

Radiation Lot Acceptance Testing (RLAT) of the RH1185AMK Negative Regulator with Adjustable Current Limit for Analog Devices Incorporated

Customer: Analog Devices Incorporated, PO# 47108633

Job Number: RTS24-J0084

Part Type Tested: RH1185AMK Negative Regulator with Adjustable Current Limit, Analog Devices, Incorporated RH1185AMK Datasheet Rev B.

Traceability Information: Manufacturer: Analog Devices, Date Code: 2318A, Lot Number: G131868.13, Assembly Lot Number: A21680.1, Wafer Lot Number: W1247967.1, Wafer Number: 9, Die Type: 6RH1185AK. See photograph of unit under test in Appendix A.

Quantity of Units: 5 units received, 3 units for biased irradiation, 1 unit for unbiased irradiation and 1 unit for control. Serial numbers 91, 92, and 93 were biased during irradiation, serial number 95 were unbiased during irradiation and serial number 96 were used as control. See Appendix B for the radiation bias connection table.

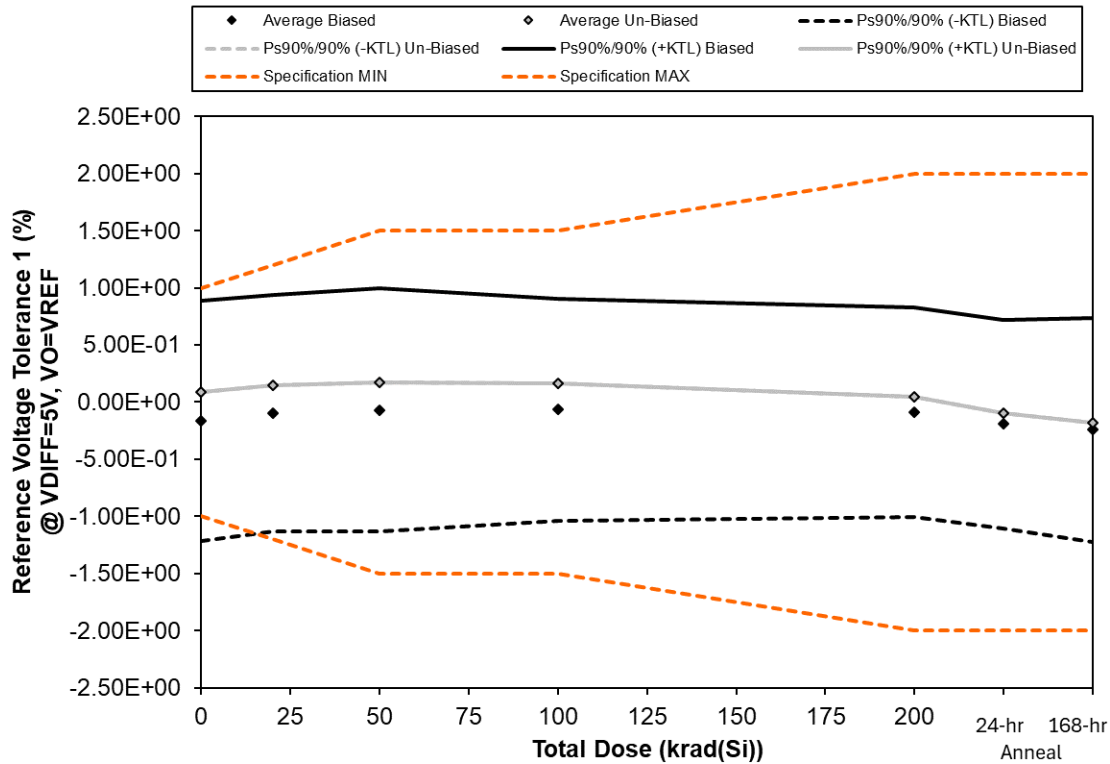
Radiation and Electrical Test Increments: 59.95rad(Si)/s ionizing radiation with electrical test increments: pre-irradiation, 20krad(Si), 50krad(Si), 100krad(Si) and 200krad(Si)

Post-Irradiation Anneal: 24-hour room temperature anneal followed by a 168-hour 100°C anneal. Both anneals were performed in the same electrical bias condition as the irradiations. Electrical measurements were made following each anneal increment.

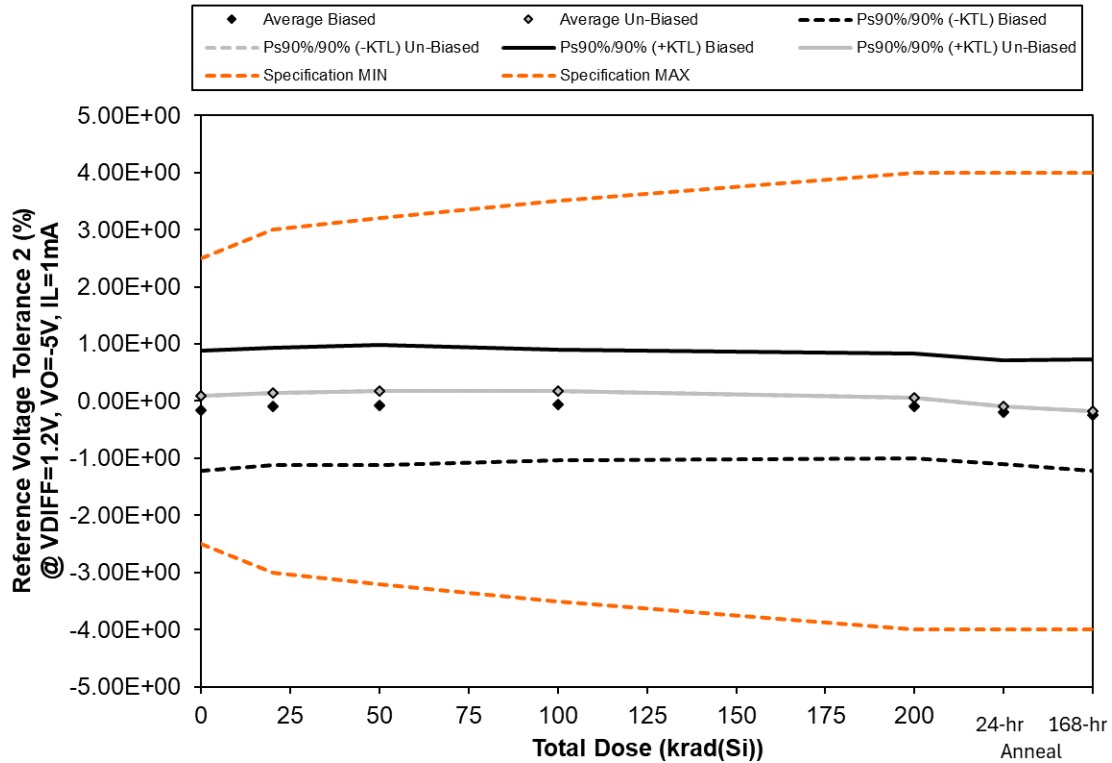
Radiation Test Standard: MIL-STD- TM1019 Condition A and Analog Devices Incorporated