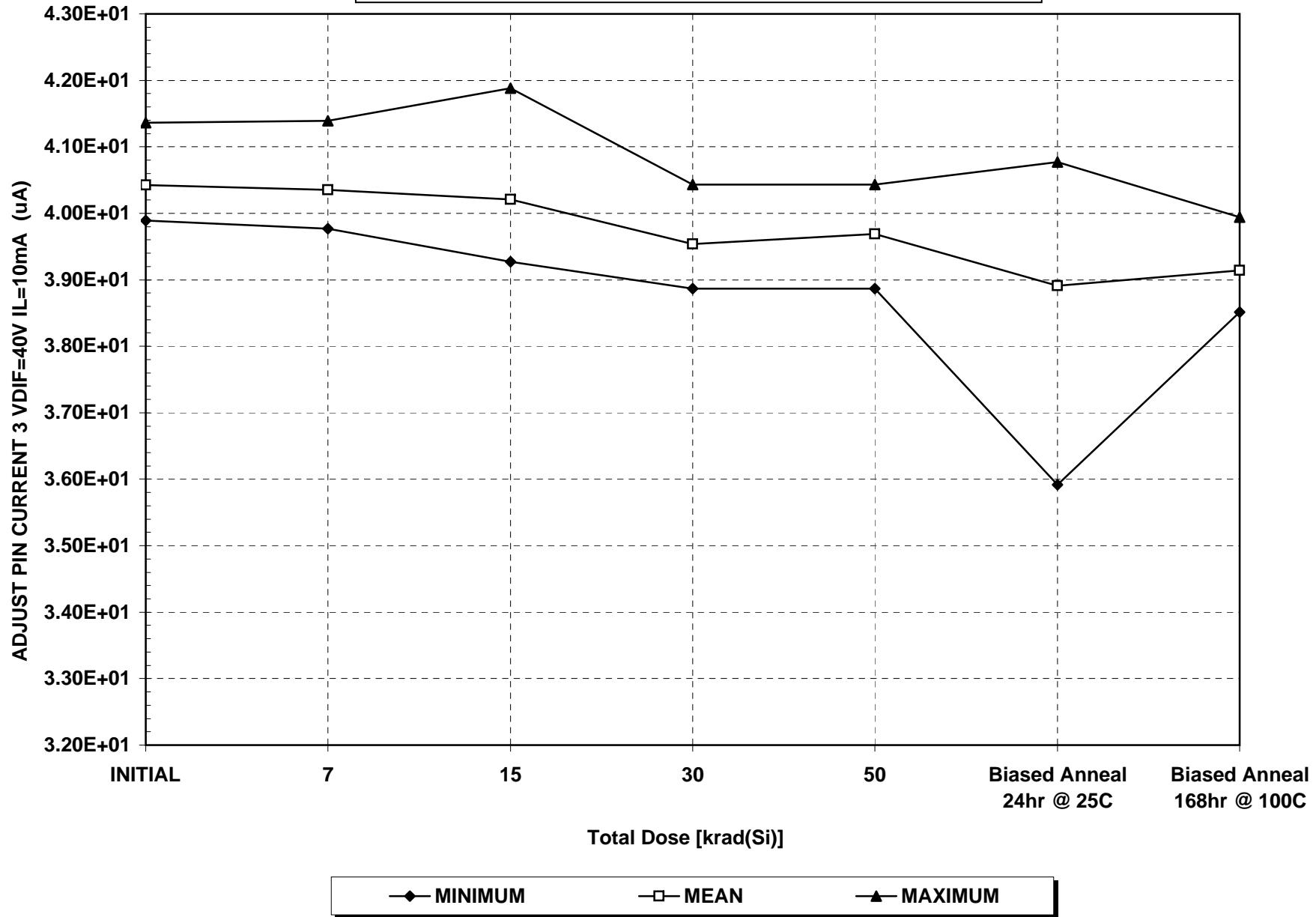
ADJUST PIN CURRENT 2 VDIF=3V IL=10mA (uA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

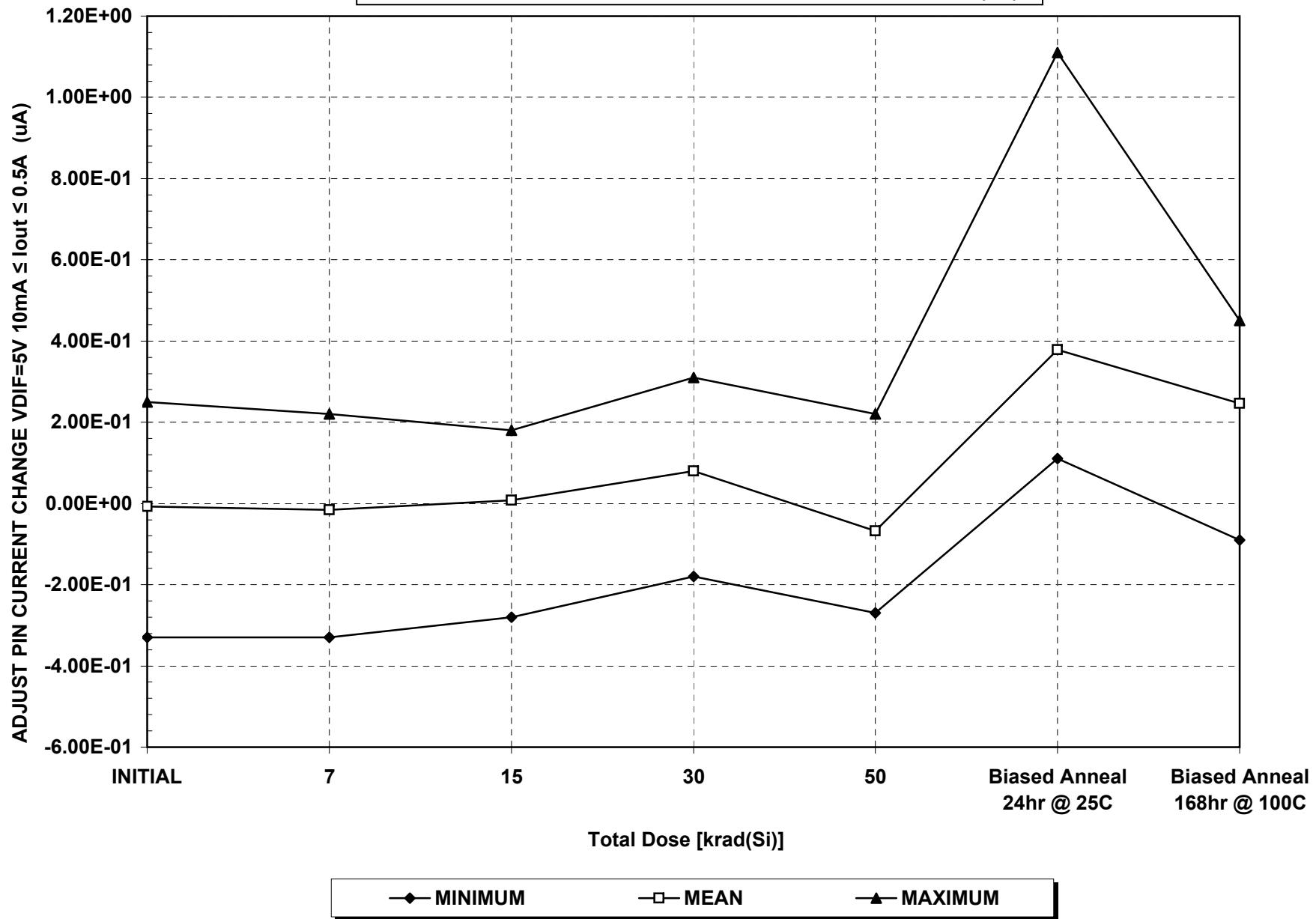
ADJUST PIN CURRENT 3 VDIF=40V IL=10mA (uA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

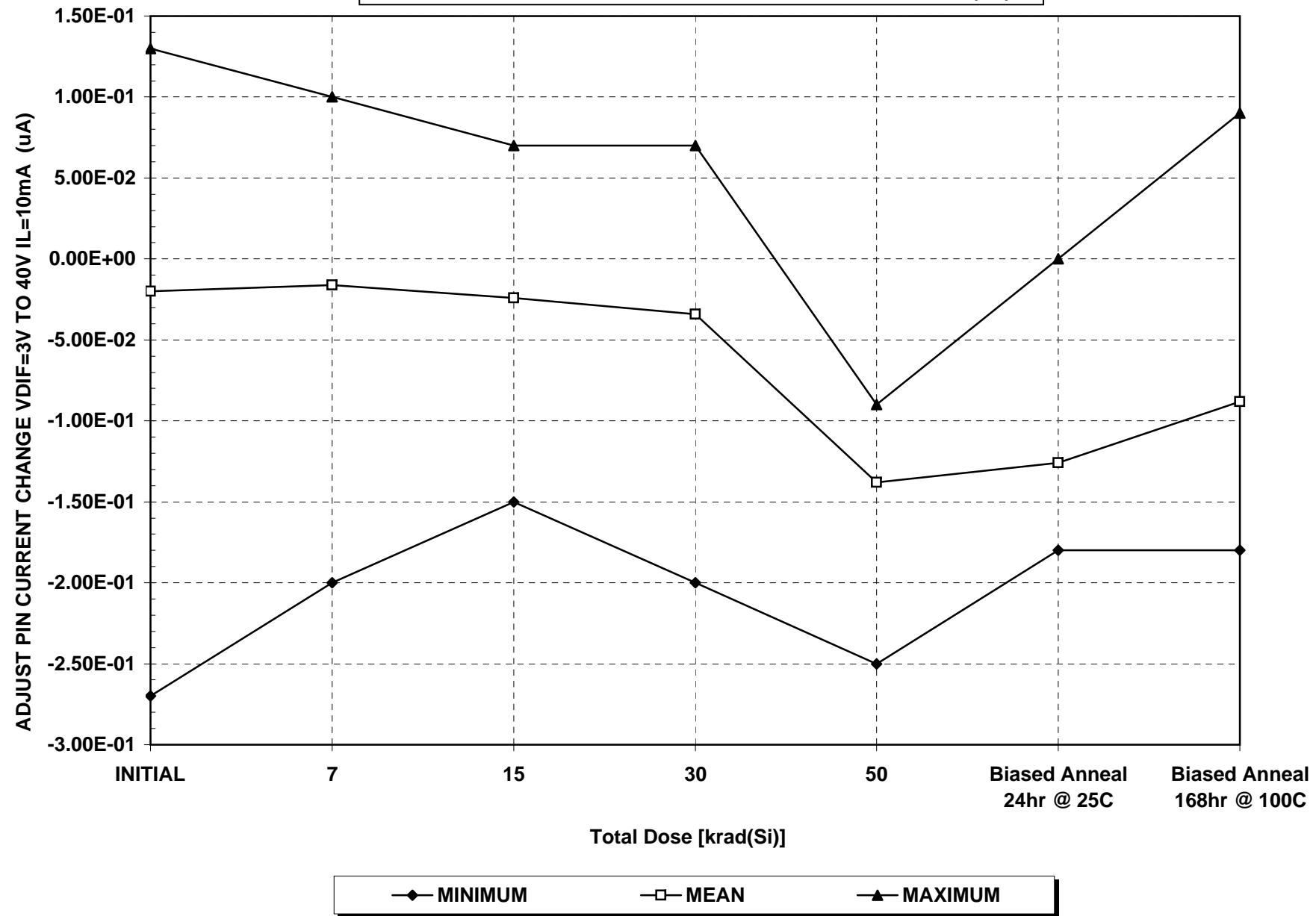
ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A (uA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

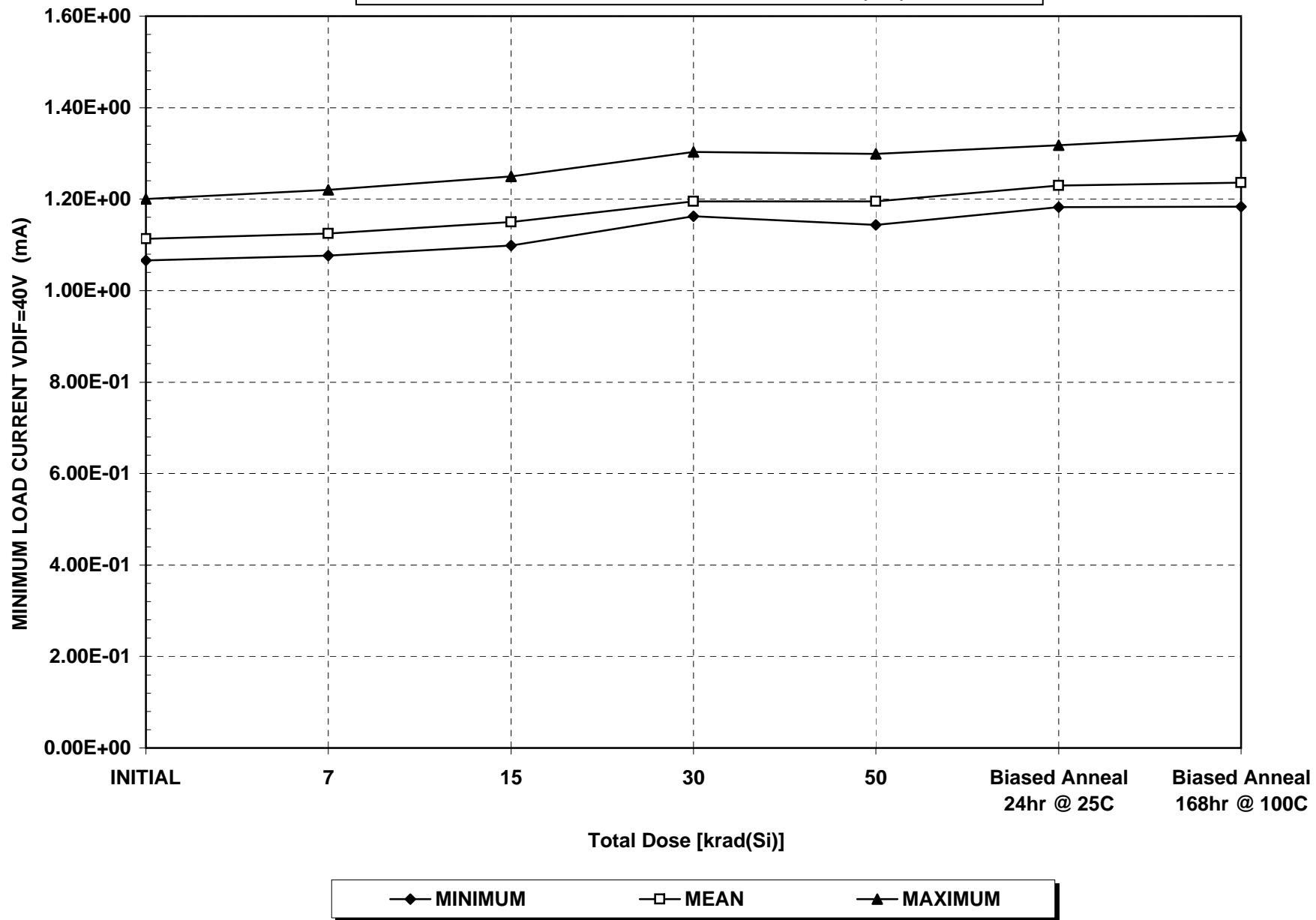
ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA (uA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

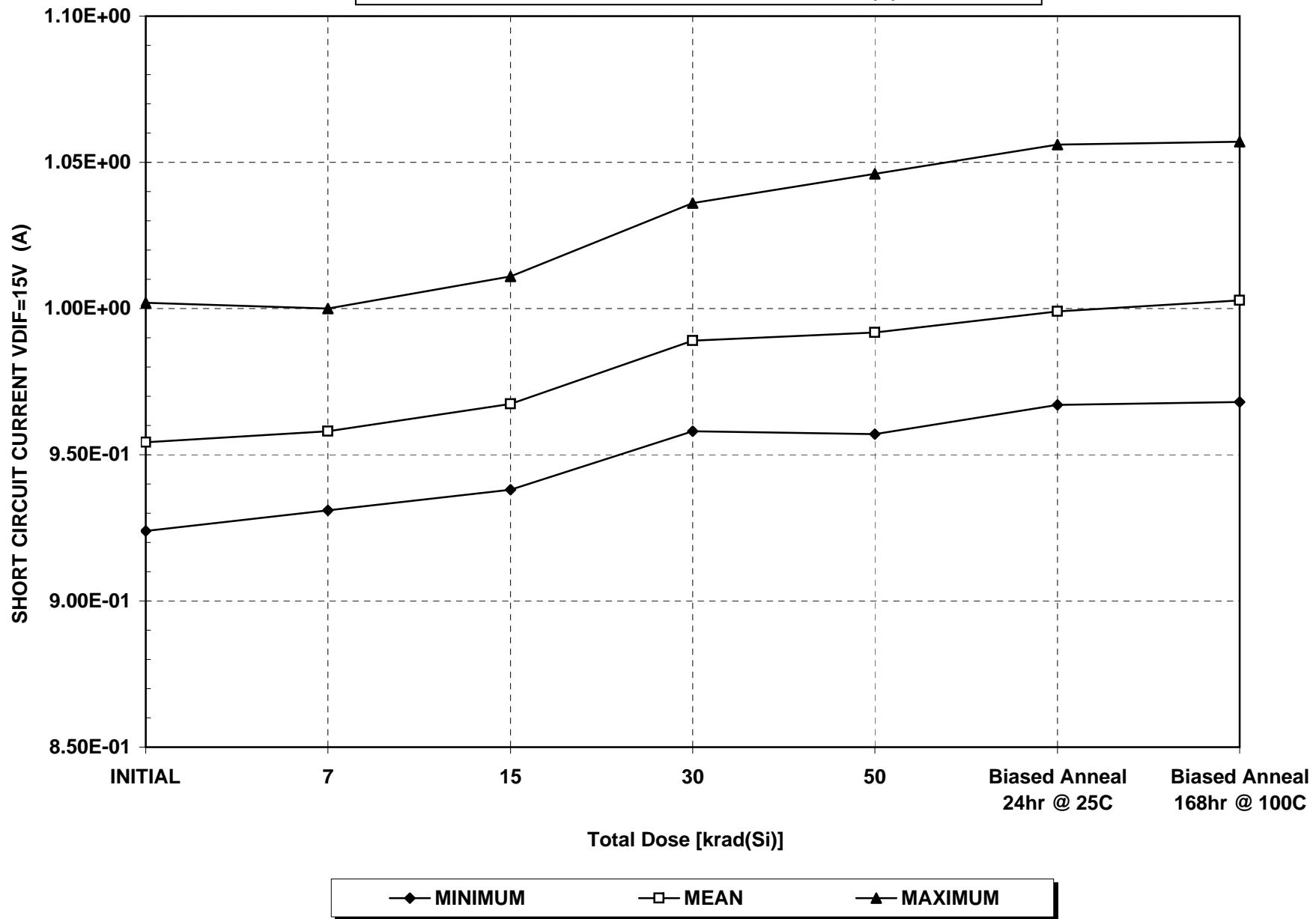
MINIMUM LOAD CURRENT VDIF=40V (mA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

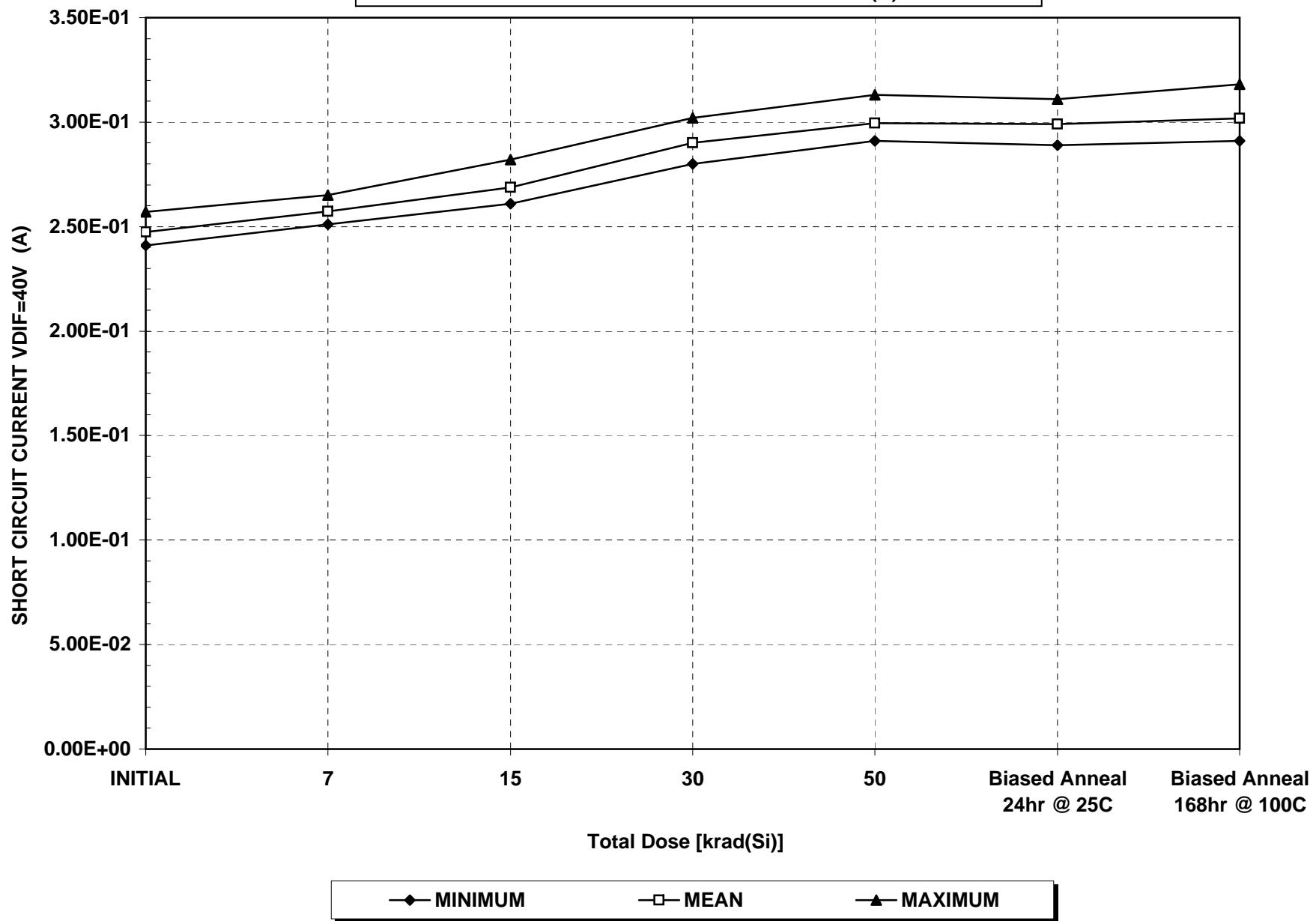
SHORT CIRCUIT CURRENT VDIF=15V (A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

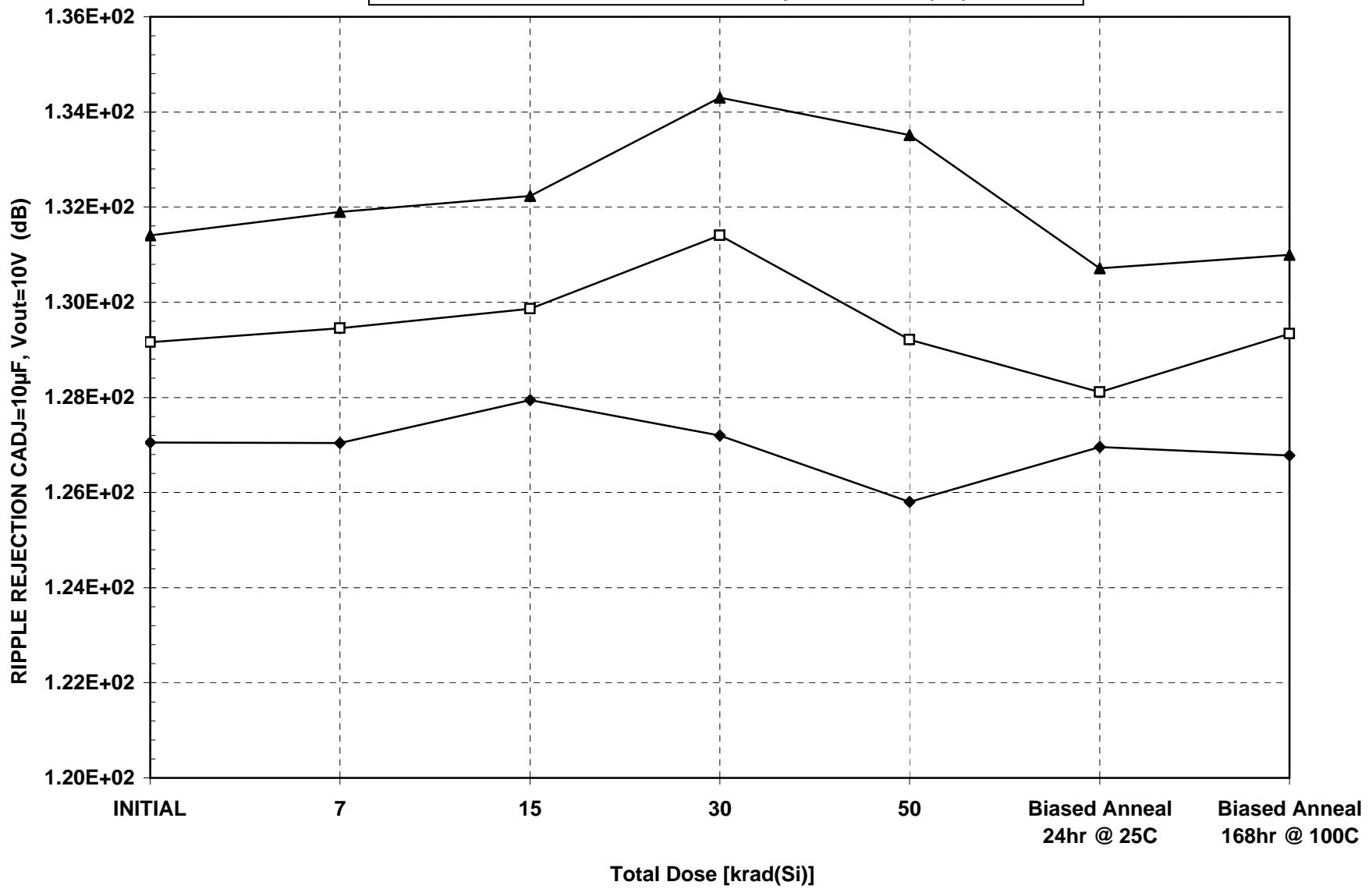
SHORT CIRCUIT CURRENT VDIF=40V (A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\* Biased \*\*

I C S Radiation Test Results Log # 1586 5/10/07

RIPPLE REJECTION CADJ=10 $\mu$ F, Vout=10V (dB)



◆ MINIMUM

□ MEAN

▲ MAXIMUM

## ICS Radiation Test Results

**RH117H VOLTAGE REGULATOR  
(UNBIASED)  
LINEAR TECHNOLOGY CORPORATION  
P.O. # 46146L**

DEVICE TYPE: RH117H VOLTAGE REGULATOR  
LINEAR TECHNOLOGY CORPORATION  
RADIATION SOURCE: SHEPHERD LOW DOSE, 1.25MeV  
  
D/C 0706A || PACKAGE H 3-LEAD CAN (TO-5) || LOT# A21511.1,W-5  
  
LOG# 1587 || TEST DATE 05/10/07 || RTP# 695  
P.O.#46146L  
  
Test Conductor: AJ Kenna  
Test Administrator: Dr. Michael K. Gauthier

**ICS RADIATION TECHNOLOGIES, INC.**  
**8416 Florence Ave, Suite 207**  
**Downey, CA 90240-3949**

**TEL:** 800-297-8688  
**TEL:** 562-923-1837  
**FAX:** 562-923-3609  
**INTERNET e-mail:** support@icsrad.com  
**www.icsrad.com**

## Radiation Test Results

**RH117H**  
**Positive Voltage Regulator**  
**Linear Technology Corporation**  
D/C 0706A, Lot# A21511.1, Wafer # 5  
Test Date 05-10-07  
Log# 1586 and 1587, ELDRS Test  
P.O.# 46147L

This test consisted of two test logs, 1586 and 1587. The test was to compare the radiation effects differences between two bias conditions: Log 1586, had +30 volts and Log 1587 was unbiased with all leads grounded. The 15 test requirements and one "Information Only" test are stated in test procedure RTP 695, dated March 23, 2007.

These devices were ELDRS irradiated at a dose rate of 0.0082rad(Si)/second.

The test results indicated were very little difference between the two bias conditions for all parameters. The test results of the two tests (biased and unbiased) were less than the LTC data sheet limits of 20krad(Si) at the 50krad(Si) test level.

These lots **PASSED** the 15 test requirements as stated in the Radiation Test Procedure RTP 695, dated March 23, 2007.

**NOTE:** To simplify the following data analysis, all negative numbers have been converted to Absolute numbers. This matches with the Absolute numbers used on the manufacturers data sheets.

### **ELDRS BIASED DEVICES, Log 1586**

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.245V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.240V and minimum voltage was 1.237V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.244V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0006%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 7.19mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.167%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.5 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.4 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.25 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.3mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.957A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 126dB.

## ELDRS UNBIASED (GROUNDED) DEVICES, Log 1587

**Voltage Reference VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.240V.

**Voltage Reference VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.239V.

**Voltage Reference VDIFF=3V IL=0.5A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.240V and minimum voltage was 1.233V.

**Voltage Reference VDIFF=40V IL=0.05A:** The Post-Radiation limit at 50krad(Si) was 1.30V maximum. The parameter minimum was 1.20V. The maximum voltage was 1.247V and minimum voltage was 1.239V.

**Line Regulation VDEFF=3V TO 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 0.02%/V maximum. The parameter maximum was 0.0007%/V.

**Load Regulation 1 VOUT<=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 48mV maximum. The parameter maximum was 7.83mV.

**Load Regulation 2 VOUT>=5V IL=10mA 0.5A:** The Post-Radiation limit at 50krad(Si) was 0.96% maximum. The parameter maximum was 0.184%.

**Bias Current 1 VDIFF=3V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.0 $\mu$ A.

**Bias Current 2 VDIFF=5V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.1 $\mu$ A.

**Bias Current 3 VDIFF=40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 100 $\mu$ A maximum. The parameter maximum was 40.0 $\mu$ A.

**Bias Change VDIFF=5V IL=10mA to 0.5A:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.38 $\mu$ A.

**Bias Change VDIFF=3V to 40V IL=10mA:** The Post-Radiation limit at 50krad(Si) was 5 $\mu$ A maximum. The parameter maximum was 0.27 $\mu$ A.

**Minimum Load Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 5mA maximum. The parameter maximum was 1.39mA.

**Short Circuit Current VDIFF=15V:** The Post-Radiation limit at 50krad(Si) was 0.5A minimum. The parameter minimum was 0.991A.

**Short Circuit Current VDIFF=40V:** The Post-Radiation limit at 50krad(Si) was 0.15A minimum. The parameter minimum was 0.291A.

**INFORMATION ONLY Ripple Rejection CADJ=10 $\mu$ F, Vout=10V:** At 50krad(Si), the parameter minimum was 125dB.

## **ANOMOLIES:**

There were no device anomalies during this test.

If you should require any further clarification on this matter, please contact me directly: TEL-562-923-1837, FAX-562-923-3609, or E-Mail [mike@icsrad.com](mailto:mike@icsrad.com).

ICS Radiation Technologies, Inc.

Dr. Michael K. Gauthier, P.E.  
President  
September 22, 2007

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.  
**Lot No:** Date Code:

Package Type: H 3-lead Can (TO-39)

No. of Devices Supplied: 11

No. of Devices to be tested: Bias Condition #1, 5 Devices  
Bias Condition #2, 5 Devices  
Control, 1 Device

=====

**RADIATION CONDITIONS:** MIL-STD-883E, Method 1019.6

Facility: Shepherd Low Dose, Co60 Energy: 1.25 MeV

Total Dose krad(Si)	7	15	30	50
---------------------	---	----	----	----

Dose Rate rad(Si)/s	Less than 0.010 [36rad(Si)/hour]
---------------------	----------------------------------

**BIAS CONDITIONS DURING IRRADIATION:**

"ON" BIAS CONDITION # 1

Pin #	Name	Voltage
1	Input	+15 Volts, 0.1µF to -15 Volts.
2	Adjust	2kΩ to -15Volts
3	Output	61.9Ω to -15 Volts

"OFF" BIAS CONDITION # 2 All pins to GROUND.

RADIATION TEST PROCEDURE

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

TEST	TEST NAME	TEST CONDITIONS	Limits			Units
			Exposure	Levels	rad(Si)	
			20k	50k	100k	
1	Voltage Reference	VDIF=3V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
2	Voltage Reference	VDIF=40V, IL=10mA	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
3	Voltage Reference	VDIF=3V, IL=0.5A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
4	Voltage Reference	VDIF=40V, IL=0.5A	1.20 1.30	1.20 1.30	1.20 1.30	V Min V Max
5	Line Regulation	3V ≤ (Vin-Vout) ≤ 40V Iout=10mA	0.02	0.02	0.03	%/V Max
6	Load Regulation 1	10mA ≤ Iout ≤ Imax Vout ≤ 5V	42	48	60	mV Max
7	Load Regulation 2	10mA ≤ Iout ≤ Imax Vout ≥ 5V	0.84	0.96	1.20	% Max
8	Adjust Pin Current 1	VDIF=3V, IL=10mA	100	100	100	µA Max
9	Adjust Pin Current 2	VDIF=5V, IL=10mA	100	100	100	µA Max
10	Adjust Pin Current 3	VDIF=40V, IL=10mA	100	100	100	µA Max
11	Adjust Pin Current Change	VDIF=5V 10mA ≤ Iout ≤ 0.5A	5	5	5	µA Max
12	Adjust Pin Current Change	VDIF=3V to 40V IL=10mA	5	5	5	µA Max
13	Minimum Load Current	VDIF=40V	5	5	5	mA Max
14	Short Circuit Current	VDIF=15V	0.5	0.5	0.5	A Min
15	Short Circuit Current	VDIF=40V	0.15	0.15	0.15	A Min
16	Ripple Rejection	CADJ=10µF, Vout=10V	Record	Record	Record	dB

March 23, 2007

**RADIATION TEST PROCEDURE**

No. 695

**Device Type:** RH117H Positive Voltage Regulator  
**Manufacturer:** Linear Technology Corp.

Measurements shall be made at room (ambient) temperature.

Test conducted using an Analog Devices LTS-2020 Component Test System, with the LTS-2101 Family Board, LTS0606 Regulator Socket Assembly, LTS0325/RH117 DUT board .

Software: RH117H/K 1.02 program.

Data Processing use King Program: P99/90 Ktl =4.666 for 5 devices

Return samples to customer.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

VOLTAGE REFERENCE VDIF=3V IL=10mA (V)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.245E+00	1.244E+00	1.244E+00	1.244E+00	1.245E+00	1.244E+00	1.245E+00
	626	1.246E+00	1.244E+00	1.244E+00	1.244E+00	1.243E+00	1.243E+00	1.245E+00
	630	1.250E+00	1.250E+00	1.249E+00	1.248E+00	1.247E+00	1.247E+00	1.248E+00
	634	1.246E+00	1.244E+00	1.244E+00	1.243E+00	1.242E+00	1.242E+00	1.244E+00
	642	1.242E+00	1.242E+00	1.242E+00	1.240E+00	1.240E+00	1.239E+00	1.241E+00
	647	1.249E+00	1.249E+00	1.249E+00	1.247E+00	1.246E+00	1.246E+00	1.248E+00
MINIMUM		1.242E+00	1.242E+00	1.242E+00	1.240E+00	1.240E+00	1.239E+00	1.241E+00
MEAN		1.247E+00	1.246E+00	1.246E+00	1.244E+00	1.244E+00	1.243E+00	1.245E+00
MAXIMUM		1.250E+00	1.250E+00	1.249E+00	1.248E+00	1.247E+00	1.247E+00	1.248E+00
+P 99/90		1.261E+00	1.262E+00	1.261E+00	1.259E+00	1.257E+00	1.258E+00	1.259E+00
-P 99/90		1.232E+00	1.230E+00	1.231E+00	1.229E+00	1.230E+00	1.228E+00	1.231E+00
SIGMA		3.130E-03	3.493E-03	3.209E-03	3.209E-03	2.881E-03	3.209E-03	2.950E-03

---

VOLTAGE REFERENCE VDIF=3V IL=10mA [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-1.000E-03	-1.000E-03	-1.000E-03	0.000E+00	-1.000E-03	0.000E+00
	626		-2.000E-03	-2.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
	630		0.000E+00	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-2.000E-03
	634		-2.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	642		0.000E+00	0.000E+00	-2.000E-03	-2.000E-03	-3.000E-03	-1.000E-03
	647		0.000E+00	0.000E+00	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
MINIMUM			-2.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
MEAN			-8.000E-04	-1.000E-03	-2.200E-03	-3.000E-03	-3.200E-03	-1.400E-03
MAXIMUM			0.000E+00	0.000E+00	-2.000E-03	-2.000E-03	-3.000E-03	-1.000E-03
+P 99/90			4.311E-03	3.666E-03	-1.133E-04	2.994E-04	-1.113E-03	1.156E-03
-P 99/90			-5.911E-03	-5.666E-03	-4.287E-03	-6.299E-03	-5.287E-03	-3.956E-03
SIGMA			1.095E-03	1.000E-03	4.472E-04	7.071E-04	4.472E-04	5.477E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

VOLTAGE REFERENCE VDIF=40V IL=10mA

(V)

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.245E+00	1.244E+00	1.244E+00	1.244E+00	1.245E+00	1.244E+00	1.245E+00
	626	1.246E+00	1.244E+00	1.244E+00	1.244E+00	1.243E+00	1.243E+00	1.245E+00
	630	1.250E+00	1.250E+00	1.249E+00	1.248E+00	1.247E+00	1.247E+00	1.249E+00
	634	1.246E+00	1.244E+00	1.244E+00	1.243E+00	1.242E+00	1.242E+00	1.244E+00
	642	1.243E+00	1.243E+00	1.243E+00	1.240E+00	1.239E+00	1.239E+00	1.241E+00
	647	1.249E+00	1.249E+00	1.249E+00	1.247E+00	1.246E+00	1.246E+00	1.248E+00
MINIMUM		1.243E+00	1.243E+00	1.243E+00	1.240E+00	1.239E+00	1.239E+00	1.241E+00
MEAN		1.247E+00	1.246E+00	1.246E+00	1.244E+00	1.243E+00	1.243E+00	1.245E+00
MAXIMUM		1.250E+00	1.250E+00	1.249E+00	1.248E+00	1.247E+00	1.247E+00	1.249E+00
+P 99/90		1.260E+00	1.261E+00	1.260E+00	1.259E+00	1.258E+00	1.258E+00	1.260E+00
-P 99/90		1.234E+00	1.231E+00	1.232E+00	1.229E+00	1.228E+00	1.228E+00	1.230E+00
SIGMA		2.775E-03	3.240E-03	2.950E-03	3.209E-03	3.209E-03	3.209E-03	3.209E-03

---

VOLTAGE REFERENCE VDIF=40V IL=10mA

[DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-1.000E-03	-1.000E-03	-1.000E-03	0.000E+00	-1.000E-03	0.000E+00
	626		-2.000E-03	-2.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
	630		0.000E+00	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
	634		-2.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	642		0.000E+00	0.000E+00	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	647		0.000E+00	0.000E+00	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
MINIMUM			-2.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
MEAN			-8.000E-04	-1.000E-03	-2.400E-03	-3.400E-03	-3.400E-03	-1.400E-03
MAXIMUM			0.000E+00	0.000E+00	-2.000E-03	-3.000E-03	-3.000E-03	-1.000E-03
+P 99/90			4.311E-03	3.666E-03	1.557E-04	-8.443E-04	-8.443E-04	1.156E-03
-P 99/90			-5.911E-03	-5.666E-03	-4.956E-03	-5.956E-03	-5.956E-03	-3.956E-03
SIGMA			1.095E-03	1.000E-03	5.477E-04	5.477E-04	5.477E-04	5.477E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE : SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---



---

VOLTAGE REFERENCE VDIF=3V IL=0.5A (V)

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

---

----- S/N -----

CONTROL	610	1.238E+00	1.238E+00	1.238E+00	1.238E+00	1.238E+00	1.236E+00	1.238E+00
	626	1.241E+00	1.241E+00	1.240E+00	1.238E+00	1.237E+00	1.234E+00	1.239E+00
	630	1.243E+00	1.242E+00	1.241E+00	1.240E+00	1.240E+00	1.238E+00	1.241E+00
	634	1.240E+00	1.240E+00	1.239E+00	1.236E+00	1.234E+00	1.233E+00	1.237E+00
	642	1.237E+00	1.237E+00	1.237E+00	1.234E+00	1.233E+00	1.230E+00	1.235E+00
	647	1.243E+00	1.243E+00	1.243E+00	1.241E+00	1.238E+00	1.238E+00	1.241E+00
MINIMUM		1.237E+00	1.237E+00	1.237E+00	1.234E+00	1.233E+00	1.230E+00	1.235E+00
MEAN		1.241E+00	1.241E+00	1.240E+00	1.238E+00	1.236E+00	1.235E+00	1.239E+00
MAXIMUM		1.243E+00	1.243E+00	1.243E+00	1.241E+00	1.240E+00	1.238E+00	1.241E+00
+P 99/90		1.252E+00	1.251E+00	1.250E+00	1.251E+00	1.250E+00	1.251E+00	1.251E+00
-P 99/90		1.229E+00	1.230E+00	1.230E+00	1.224E+00	1.223E+00	1.219E+00	1.226E+00
SIGMA		2.490E-03	2.302E-03	2.236E-03	2.864E-03	2.881E-03	3.435E-03	2.608E-03

---

VOLTAGE REFERENCE VDIF=3V IL=0.5A [DELTA]

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

---

----- S/N -----

CONTROL	610	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.000E-03	0.000E+00
	626	0.000E+00	-1.000E-03	-3.000E-03	-4.000E-03	-7.000E-03	-2.000E-03
	630	-1.000E-03	-2.000E-03	-3.000E-03	-3.000E-03	-5.000E-03	-2.000E-03
	634	0.000E+00	-1.000E-03	-4.000E-03	-6.000E-03	-7.000E-03	-3.000E-03
	642	0.000E+00	0.000E+00	-3.000E-03	-4.000E-03	-7.000E-03	-2.000E-03
	647	0.000E+00	0.000E+00	-2.000E-03	-5.000E-03	-5.000E-03	-2.000E-03
MINIMUM		-1.000E-03	-2.000E-03	-4.000E-03	-6.000E-03	-7.000E-03	-3.000E-03
MEAN		-2.000E-04	-8.000E-04	-3.000E-03	-4.400E-03	-6.200E-03	-2.200E-03
MAXIMUM		0.000E+00	0.000E+00	-2.000E-03	-3.000E-03	-5.000E-03	-2.000E-03
+P 99/90		1.887E-03	3.104E-03	2.994E-04	9.201E-04	-1.089E-03	-1.133E-04
-P 99/90		-2.287E-03	-4.704E-03	-6.299E-03	-9.720E-03	-1.131E-02	-4.287E-03
SIGMA		4.472E-04	8.367E-04	7.071E-04	1.140E-03	1.095E-03	4.472E-04

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
 RADIATION SOURCE : SHEPHERD LOW DOSE (Co60), 1.25 MeV

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
 LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
 PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

VOLTAGE REFERENCE VDIF=40V IL=0.05A (V)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.244E+00	1.244E+00	1.244E+00	1.244E+00	1.244E+00	1.244E+00	1.244E+00
	626	1.246E+00	1.244E+00	1.244E+00	1.244E+00	1.243E+00	1.242E+00	1.244E+00
	630	1.249E+00	1.249E+00	1.248E+00	1.247E+00	1.247E+00	1.246E+00	1.248E+00
	634	1.245E+00	1.244E+00	1.244E+00	1.242E+00	1.241E+00	1.241E+00	1.243E+00
	642	1.242E+00	1.242E+00	1.242E+00	1.240E+00	1.239E+00	1.238E+00	1.240E+00
	647	1.249E+00	1.249E+00	1.249E+00	1.247E+00	1.245E+00	1.246E+00	1.248E+00
MINIMUM		1.242E+00	1.242E+00	1.242E+00	1.240E+00	1.239E+00	1.238E+00	1.240E+00
MEAN		1.246E+00	1.246E+00	1.245E+00	1.244E+00	1.243E+00	1.243E+00	1.245E+00
MAXIMUM		1.249E+00	1.249E+00	1.249E+00	1.247E+00	1.247E+00	1.246E+00	1.248E+00
+P 99/90		1.260E+00	1.261E+00	1.259E+00	1.258E+00	1.258E+00	1.259E+00	1.261E+00
-P 99/90		1.232E+00	1.231E+00	1.232E+00	1.230E+00	1.228E+00	1.227E+00	1.229E+00
SIGMA		2.950E-03	3.209E-03	2.966E-03	3.082E-03	3.162E-03	3.435E-03	3.435E-03

---

VOLTAGE REFERENCE VDIF=40V IL=0.05A [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	626		-2.000E-03	2.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-2.000E-03
	630		0.000E+00	-5.000E-03	-2.000E-03	-2.000E-03	-3.000E-03	-1.000E-03
	634		-1.000E-03	-3.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
	642		0.000E+00	7.000E-03	-2.000E-03	-3.000E-03	-4.000E-03	-2.000E-03
	647		0.000E+00	0.000E+00	-2.000E-03	-4.000E-03	-3.000E-03	-1.000E-03
MINIMUM			-2.000E-03	-5.000E-03	-3.000E-03	-4.000E-03	-4.000E-03	-2.000E-03
MEAN			-6.000E-04	2.000E-04	-2.200E-03	-3.200E-03	-3.600E-03	-1.600E-03
MAXIMUM			0.000E+00	7.000E-03	-2.000E-03	-2.000E-03	-3.000E-03	-1.000E-03
+P 99/90			3.573E-03	2.194E-02	-1.133E-04	7.039E-04	-1.044E-03	9.557E-04
-P 99/90			-4.773E-03	-2.154E-02	-4.287E-03	-7.104E-03	-6.156E-03	-4.156E-03
SIGMA			8.944E-04	4.658E-03	4.472E-04	8.367E-04	5.477E-04	5.477E-04

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

LINE REGULATION 3V ≤ (Vin-Vout) ≤ 40V Iout=10mA %/V

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.00E-04	3.00E-04	3.00E-04	0.00E+00	6.00E-04	0.00E+00	2.00E-04
	626	4.00E-04	0.00E+00	1.00E-04	3.00E-04	6.00E-04	2.00E-04	6.00E-04
	630	3.00E-04	4.00E-04	6.00E-04	9.00E-04	4.00E-04	3.00E-04	9.00E-04
	634	5.00E-04	4.00E-04	4.00E-04	4.00E-04	7.00E-04	4.00E-04	5.00E-04
	642	0.00E+00	-4.00E-04	-2.00E-04	2.00E-04	0.00E+00	3.00E-04	3.00E-04
	647	3.00E-04	3.00E-04	3.00E-04	5.00E-04	4.00E-04	5.00E-04	1.00E-04
MINIMUM		0.00E+00	-4.00E-04	-2.00E-04	2.00E-04	0.00E+00	2.00E-04	1.00E-04
MEAN		3.00E-04	1.40E-04	2.40E-04	4.60E-04	4.20E-04	3.40E-04	4.80E-04
MAXIMUM		5.00E-04	4.00E-04	6.00E-04	9.00E-04	7.00E-04	5.00E-04	9.00E-04
+P 99/90		1.17E-03	1.74E-03	1.66E-03	1.72E-03	1.67E-03	8.72E-04	1.90E-03
-P 99/90		-5.73E-04	-1.46E-03	-1.18E-03	-8.01E-04	-8.32E-04	-1.92E-04	-9.35E-04
SIGMA		1.87E-04	3.44E-04	3.05E-04	2.70E-04	2.68E-04	1.14E-04	3.03E-04

---

LINE REGULATION 3V ≤ (Vin-Vout) ≤ 40V Iout=10mA [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		2.00E-04	2.00E-04	-1.00E-04	5.00E-04	-1.00E-04	1.00E-04
	626		-4.00E-04	-3.00E-04	-1.00E-04	2.00E-04	-2.00E-04	2.00E-04
	630		1.00E-04	3.00E-04	6.00E-04	1.00E-04	0.00E+00	6.00E-04
	634		-1.00E-04	-1.00E-04	-1.00E-04	2.00E-04	-1.00E-04	0.00E+00
	642		-4.00E-04	-2.00E-04	2.00E-04	0.00E+00	3.00E-04	3.00E-04
	647		0.00E+00	0.00E+00	2.00E-04	1.00E-04	2.00E-04	-2.00E-04
MINIMUM			-4.00E-04	-3.00E-04	-1.00E-04	0.00E+00	-2.00E-04	-2.00E-04
MEAN			-1.60E-04	-6.00E-05	1.60E-04	1.20E-04	4.00E-05	1.80E-04
MAXIMUM			1.00E-04	3.00E-04	6.00E-04	2.00E-04	3.00E-04	6.00E-04
+P 99/90			9.14E-04	1.01E-03	1.50E-03	5.10E-04	1.01E-03	1.60E-03
-P 99/90			-1.23E-03	-1.13E-03	-1.18E-03	-2.70E-04	-9.28E-04	-1.24E-03
SIGMA			2.30E-04	2.30E-04	2.88E-04	8.37E-05	2.07E-04	3.03E-04

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

I C S RADIATION TECHNOLOGIES, INC.

**I C S Radiation Test Results**  
**RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\***

LOAD REGULATION 1 $10mA \leq I_{out} \leq I_{max}$ $V_{out} \leq 0.5V$					(mV)			
FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
S/N								
CONTROL	610	6.10E+00	6.10E+00	6.10E+00	6.16E+00	6.32E+00	7.56E+00	6.37E+00
	626	5.61E+00	5.91E+00	6.32E+00	6.75E+00	6.11E+00	8.59E+00	5.93E+00
	630	6.30E+00	6.36E+00	6.45E+00	6.55E+00	6.43E+00	9.04E+00	6.82E+00
	634	5.79E+00	5.88E+00	6.11E+00	6.72E+00	7.28E+00	8.79E+00	6.25E+00
	642	5.56E+00	5.66E+00	6.00E+00	6.59E+00	6.92E+00	8.39E+00	6.37E+00
	647	5.88E+00	5.99E+00	6.08E+00	6.25E+00	7.83E+00	7.34E+00	6.28E+00
	MINIMUM	5.56E+00	5.66E+00	6.00E+00	6.25E+00	6.11E+00	7.34E+00	5.93E+00
	MEAN	5.83E+00	5.96E+00	6.19E+00	6.57E+00	6.91E+00	8.43E+00	6.33E+00
	MAXIMUM	6.30E+00	6.36E+00	6.45E+00	6.75E+00	7.83E+00	9.04E+00	6.82E+00
	+P 99/90	7.20E+00	7.15E+00	7.06E+00	7.51E+00	1.01E+01	1.15E+01	7.83E+00
	-P 99/90	4.45E+00	4.77E+00	5.32E+00	5.64E+00	3.75E+00	5.37E+00	4.83E+00
	SIGMA	2.94E-01	2.55E-01	1.86E-01	2.00E-01	6.79E-01	6.55E-01	3.21E-01
S/N								
LOAD REGULATION 1 $10mA \leq I_{out} \leq I_{max}$ $V_{out} \leq 0.5V$	[DELTA]							
FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
CONTROL	610		4.00E-03	4.00E-03	6.80E-02	2.19E-01	1.47E+00	2.70E-01
	626		3.00E-01	7.08E-01	9.43E-01	5.05E-01	3.44E+00	3.20E-01
	630		6.00E-02	1.50E-01	4.21E-01	1.34E-01	2.49E+00	5.22E-01
	634		9.00E-02	3.19E-01	7.92E-01	1.48E+00	2.59E+00	4.55E-01
	642		1.00E-01	4.40E-01	6.90E-01	1.36E+00	1.79E+00	8.08E-01
	647		1.10E-01	1.99E-01	3.70E-01	1.95E+00	1.47E+00	4.04E-01
	MINIMUM		6.00E-02	1.50E-01	3.70E-01	1.34E-01	1.47E+00	3.20E-01
	MEAN		1.32E-01	3.63E-01	6.43E-01	1.09E+00	2.35E+00	5.02E-01
	MAXIMUM		3.00E-01	7.08E-01	9.43E-01	1.95E+00	3.44E+00	8.08E-01
	+P 99/90		5.79E-01	1.40E+00	1.78E+00	4.57E+00	5.94E+00	1.37E+00
	-P 99/90		-3.15E-01	-6.78E-01	-4.95E-01	-2.40E+00	-1.23E+00	-3.68E-01
	SIGMA		9.58E-02	2.23E-01	2.44E-01	7.47E-01	7.68E-01	1.86E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

ICS RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

LOAD REGULATION 2 10mA ≤ Iout ≤ Imax Vout ≥ 5V %

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	-2.04E-01	0.00E+00	0.00E+00	-1.86E-01	-1.73E-01	-1.90E-01	-1.91E-01
	626	-1.37E-01	-1.40E-01	-1.91E-01	-2.25E-01	-1.60E-01	-2.14E-01	-1.47E-01
	630	-1.58E-01	-1.61E-01	-1.68E-01	-1.75E-01	-1.65E-01	-2.46E-01	-1.81E-01
	634	-1.51E-01	-1.58E-01	-1.63E-01	-1.74E-01	-1.80E-01	-2.64E-01	-1.65E-01
	642	-1.38E-01	-1.58E-01	-1.77E-01	-2.20E-01	-1.79E-01	-2.24E-01	-1.60E-01
	647	-1.44E-01	-1.55E-01	-1.64E-01	-1.91E-01	-1.84E-01	-1.76E-01	-1.54E-01
MINIMUM		-1.58E-01	-1.61E-01	-1.91E-01	-2.25E-01	-1.84E-01	-2.64E-01	-1.81E-01
MEAN		-1.46E-01	-1.54E-01	-1.73E-01	-1.97E-01	-1.74E-01	-2.25E-01	-1.61E-01
MAXIMUM		-1.37E-01	-1.40E-01	-1.63E-01	-1.74E-01	-1.60E-01	-1.76E-01	-1.47E-01
+P 99/90		-1.04E-01	-1.16E-01	-1.18E-01	-8.36E-02	-1.25E-01	-6.86E-02	-1.01E-01
-P 99/90		-1.87E-01	-1.93E-01	-2.27E-01	-3.10E-01	-2.22E-01	-3.81E-01	-2.21E-01
SIGMA		8.91E-03	8.32E-03	1.17E-02	2.43E-02	1.05E-02	3.35E-02	1.29E-02

---

LOAD REGULATION 2 10mA ≤ Iout ≤ Imax Vout ≥ 5V % [DELTA]

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		2.04E-01	2.04E-01	1.80E-02	3.10E-02	1.40E-02	1.30E-02
	626		-3.00E-03	-5.40E-02	-8.80E-02	-2.30E-02	-7.70E-02	-1.00E-02
	630		-3.00E-03	-1.00E-02	-1.70E-02	-7.00E-03	-8.80E-02	-2.30E-02
	634		-7.00E-03	-1.20E-02	-2.30E-02	-2.90E-02	-1.13E-01	-1.40E-02
	642		-2.00E-02	-3.90E-02	-8.20E-02	-4.10E-02	-8.60E-02	-2.20E-02
	647		-1.10E-02	-2.00E-02	-4.70E-02	-4.00E-02	-3.20E-02	-1.00E-02
MINIMUM			-2.00E-02	-5.40E-02	-8.80E-02	-4.10E-02	-1.13E-01	-2.30E-02
MEAN			-8.80E-03	-2.70E-02	-5.14E-02	-2.80E-02	-7.92E-02	-1.58E-02
MAXIMUM			-3.00E-03	-1.00E-02	-1.70E-02	-7.00E-03	-3.20E-02	-1.00E-02
+P 99/90			2.43E-02	6.14E-02	1.01E-01	3.72E-02	5.88E-02	1.38E-02
-P 99/90			-4.19E-02	-1.15E-01	-2.04E-01	-9.32E-02	-2.17E-01	-4.54E-02
SIGMA			7.09E-03	1.89E-02	3.27E-02	1.40E-02	2.96E-02	6.34E-03

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

ADJUST PIN CURRENT 1 VDIF=3V IL=10mA                                  ( $\mu$ A)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	4.03E+01	4.03E+01	4.03E+01	4.02E+01	4.03E+01	3.97E+01	4.01E+01
	626	3.96E+01	3.95E+01	3.92E+01	3.88E+01	3.93E+01	3.85E+01	3.92E+01
	630	4.01E+01	4.00E+01	3.99E+01	3.95E+01	4.00E+01	3.94E+01	3.97E+01
	634	4.01E+01	4.00E+01	4.00E+01	3.95E+01	4.00E+01	3.91E+01	3.97E+01
	642	3.90E+01	3.89E+01	3.86E+01	3.81E+01	3.86E+01	3.80E+01	3.84E+01
	647	3.93E+01	3.90E+01	3.90E+01	3.88E+01	3.91E+01	3.86E+01	3.91E+01
MINIMUM		3.90E+01	3.89E+01	3.86E+01	3.81E+01	3.86E+01	3.80E+01	3.84E+01
MEAN		3.96E+01	3.95E+01	3.93E+01	3.89E+01	3.94E+01	3.87E+01	3.92E+01
MAXIMUM		4.01E+01	4.00E+01	4.00E+01	3.95E+01	4.00E+01	3.94E+01	3.97E+01
+P 99/90		4.19E+01	4.19E+01	4.20E+01	4.17E+01	4.23E+01	4.12E+01	4.18E+01
-P 99/90		3.73E+01	3.70E+01	3.66E+01	3.62E+01	3.65E+01	3.61E+01	3.67E+01
SIGMA		4.94E-01	5.24E-01	5.79E-01	5.82E-01	6.17E-01	5.43E-01	5.48E-01

---

ADJUST PIN CURRENT 1 VDIF=3V IL=10mA                                  [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-4.00E-02	-4.00E-02	-1.30E-01	-3.00E-02	-5.80E-01	-1.70E-01
	626		-8.00E-02	-3.60E-01	-7.50E-01	-3.00E-01	-1.12E+00	-3.70E-01
	630		-9.00E-02	-2.30E-01	-6.40E-01	-6.00E-02	-7.40E-01	-4.10E-01
	634		-1.00E-01	-1.30E-01	-6.10E-01	-8.00E-02	-1.03E+00	-3.70E-01
	642		-9.00E-02	-3.80E-01	-9.30E-01	-3.90E-01	-1.03E+00	-6.20E-01
	647		-2.50E-01	-2.80E-01	-4.30E-01	-1.60E-01	-7.10E-01	-1.60E-01
MINIMUM			-2.50E-01	-3.80E-01	-9.30E-01	-3.90E-01	-1.12E+00	-6.20E-01
MEAN			-1.22E-01	-2.76E-01	-6.72E-01	-1.98E-01	-9.26E-01	-3.86E-01
MAXIMUM			-8.00E-02	-1.30E-01	-4.30E-01	-6.00E-02	-7.10E-01	-1.60E-01
+P 99/90			2.13E-01	1.98E-01	1.89E-01	4.69E-01	-5.15E-02	3.77E-01
-P 99/90			-4.57E-01	-7.50E-01	-1.53E+00	-8.65E-01	-1.80E+00	-1.15E+00
SIGMA			7.19E-02	1.02E-01	1.84E-01	1.43E-01	1.87E-01	1.63E-01

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

I C S RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

ADJUST PIN CURRENT 2 VDIF=5V IL=10mA                          ( $\mu$ A)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	4.03E+01	4.03E+01	4.03E+01	4.02E+01	4.04E+01	3.98E+01	4.01E+01
	626	3.97E+01	3.96E+01	3.92E+01	3.88E+01	3.92E+01	3.86E+01	3.92E+01
	630	4.00E+01	4.00E+01	3.98E+01	3.95E+01	4.01E+01	3.93E+01	3.97E+01
	634	4.00E+01	3.99E+01	3.97E+01	3.94E+01	4.00E+01	3.91E+01	3.98E+01
	642	3.87E+01	3.86E+01	3.84E+01	3.80E+01	3.86E+01	3.79E+01	3.83E+01
	647	3.93E+01	3.90E+01	3.89E+01	3.87E+01	3.90E+01	3.85E+01	3.92E+01
MINIMUM		3.87E+01	3.86E+01	3.84E+01	3.80E+01	3.86E+01	3.79E+01	3.83E+01
MEAN		3.95E+01	3.94E+01	3.92E+01	3.89E+01	3.94E+01	3.87E+01	3.92E+01
MAXIMUM		4.00E+01	4.00E+01	3.98E+01	3.95E+01	4.01E+01	3.93E+01	3.98E+01
+P 99/90		4.21E+01	4.22E+01	4.19E+01	4.17E+01	4.25E+01	4.11E+01	4.19E+01
-P 99/90		3.70E+01	3.67E+01	3.66E+01	3.60E+01	3.62E+01	3.62E+01	3.66E+01
SIGMA		5.41E-01	5.86E-01	5.67E-01	6.12E-01	6.72E-01	5.30E-01	5.74E-01

---

ADJUST PIN CURRENT 2 VDIF=5V IL=10mA                          [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		-1.00E-02	-1.00E-02	-1.00E-01	4.00E-02	-4.70E-01	-1.90E-01
	626		-7.00E-02	-4.30E-01	-8.40E-01	-5.10E-01	-1.12E+00	-4.80E-01
	630		-4.00E-02	-2.40E-01	-5.00E-01	4.00E-02	-7.80E-01	-3.20E-01
	634		-1.10E-01	-2.90E-01	-6.20E-01	5.00E-02	-9.00E-01	-2.20E-01
	642		-1.20E-01	-3.10E-01	-7.50E-01	-1.70E-01	-8.10E-01	-3.90E-01
	647		-2.70E-01	-3.90E-01	-5.70E-01	-3.50E-01	-8.10E-01	-1.20E-01
MINIMUM			-2.70E-01	-4.30E-01	-8.40E-01	-5.10E-01	-1.12E+00	-4.80E-01
MEAN			-1.22E-01	-3.32E-01	-6.56E-01	-1.88E-01	-8.84E-01	-3.06E-01
MAXIMUM			-4.00E-02	-2.40E-01	-5.00E-01	5.00E-02	-7.80E-01	-1.20E-01
+P 99/90			2.92E-01	2.70E-02	-1.40E-02	9.52E-01	-2.34E-01	3.52E-01
-P 99/90			-5.36E-01	-6.91E-01	-1.30E+00	-1.33E+00	-1.53E+00	-9.64E-01
SIGMA			8.87E-02	7.69E-02	1.38E-01	2.44E-01	1.39E-01	1.41E-01

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---



---

ADJUST PIN CURRENT 3 VDIF=40V IL=10mA                          ( $\mu$ A)

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

---

S/N								
CONTROL	610	4.04E+01	4.04E+01	4.04E+01	4.03E+01	4.04E+01	3.97E+01	4.02E+01
	626	3.96E+01	3.96E+01	3.92E+01	3.88E+01	3.92E+01	3.86E+01	3.93E+01
	630	4.03E+01	4.01E+01	3.98E+01	3.95E+01	4.00E+01	3.94E+01	3.98E+01
	634	4.01E+01	4.00E+01	3.99E+01	3.94E+01	4.00E+01	3.93E+01	3.99E+01
	642	3.88E+01	3.88E+01	3.86E+01	3.83E+01	3.87E+01	3.79E+01	3.84E+01
	647	3.93E+01	3.90E+01	3.90E+01	3.88E+01	3.93E+01	3.86E+01	3.91E+01
MINIMUM		3.88E+01	3.88E+01	3.86E+01	3.83E+01	3.87E+01	3.79E+01	3.84E+01
MEAN		3.96E+01	3.95E+01	3.93E+01	3.90E+01	3.94E+01	3.87E+01	3.93E+01
MAXIMUM		4.03E+01	4.01E+01	3.99E+01	3.95E+01	4.00E+01	3.94E+01	3.99E+01
+P 99/90		4.24E+01	4.23E+01	4.18E+01	4.13E+01	4.22E+01	4.16E+01	4.20E+01
-P 99/90		3.68E+01	3.67E+01	3.68E+01	3.66E+01	3.67E+01	3.59E+01	3.66E+01
SIGMA		5.98E-01	5.99E-01	5.36E-01	5.05E-01	5.89E-01	6.13E-01	5.83E-01

---

ADJUST PIN CURRENT 3 VDIF=40V IL=10mA                          [DELTA]

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
-----------------	-------------------------	---------	----------------------	----------------------	----------------------	----------------------	------------------------------	-------------------------------

---

S/N								
CONTROL	610	-2.00E-02	-2.00E-02	-1.20E-01	-3.00E-02	-7.10E-01	-2.50E-01	
	626	-7.00E-02	-4.00E-01	-7.90E-01	-3.90E-01	-1.07E+00	1.90E-01	
	630	-1.60E-01	-4.50E-01	-7.30E-01	-2.40E-01	-8.30E-01	-4.20E-01	
	634	-1.10E-01	-2.30E-01	-7.00E-01	-8.00E-02	-8.50E-01	-1.68E+00	
	642	-7.00E-02	-1.80E-01	-5.30E-01	-1.70E-01	-9.00E-01	2.80E-01	
	647	-2.60E-01	-2.80E-01	-4.30E-01	2.00E-02	-7.10E-01	-1.60E-01	
MINIMUM		-2.60E-01	-4.50E-01	-7.90E-01	-3.90E-01	-1.07E+00	-1.68E+00	
MEAN		-1.34E-01	-3.08E-01	-6.36E-01	-1.72E-01	-8.72E-01	-3.58E-01	
MAXIMUM		-7.00E-02	-1.80E-01	-4.30E-01	2.00E-02	-7.10E-01	2.80E-01	
+P 99/90		2.37E-01	2.23E-01	6.51E-02	5.56E-01	-2.61E-01	3.33E+00	
-P 99/90		-5.05E-01	-8.39E-01	-1.34E+00	-9.00E-01	-1.48E+00	-4.05E+00	
SIGMA		7.96E-02	1.14E-01	1.50E-01	1.56E-01	1.31E-01	7.90E-01	

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
 RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
 LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
 PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A      (µA)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	2.00E-01	2.00E-01	2.00E-01	2.20E-01	-9.00E-02	6.20E-01	-2.00E-02
	626	1.80E-01	1.50E-01	7.00E-02	0.00E+00	3.80E-01	4.00E-02	2.70E-01
	630	0.00E+00	0.00E+00	1.00E-02	0.00E+00	0.00E+00	3.60E-01	2.50E-01
	634	-4.00E-02	-6.00E-02	-7.00E-02	1.30E-01	0.00E+00	2.70E-01	4.00E-02
	642	2.70E-01	2.70E-01	2.90E-01	2.70E-01	1.30E-01	2.20E-01	1.10E-01
	647	2.20E-01	2.00E-01	1.00E-01	0.00E+00	1.80E-01	2.70E-01	2.70E-01
MINIMUM		-4.00E-02	-6.00E-02	-7.00E-02	0.00E+00	0.00E+00	4.00E-02	4.00E-02
MEAN		1.26E-01	1.12E-01	8.00E-02	8.00E-02	1.38E-01	2.32E-01	1.88E-01
MAXIMUM		2.70E-01	2.70E-01	2.90E-01	2.70E-01	3.80E-01	3.60E-01	2.70E-01
+P 99/90		7.69E-01	7.56E-01	7.06E-01	6.41E-01	8.70E-01	7.85E-01	6.84E-01
-P 99/90		-5.17E-01	-5.32E-01	-5.46E-01	-4.81E-01	-5.94E-01	-3.21E-01	-3.08E-01
SIGMA		1.38E-01	1.38E-01	1.34E-01	1.20E-01	1.57E-01	1.19E-01	1.06E-01

---

ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A      [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	2.00E-02	-2.90E-01	4.20E-01	-2.20E-01
	626		-1.80E-01	-1.10E-01	-1.80E-01	2.00E-01	-1.40E-01	9.00E-02
	630		0.00E+00	1.00E-02	0.00E+00	0.00E+00	3.60E-01	2.50E-01
	634		-2.00E-02	-3.00E-02	1.70E-01	4.00E-02	3.10E-01	8.00E-02
	642		0.00E+00	2.00E-02	0.00E+00	-1.40E-01	-5.00E-02	-1.60E-01
	647		-2.00E-02	-1.20E-01	-2.20E-01	-4.00E-02	5.00E-02	5.00E-02
MINIMUM			-1.80E-01	-1.20E-01	-2.20E-01	-1.40E-01	-1.40E-01	-1.60E-01
MEAN			-4.40E-02	-4.60E-02	-4.60E-02	1.20E-02	1.06E-01	6.20E-02
MAXIMUM			0.00E+00	2.00E-02	1.70E-01	2.00E-01	3.60E-01	2.50E-01
+P 99/90			3.14E-01	2.61E-01	6.89E-01	5.93E-01	1.13E+00	7.46E-01
-P 99/90			-4.02E-01	-3.53E-01	-7.81E-01	-5.69E-01	-9.22E-01	-6.22E-01
SIGMA			7.67E-02	6.58E-02	1.57E-01	1.25E-01	2.20E-01	1.47E-01

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

**I C S Radiation Test Results**  
**RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\***

ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA					(\mu A)			
FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	-9.00E-02	-9.00E-02	-9.00E-02	-9.00E-02	0.00E+00	9.00E-02	-1.80E-01
	626	-1.30E-01	-1.30E-01	-1.00E-01	-4.00E-02	-2.70E-01	-4.00E-02	-2.70E-01
	630	-9.00E-02	-9.00E-02	-8.00E-02	-9.00E-02	-4.00E-02	0.00E+00	0.00E+00
	634	-2.00E-02	-3.00E-02	-5.00E-02	-9.00E-02	0.00E+00	-4.00E-02	-1.10E-01
	642	9.00E-02	8.00E-02	5.00E-02	4.00E-02	-1.30E-01	-4.00E-02	-1.80E-01
	647	0.00E+00	0.00E+00	4.00E-02	0.00E+00	-4.00E-02	-1.80E-01	-1.10E-01
MINIMUM	-1.30E-01	-1.30E-01	-1.00E-01	-9.00E-02	-2.70E-01	-1.80E-01	-2.70E-01	
MEAN	-3.00E-02	-3.40E-02	-2.80E-02	-3.60E-02	-9.60E-02	-6.00E-02	-1.34E-01	
MAXIMUM	9.00E-02	8.00E-02	5.00E-02	4.00E-02	0.00E+00	0.00E+00	0.00E+00	
+P 99/90	3.67E-01	3.46E-01	2.94E-01	2.29E-01	4.09E-01	2.63E-01	3.31E-01	
-P 99/90	-4.27E-01	-4.14E-01	-3.50E-01	-3.01E-01	-6.01E-01	-3.83E-01	-5.99E-01	
SIGMA	8.51E-02	8.14E-02	6.91E-02	5.68E-02	1.08E-01	6.93E-02	9.96E-02	

ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA					[DELTA]			
FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	0.00E+00	9.00E-02	1.80E-01	-9.00E-02
	626		0.00E+00	5.00E-02	9.00E-02	-1.40E-01	9.00E-02	-1.40E-01
	630		0.00E+00	4.00E-02	0.00E+00	5.00E-02	9.00E-02	9.00E-02
	634		-1.00E-02	7.00E-02	-7.00E-02	2.00E-02	-2.00E-02	-9.00E-02
	642		-1.00E-02	-5.00E-02	-5.00E-02	-2.20E-01	-1.30E-01	-2.70E-01
	647		0.00E+00	4.00E-02	0.00E+00	-4.00E-02	-1.80E-01	-1.10E-01
	MINIMUM		-1.00E-02	-5.00E-02	-7.00E-02	-2.20E-01	-1.80E-01	-2.70E-01
	MEAN		-4.00E-03	3.00E-02	-6.00E-03	-6.60E-02	-3.00E-02	-1.04E-01
	MAXIMUM		0.00E+00	7.00E-02	9.00E-02	5.00E-02	9.00E-02	9.00E-02
	+P 99/90		2.16E-02	2.46E-01	2.83E-01	4.59E-01	5.48E-01	4.99E-01
	-P 99/90		-2.96E-02	-1.86E-01	-2.95E-01	-5.91E-01	-6.08E-01	-7.07E-01
	SIGMA		5.48E-03	4.64E-02	6.19E-02	1.13E-01	1.24E-01	1.29E-01

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

ICS RADIATION TECHNOLOGIES, INC.

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---

MINIMUM LOAD CURRENT VDIF=40V (mA)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.34E+00	1.34E+00	1.34E+00	1.34E+00	1.32E+00	1.36E+00	1.34E+00
	626	1.28E+00	1.29E+00	1.30E+00	1.34E+00	1.38E+00	1.40E+00	1.39E+00
	630	1.07E+00	1.09E+00	1.11E+00	1.12E+00	1.16E+00	1.20E+00	1.18E+00
	634	1.30E+00	1.31E+00	1.32E+00	1.34E+00	1.39E+00	1.44E+00	1.41E+00
	642	1.26E+00	1.27E+00	1.27E+00	1.28E+00	1.32E+00	1.34E+00	1.34E+00
	647	1.05E+00	1.06E+00	1.07E+00	1.08E+00	1.10E+00	1.14E+00	1.14E+00
MINIMUM	1.05E+00	1.06E+00	1.07E+00	1.08E+00	1.10E+00	1.14E+00	1.14E+00	
MEAN	1.19E+00	1.20E+00	1.21E+00	1.23E+00	1.27E+00	1.30E+00	1.29E+00	
MAXIMUM	1.30E+00	1.31E+00	1.32E+00	1.34E+00	1.39E+00	1.44E+00	1.41E+00	
+P 99/90	1.77E+00	1.76E+00	1.76E+00	1.80E+00	1.88E+00	1.90E+00	1.87E+00	
-P 99/90	6.11E-01	6.38E-01	6.66E-01	6.66E-01	6.61E-01	7.11E-01	7.17E-01	
SIGMA	1.24E-01	1.21E-01	1.17E-01	1.21E-01	1.31E-01	1.27E-01	1.24E-01	

---

MINIMUM LOAD CURRENT VDIF=40V (mA) [DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	1.00E-03	-1.60E-02	2.20E-02	3.00E-03
	626		1.00E-02	2.30E-02	5.70E-02	1.00E-01	1.18E-01	1.14E-01
	630		2.00E-02	4.20E-02	5.60E-02	9.80E-02	1.36E-01	1.17E-01
	634		8.00E-03	1.80E-02	3.60E-02	9.30E-02	1.37E-01	1.13E-01
	642		5.00E-03	1.20E-02	2.20E-02	6.00E-02	7.80E-02	7.90E-02
	647		1.00E-02	2.20E-02	3.80E-02	5.90E-02	9.70E-02	9.90E-02
MINIMUM			5.00E-03	1.20E-02	2.20E-02	5.90E-02	7.80E-02	7.90E-02
MEAN			1.06E-02	2.34E-02	4.18E-02	8.20E-02	1.13E-01	1.04E-01
MAXIMUM			2.00E-02	4.20E-02	5.70E-02	1.00E-01	1.37E-01	1.17E-01
+P 99/90			3.69E-02	7.59E-02	1.11E-01	1.79E-01	2.32E-01	1.78E-01
-P 99/90			-1.57E-02	-2.91E-02	-2.71E-02	-1.46E-02	-6.01E-03	3.07E-02
SIGMA			5.64E-03	1.13E-02	1.48E-02	2.07E-02	2.55E-02	1.58E-02

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---



---

**SHORT CIRCUIT CURRENT VDIF=15V (A)**

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.04E+00	1.04E+00	1.04E+00	1.04E+00	1.03E+00	1.05E+00	1.05E+00
	626	1.02E+00	1.03E+00	1.04E+00	1.05E+00	1.06E+00	1.07E+00	1.05E+00
	630	9.57E-01	9.61E-01	9.76E-01	9.86E-01	9.91E-01	9.95E-01	9.91E-01
	634	1.01E+00	1.02E+00	1.02E+00	1.04E+00	1.05E+00	1.05E+00	1.05E+00
	642	1.01E+00	1.02E+00	1.03E+00	1.04E+00	1.05E+00	1.05E+00	1.05E+00
	647	1.00E+00	1.01E+00	1.02E+00	1.04E+00	1.04E+00	1.05E+00	1.04E+00
MINIMUM	9.57E-01	9.61E-01	9.76E-01	9.86E-01	9.91E-01	9.95E-01	9.91E-01	9.91E-01
MEAN	9.98E-01	1.01E+00	1.02E+00	1.03E+00	1.04E+00	1.04E+00	1.04E+00	1.04E+00
MAXIMUM	1.02E+00	1.03E+00	1.04E+00	1.05E+00	1.06E+00	1.07E+00	1.05E+00	1.05E+00
+P 99/90	1.11E+00	1.13E+00	1.12E+00	1.15E+00	1.16E+00	1.17E+00	1.15E+00	1.15E+00
-P 99/90	8.87E-01	8.85E-01	9.08E-01	9.10E-01	9.14E-01	9.15E-01	9.18E-01	9.18E-01
SIGMA	2.38E-02	2.61E-02	2.32E-02	2.59E-02	2.63E-02	2.69E-02	2.50E-02	2.50E-02

---

**SHORT CIRCUIT CURRENT VDIF=15V [DELTA]**

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		0.00E+00	0.00E+00	1.00E-03	-5.00E-03	1.00E-02	1.10E-02
	626		1.00E-02	1.70E-02	3.40E-02	4.00E-02	4.90E-02	3.40E-02
	630		4.00E-03	1.90E-02	2.90E-02	3.40E-02	3.80E-02	3.40E-02
	634		8.00E-03	1.70E-02	3.40E-02	4.00E-02	3.80E-02	3.90E-02
	642		9.00E-03	2.00E-02	3.40E-02	4.00E-02	4.30E-02	3.90E-02
	647		9.00E-03	1.70E-02	3.40E-02	3.90E-02	4.30E-02	3.90E-02
MINIMUM			4.00E-03	1.70E-02	2.90E-02	3.40E-02	3.80E-02	3.40E-02
MEAN			8.00E-03	1.80E-02	3.30E-02	3.86E-02	4.22E-02	3.70E-02
MAXIMUM			1.00E-02	2.00E-02	3.40E-02	4.00E-02	4.90E-02	3.90E-02
+P 99/90			1.89E-02	2.46E-02	4.34E-02	5.08E-02	6.34E-02	4.98E-02
-P 99/90			-2.94E-03	1.14E-02	2.26E-02	2.64E-02	2.10E-02	2.42E-02
SIGMA			2.35E-03	1.41E-03	2.24E-03	2.61E-03	4.55E-03	2.74E-03

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---



---

SHORT CIRCUIT CURRENT VDIF=40V (A)

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	2.63E-01	2.64E-01	2.64E-01	2.69E-01	2.69E-01	2.61E-01	2.69E-01
	626	2.57E-01	2.70E-01	2.81E-01	2.97E-01	3.08E-01	3.06E-01	2.91E-01
	630	2.46E-01	2.54E-01	2.66E-01	2.80E-01	2.91E-01	2.89E-01	2.80E-01
	634	2.52E-01	2.59E-01	2.68E-01	2.86E-01	2.97E-01	2.89E-01	2.85E-01
	642	2.63E-01	2.70E-01	2.82E-01	2.97E-01	3.08E-01	3.06E-01	2.96E-01
	647	2.57E-01	2.61E-01	2.73E-01	2.97E-01	3.02E-01	3.00E-01	2.91E-01
MINIMUM		2.46E-01	2.54E-01	2.66E-01	2.80E-01	2.91E-01	2.89E-01	2.80E-01
MEAN		2.55E-01	2.63E-01	2.74E-01	2.91E-01	3.01E-01	2.98E-01	2.89E-01
MAXIMUM		2.63E-01	2.70E-01	2.82E-01	2.97E-01	3.08E-01	3.06E-01	2.96E-01
+P 99/90		2.85E-01	2.96E-01	3.08E-01	3.29E-01	3.35E-01	3.38E-01	3.17E-01
-P 99/90		2.25E-01	2.30E-01	2.40E-01	2.54E-01	2.67E-01	2.58E-01	2.60E-01
SIGMA		6.36E-03	7.05E-03	7.31E-03	7.96E-03	7.33E-03	8.57E-03	6.19E-03

---

SHORT CIRCUIT CURRENT VDIF=40V

[DELTA]

---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		1.00E-03	1.00E-03	6.00E-03	6.00E-03	-2.00E-03	6.00E-03
	626		1.30E-02	2.40E-02	4.00E-02	5.10E-02	4.90E-02	3.40E-02
	630		8.00E-03	2.00E-02	3.40E-02	4.50E-02	4.30E-02	3.40E-02
	634		7.00E-03	1.60E-02	3.40E-02	4.50E-02	3.70E-02	3.30E-02
	642		7.00E-03	1.90E-02	3.40E-02	4.50E-02	4.30E-02	3.30E-02
	647		4.00E-03	1.60E-02	4.00E-02	4.50E-02	4.30E-02	3.40E-02
MINIMUM			4.00E-03	1.60E-02	3.40E-02	4.50E-02	3.70E-02	3.30E-02
MEAN			7.80E-03	1.90E-02	3.64E-02	4.62E-02	4.30E-02	3.36E-02
MAXIMUM			1.30E-02	2.40E-02	4.00E-02	5.10E-02	4.90E-02	3.40E-02
+P 99/90			2.31E-02	3.45E-02	5.17E-02	5.87E-02	6.28E-02	3.62E-02
-P 99/90			-7.46E-03	3.52E-03	2.11E-02	3.37E-02	2.32E-02	3.10E-02
SIGMA			3.27E-03	3.32E-03	3.29E-03	2.68E-03	4.24E-03	5.48E-04

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
 LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
 PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

I C S Radiation Test Results  
RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

---



---

RIPPLE REJECTION CADF=10 $\mu$ F VOUT=10V (dB)

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610	1.28E+02	1.28E+02	1.28E+02	1.29E+02	1.31E+02	1.31E+02	1.30E+02
	626	1.29E+02	1.28E+02	1.28E+02	1.27E+02	1.32E+02	1.32E+02	1.32E+02
	630	1.32E+02	1.32E+02	1.30E+02	1.29E+02	1.29E+02	1.29E+02	1.33E+02
	634	1.32E+02	1.32E+02	1.31E+02	1.30E+02	1.25E+02	1.28E+02	1.28E+02
	642	1.34E+02	1.34E+02	1.34E+02	1.32E+02	1.30E+02	1.29E+02	1.29E+02
	647	1.29E+02	1.30E+02	1.30E+02	1.31E+02	1.29E+02	1.28E+02	1.31E+02
MINIMUM		1.29E+02	1.28E+02	1.28E+02	1.27E+02	1.25E+02	1.28E+02	1.28E+02
MEAN		1.31E+02	1.31E+02	1.30E+02	1.30E+02	1.29E+02	1.29E+02	1.31E+02
MAXIMUM		1.34E+02	1.34E+02	1.34E+02	1.32E+02	1.32E+02	1.32E+02	1.33E+02
+P 99/90		1.41E+02	1.42E+02	1.41E+02	1.39E+02	1.41E+02	1.37E+02	1.39E+02
-P 99/90		1.22E+02	1.20E+02	1.20E+02	1.20E+02	1.17E+02	1.21E+02	1.22E+02
SIGMA		2.10E+00	2.31E+00	2.30E+00	1.97E+00	2.58E+00	1.74E+00	1.86E+00

---

RIPPLE REJECTION CADF=10 $\mu$ F VOUT=10V [DELTA]

---



---

FLUENCE FLUX	krad(Si) rad(Si)/sec	INITIAL	7.00E+00 8.20E-03	1.50E+01 8.20E-03	3.00E+01 8.20E-03	5.00E+01 8.20E-03	Biased Anneal 24 hr @ 25C	Biased Anneal 168hr @ 100C
<hr/>								
S/N								
CONTROL	610		2.00E-01	2.00E-01	8.30E-01	3.71E+00	3.08E+00	2.06E+00
	626		-1.00E+00	1.58E+00	-3.80E-01	2.85E+00	3.05E+00	2.84E+00
	630		0.00E+00	2.20E+00	-2.31E+00	-2.89E+00	-2.41E+00	7.90E-01
	634		-7.00E-01	-2.45E+00	-3.90E-01	-7.60E+00	-4.43E+00	-4.09E+00
	642		0.00E+00	-4.09E+00	-3.15E+00	-4.23E+00	-4.96E+00	-5.13E+00
	647		1.30E-01	5.50E-01	1.49E+00	-6.70E-01	-1.68E+00	1.38E+00
MINIMUM			-1.00E+00	-4.09E+00	-3.15E+00	-7.60E+00	-4.96E+00	-5.13E+00
MEAN			-3.14E-01	-4.42E-01	-9.48E-01	-2.51E+00	-2.09E+00	-8.42E-01
MAXIMUM			1.30E-01	2.20E+00	1.49E+00	2.85E+00	3.05E+00	2.84E+00
+P 99/90			2.04E+00	1.22E+01	7.55E+00	1.57E+01	1.27E+01	1.57E+01
-P 99/90			-2.66E+00	-1.31E+01	-9.45E+00	-2.07E+01	-1.69E+01	-1.74E+01
SIGMA			5.03E-01	2.71E+00	1.82E+00	3.91E+00	3.18E+00	3.54E+00

---

**DEVICE TYPE: RH117H Positive Voltage Regulator (LTC)**  
**RADIATION SOURCE: SHEPHERD LOW DOSE (Co60), 1.25 MeV**

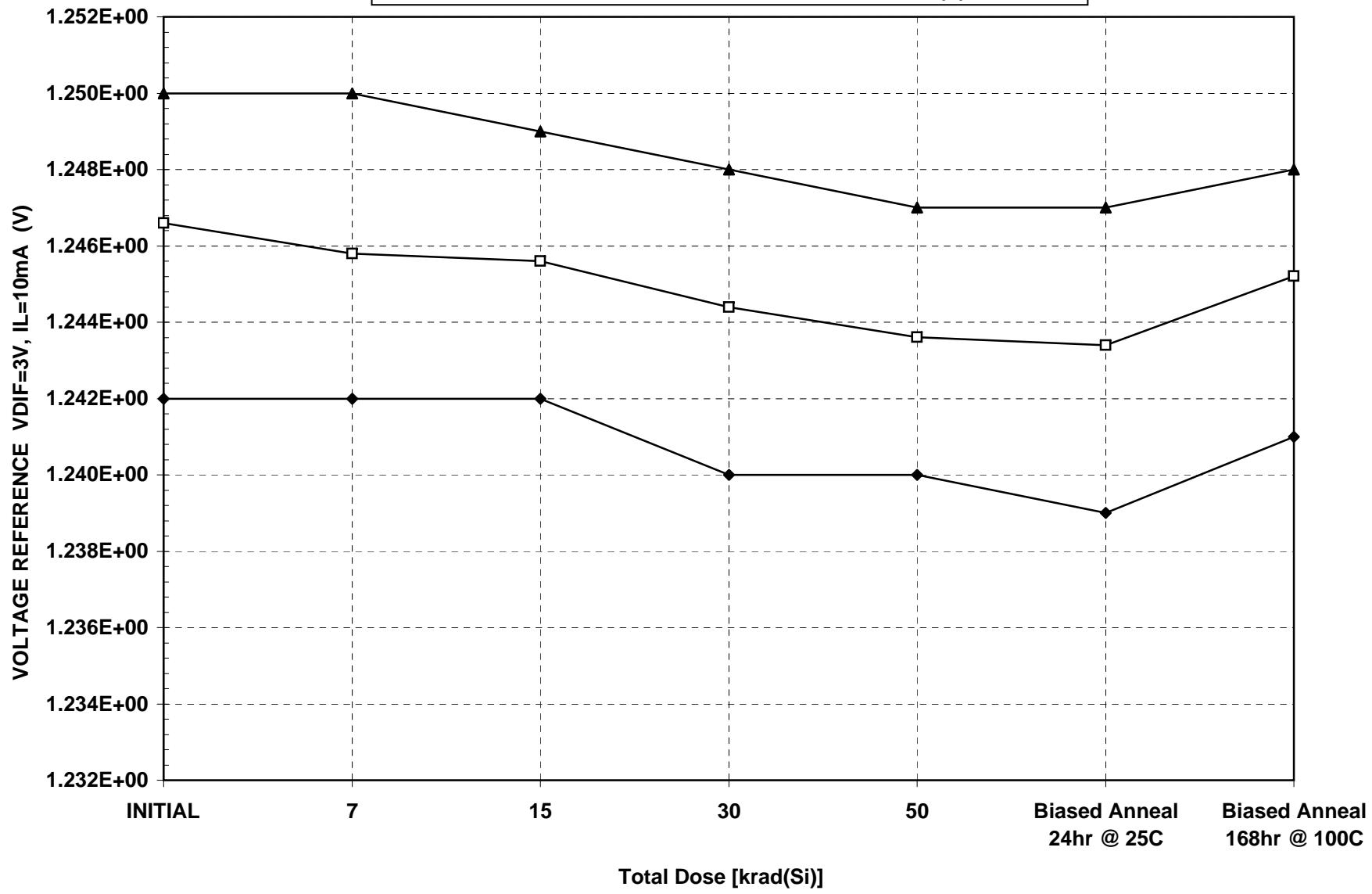
D/C 0706A || PACKAGE H 3-Lead Can (TO-5) || LOT# A21511.1  
LOG# 1587 || TEST DATE 5/10/07 || RTP# 695 || WFR# 5  
PO # 46146L

**I C S RADIATION TECHNOLOGIES, INC.**

RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

VOLTAGE REFERENCE VDIF=3V, IL=10mA (V)



◆ MINIMUM

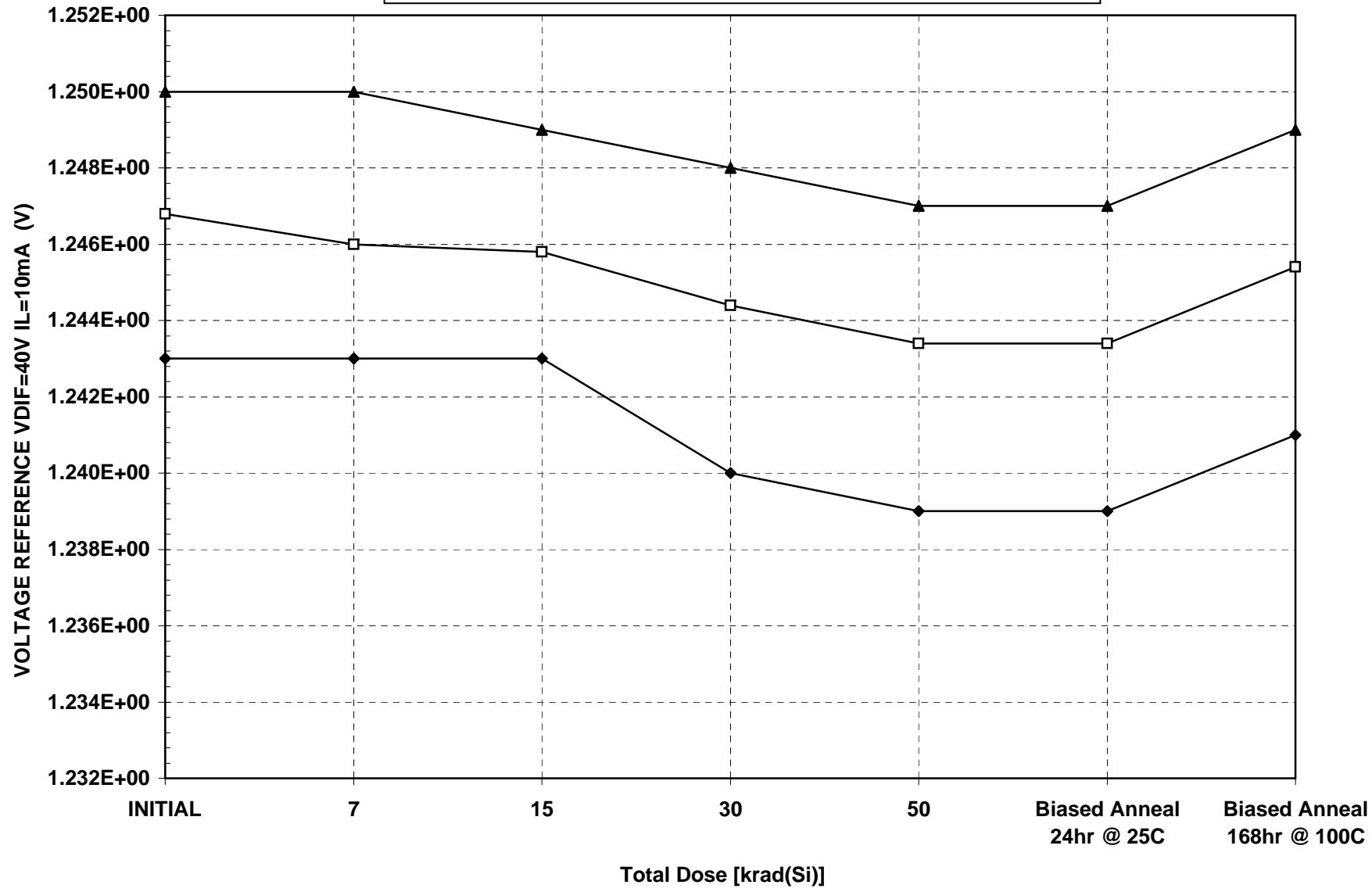
□ MEAN

▲ MAXIMUM

RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

VOLTAGE REFERENCE VDIF=40V IL=10mA (V)



◆ MINIMUM

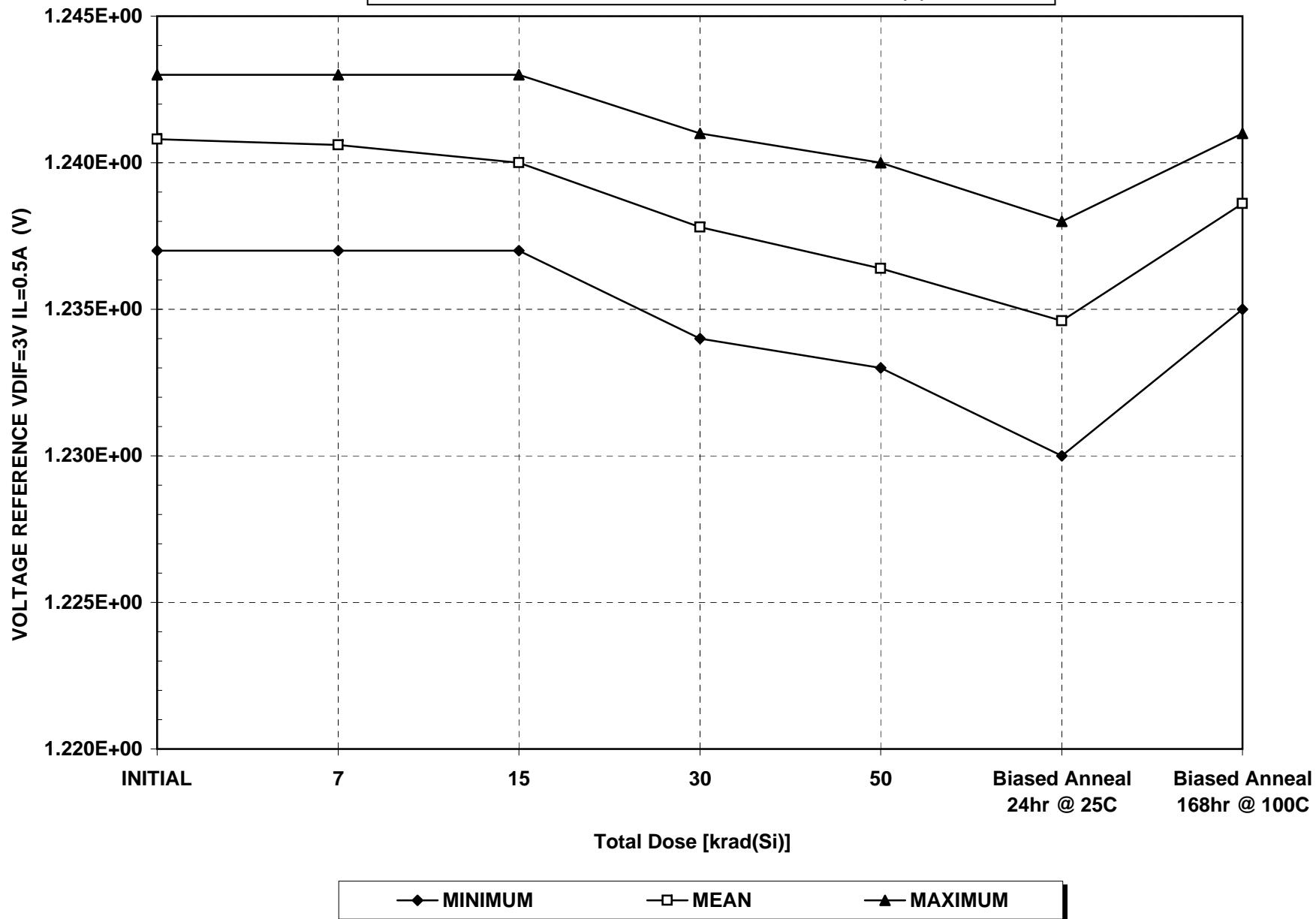
□ MEAN

▲ MAXIMUM

RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

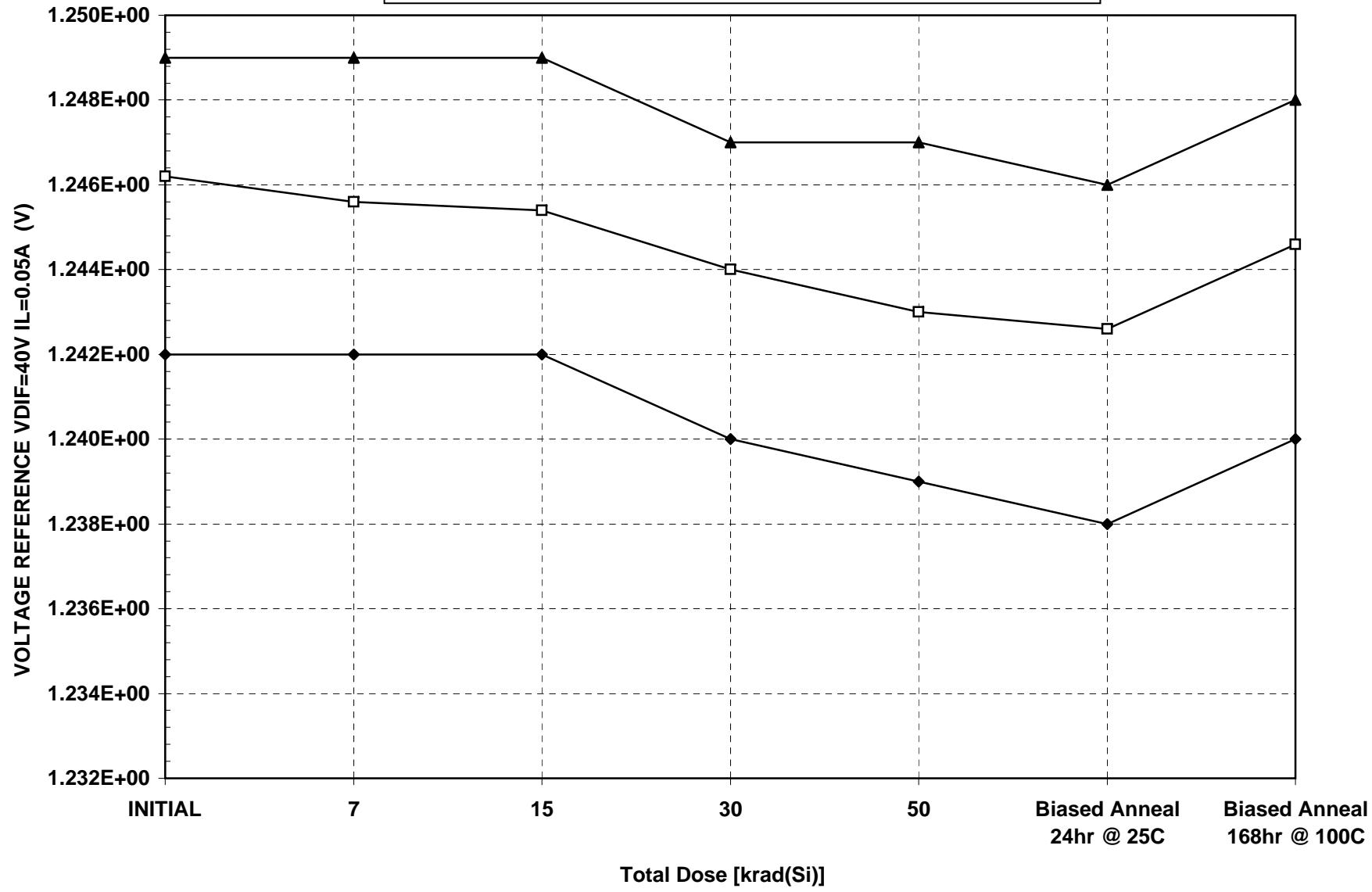
VOLTAGE REFERENCE VDIF=3V IL=0.5A (V)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

VOLTAGE REFERENCE VDIF=40V IL=0.05A (V)



◆ MINIMUM

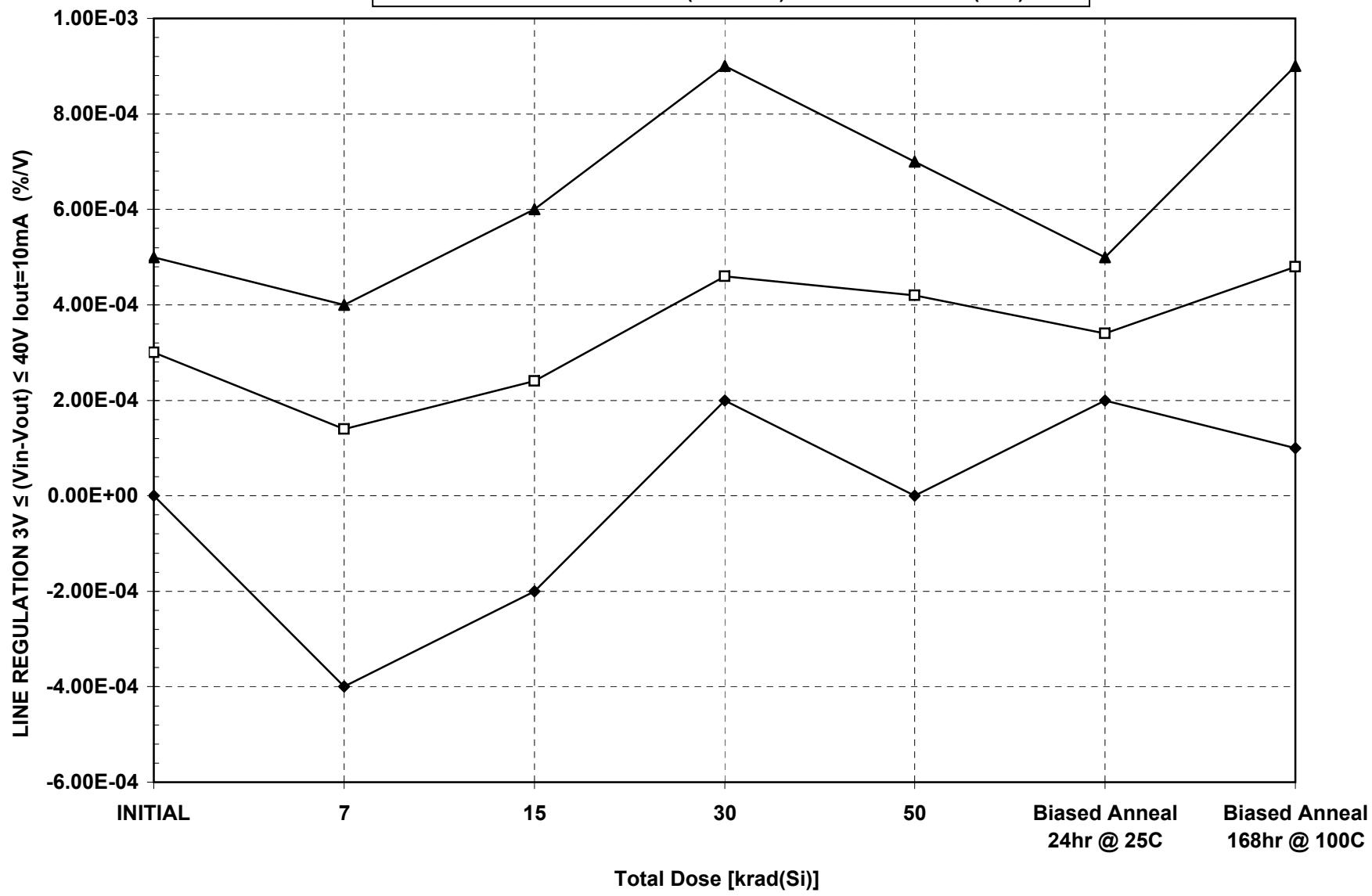
□ MEAN

▲ MAXIMUM

RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

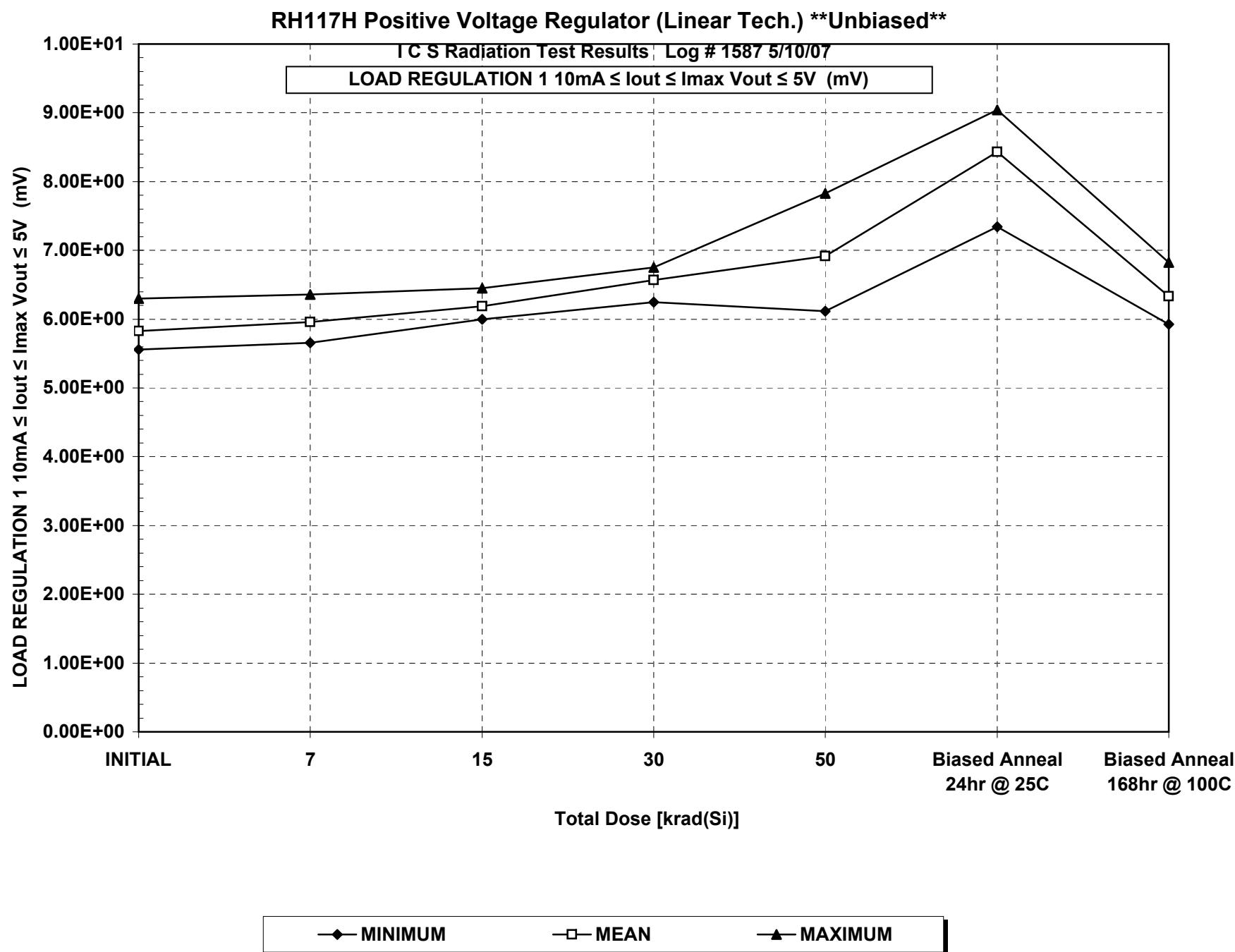
LINE REGULATION  $3V \leq (V_{in}-V_{out}) \leq 40V$  Iout=10mA (%/V)



◆ MINIMUM

□ MEAN

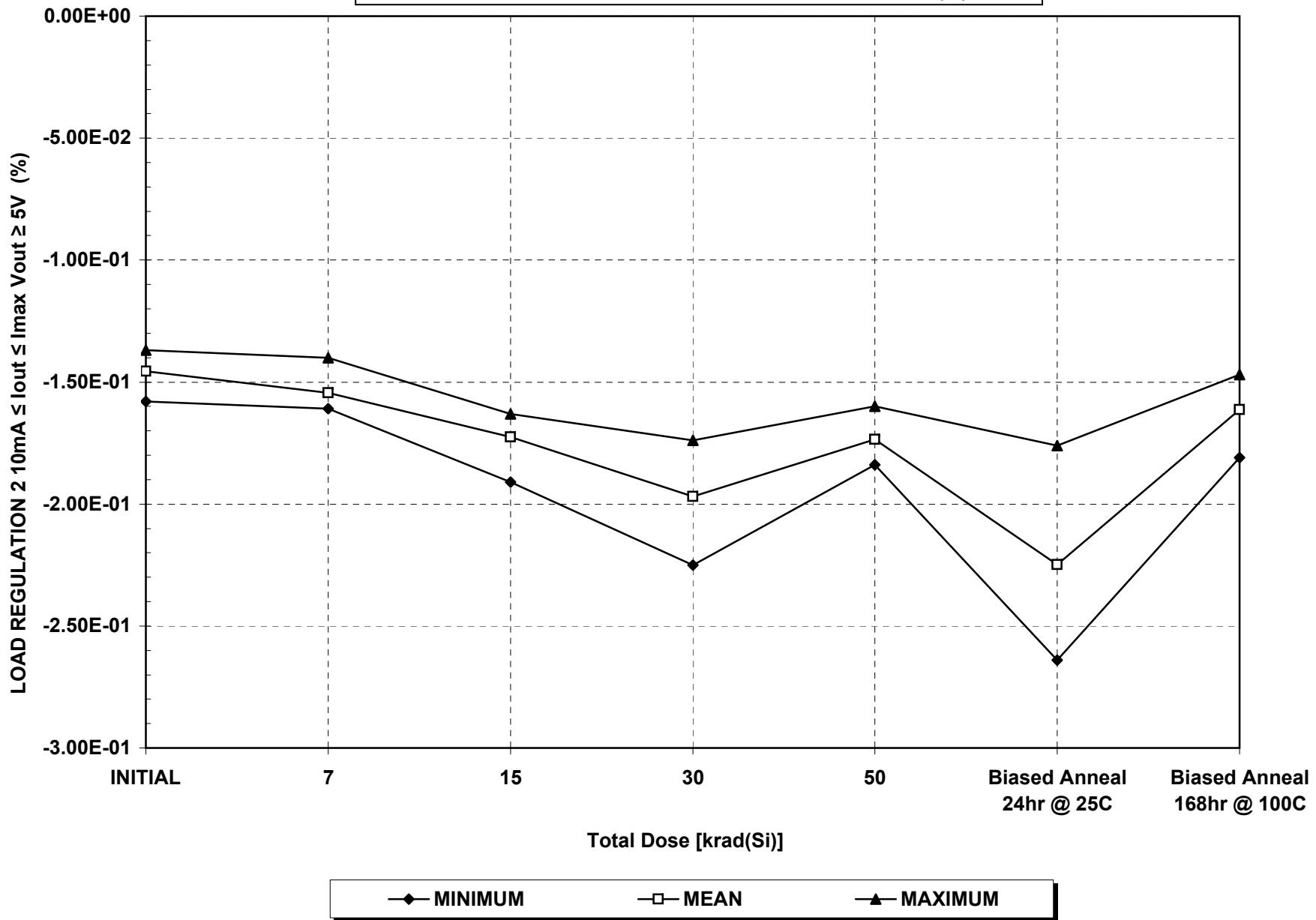
▲ MAXIMUM



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

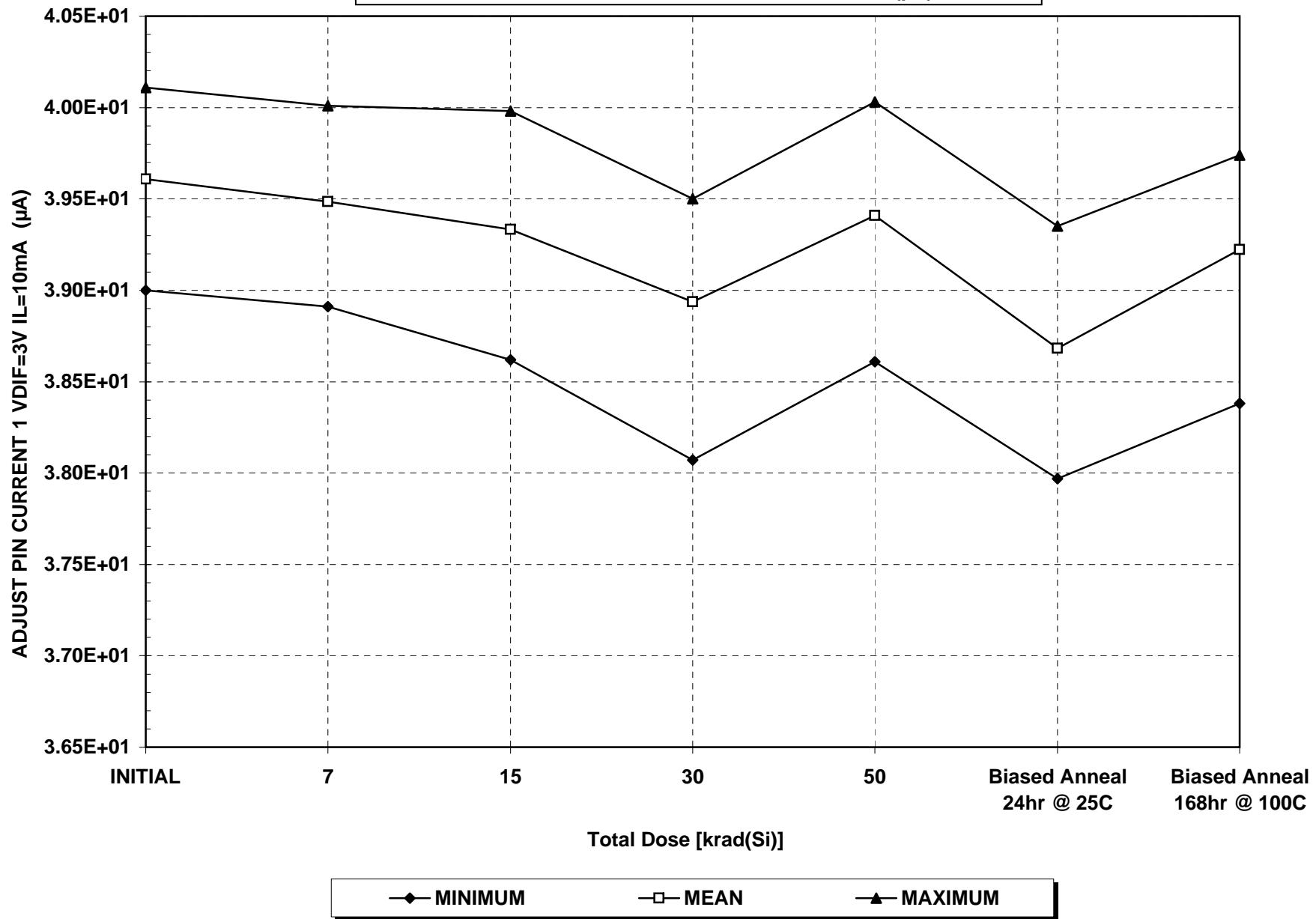
LOAD REGULATION 2  $10\text{mA} \leq I_{\text{out}} \leq I_{\text{max}}$   $V_{\text{out}} \geq 5\text{V}$  (%)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

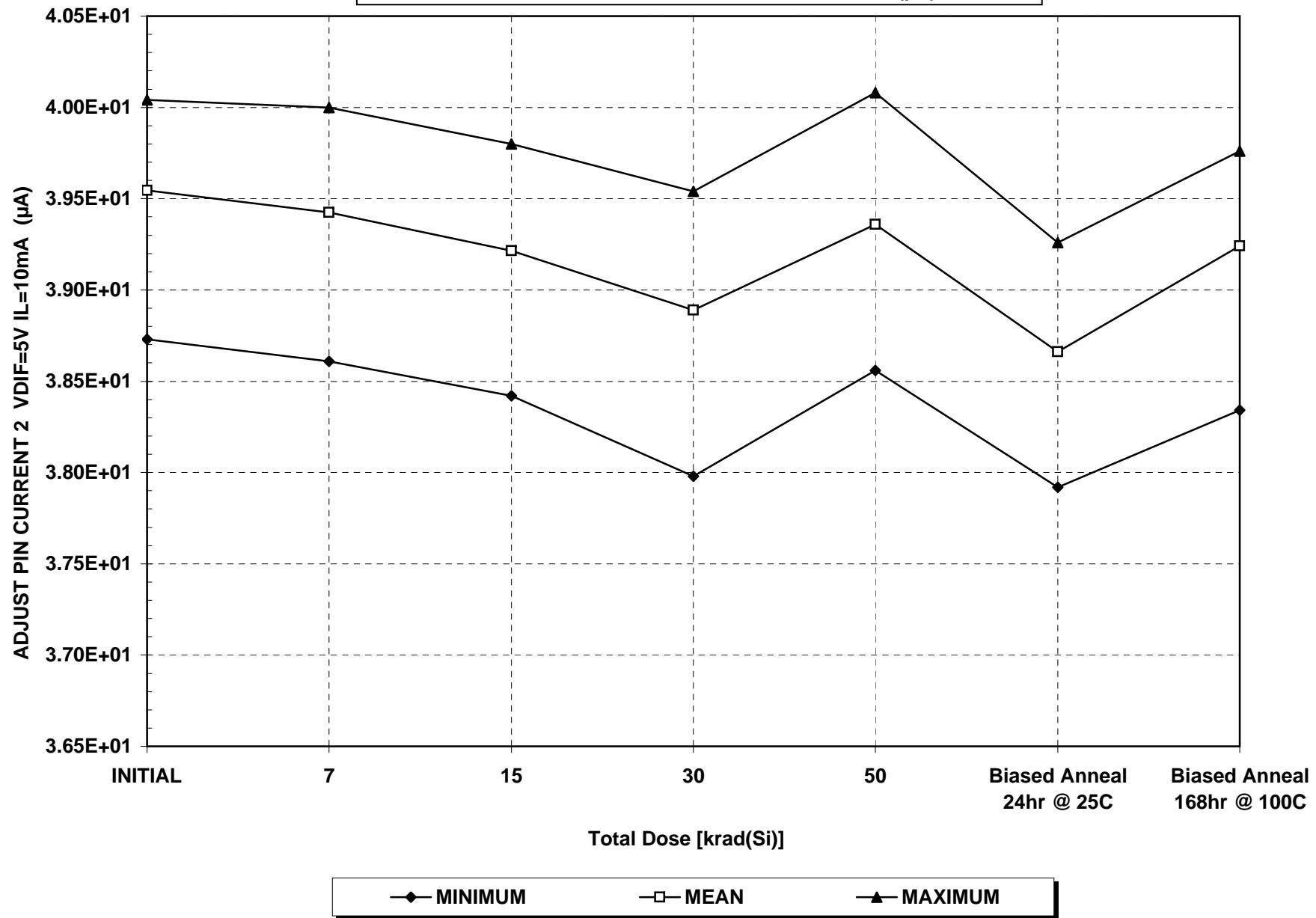
ADJUST PIN CURRENT 1 VDIF=3V IL=10mA ( $\mu$ A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

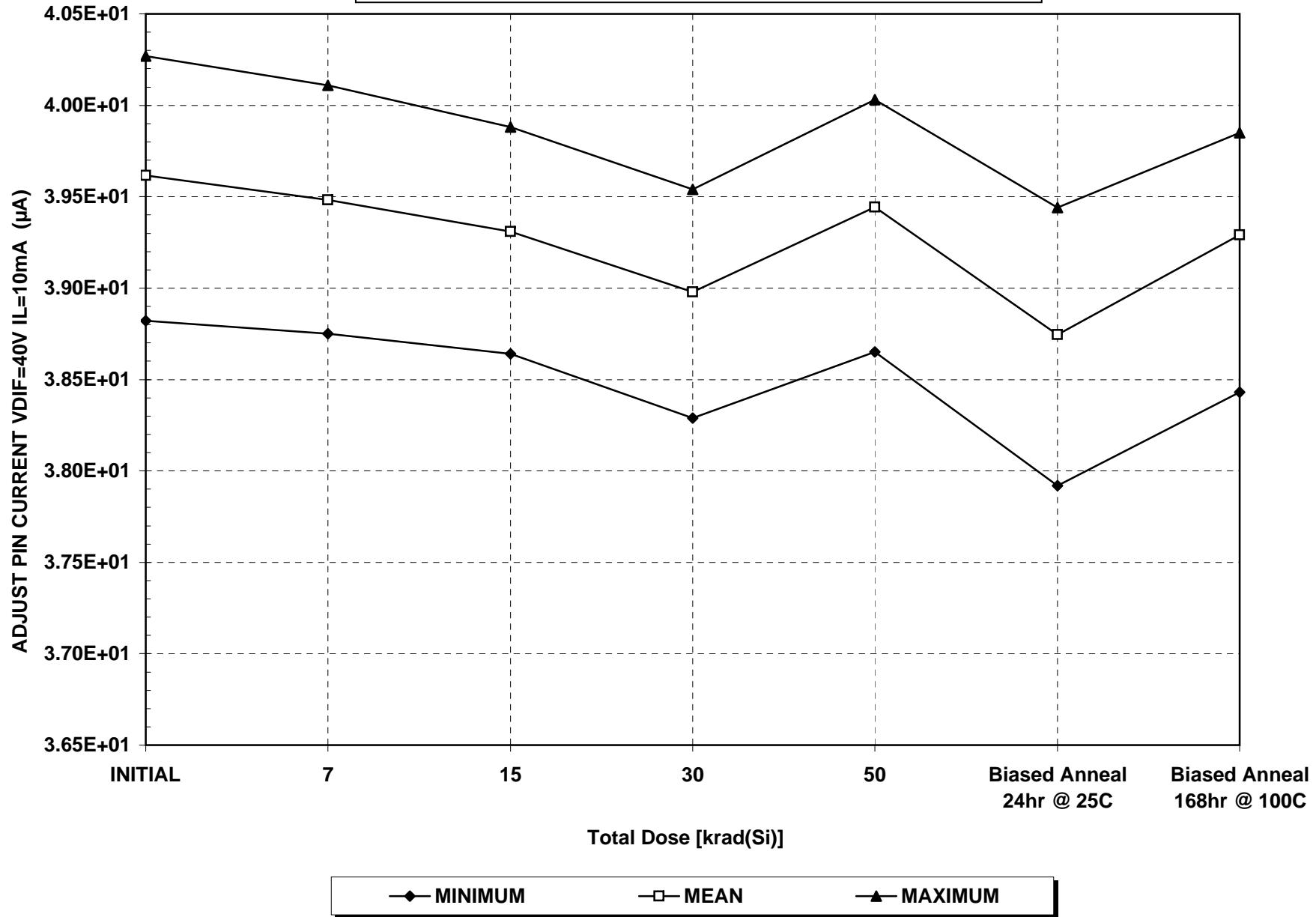
ADJUST PIN CURRENT 2 VDIF=5V IL=10mA ( $\mu$ A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

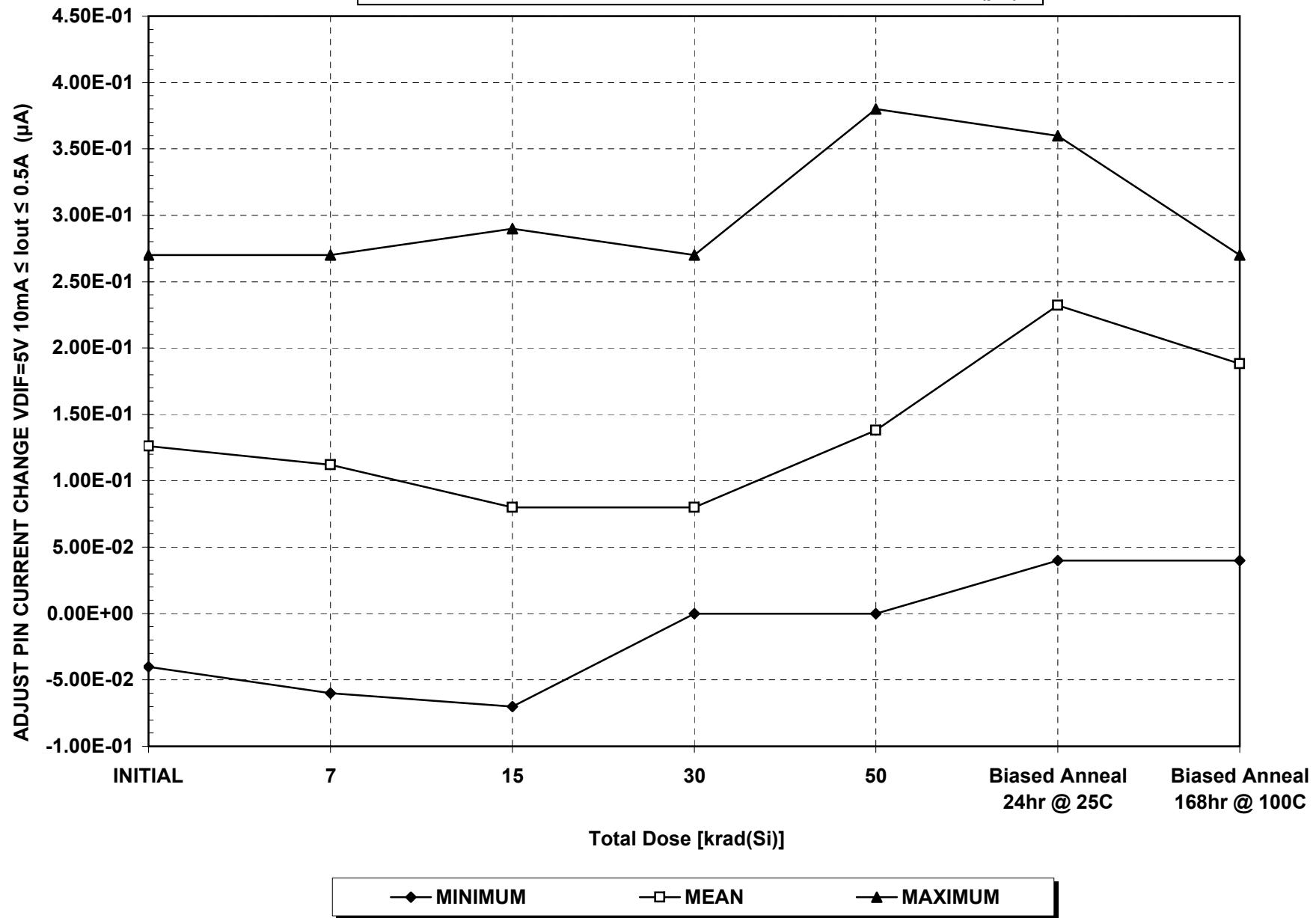
ADJUST PIN CURRENT VDIF=40V IL=10mA ( $\mu$ A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

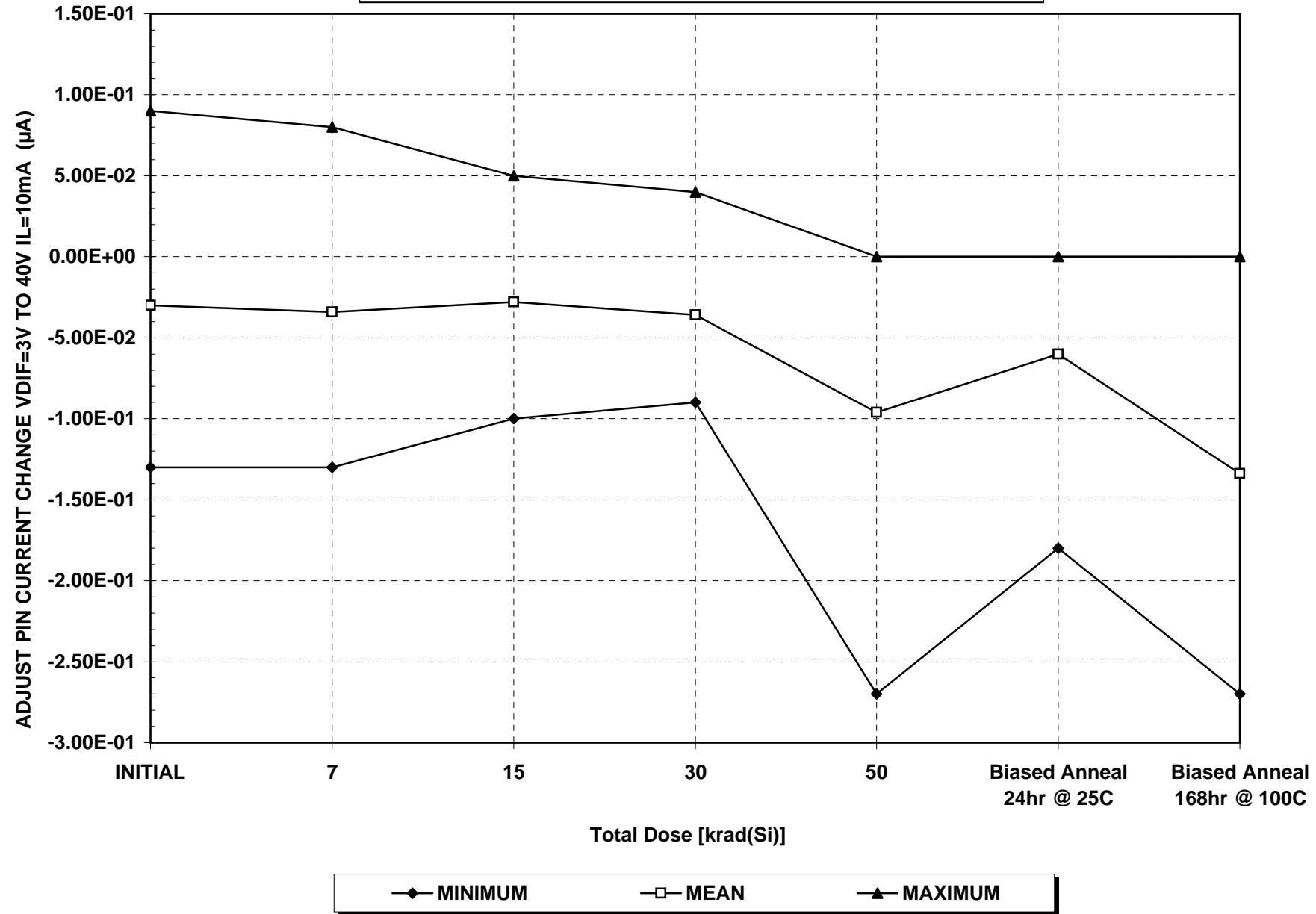
ADJUST PIN CURRENT CHANGE VDIF=5V 10mA ≤ Iout ≤ 0.5A (μA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

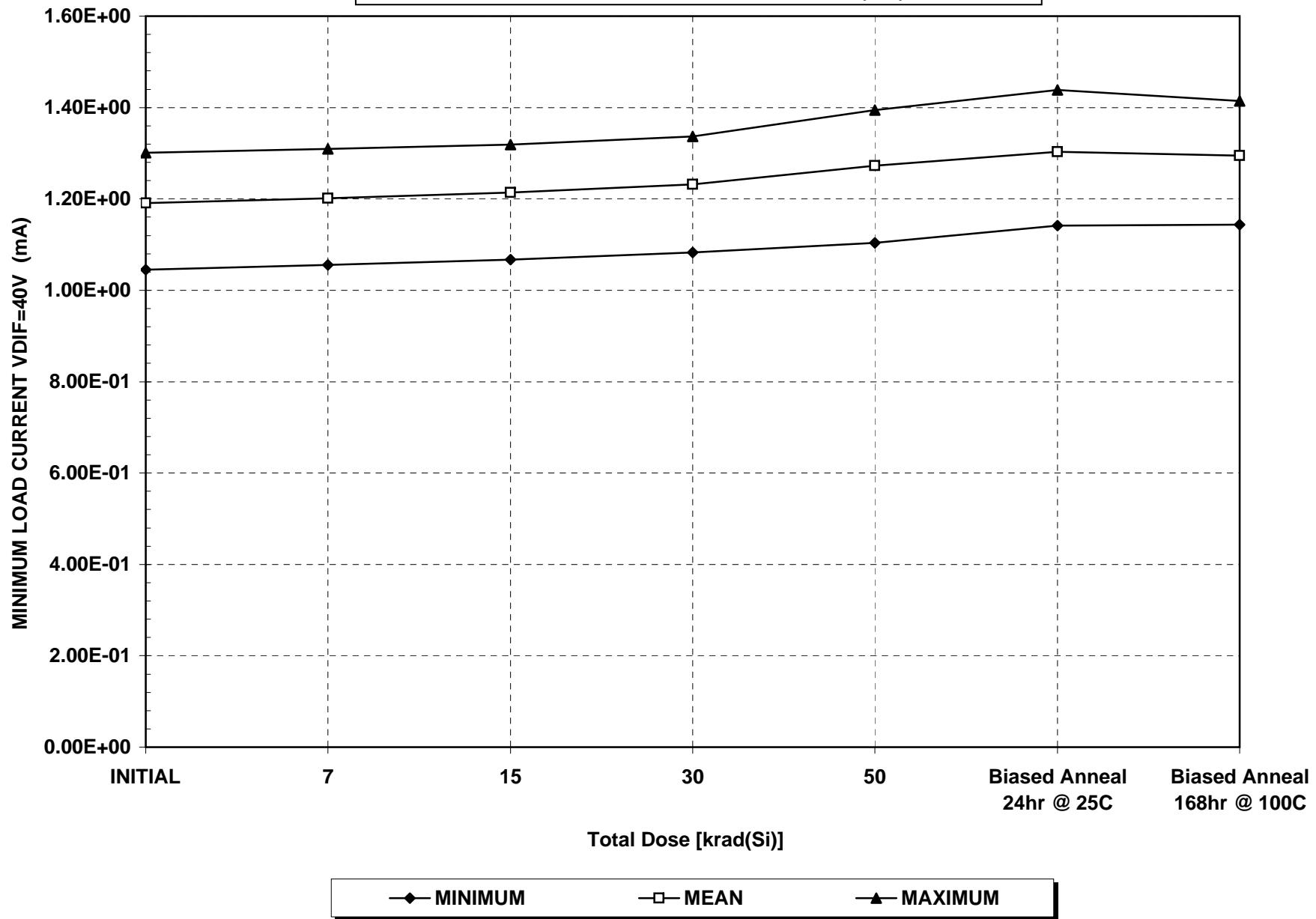
ADJUST PIN CURRENT CHANGE VDIF=3V TO 40V IL=10mA ( $\mu$ A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

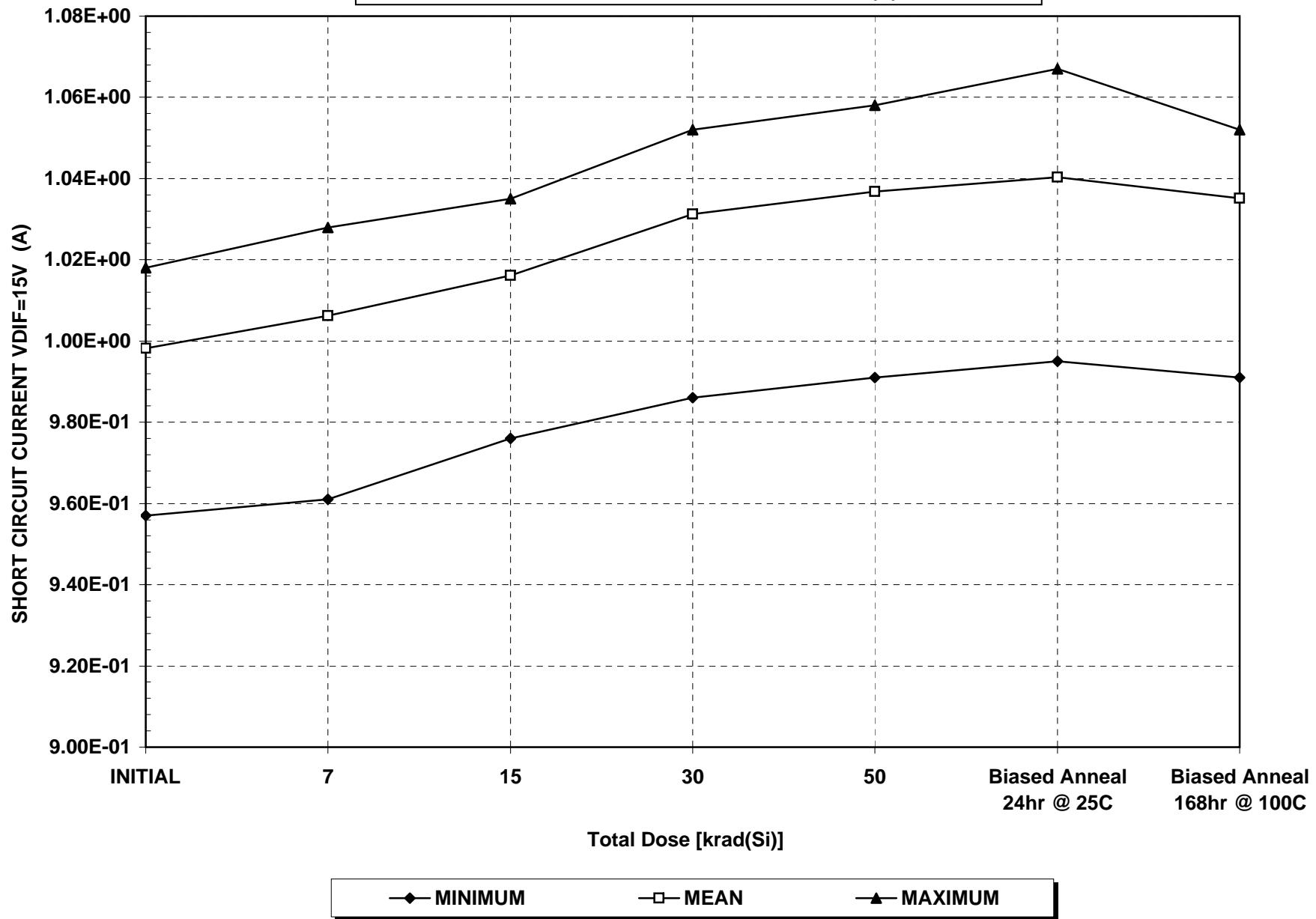
MINIMUM LOAD CURRENT VDIF=40V (mA)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

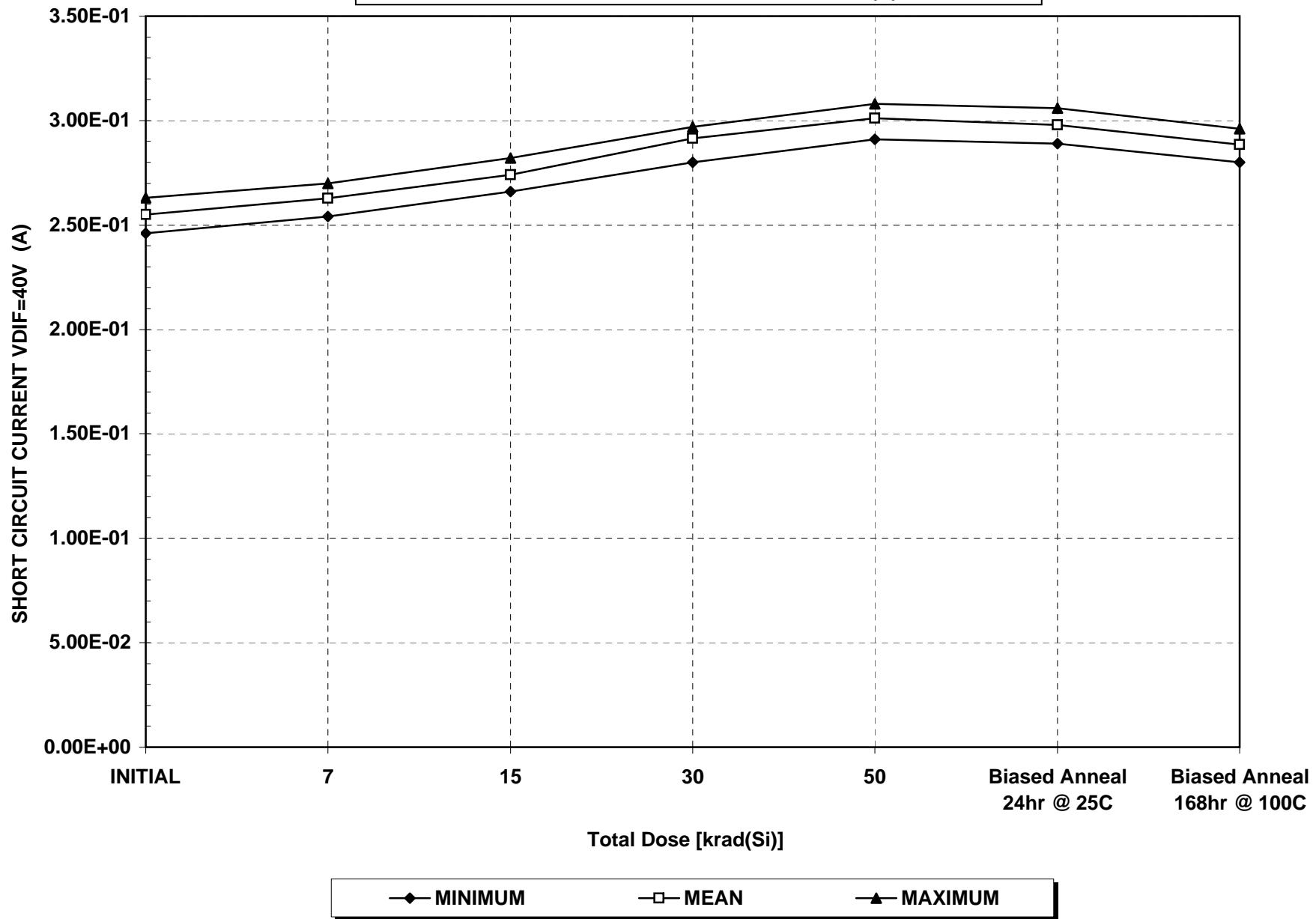
SHORT CIRCUIT CURRENT VDIF=15V (A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

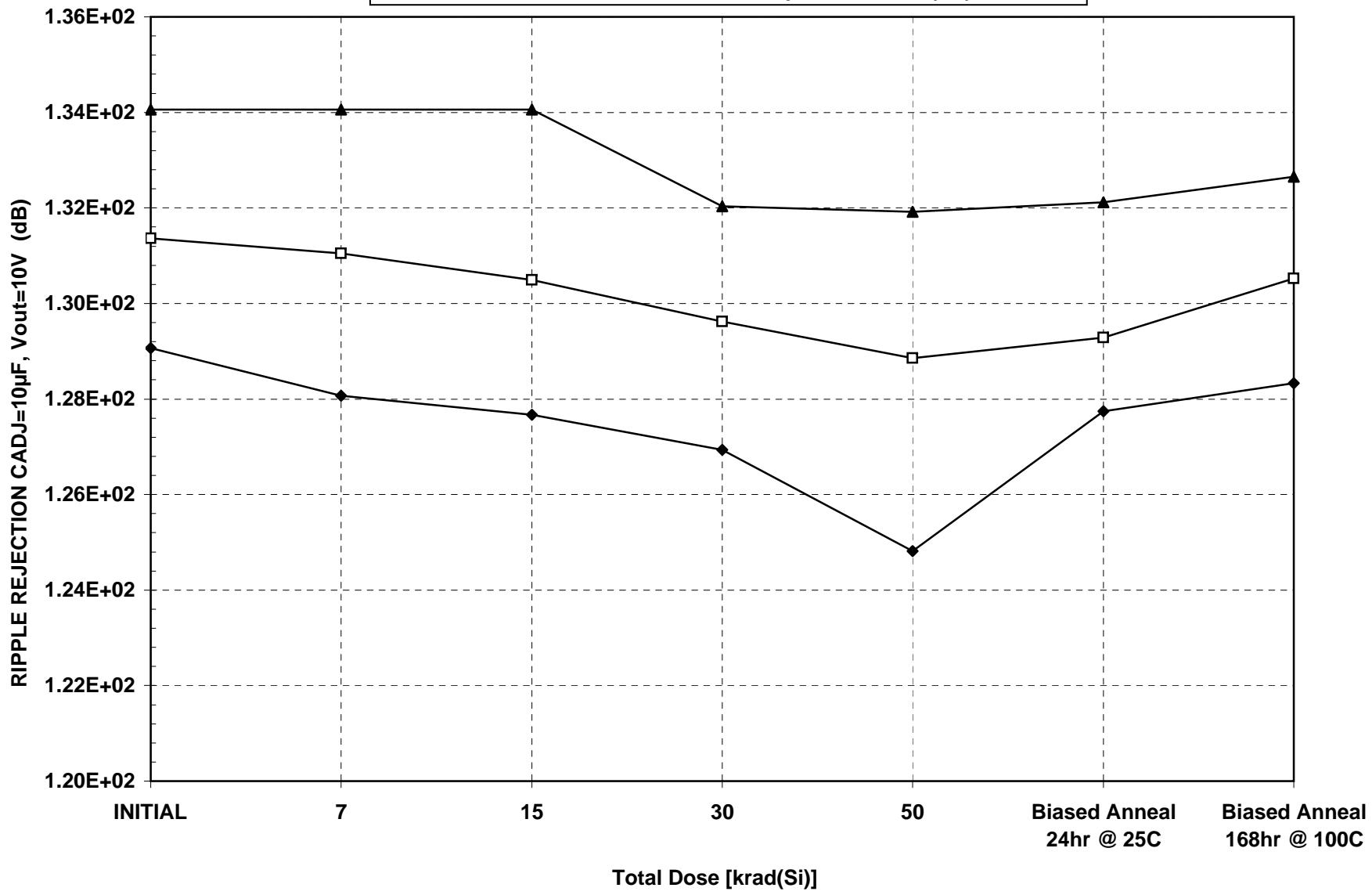
SHORT CIRCUIT CURRENT VDIF=40V (A)



RH117H Positive Voltage Regulator (Linear Tech.) \*\*Unbiased\*\*

I C S Radiation Test Results Log # 1587 5/10/07

RIPPLE REJECTION CADJ=10 $\mu$ F, Vout=10V (dB)



◆ MINIMUM

□ MEAN

▲ MAXIMUM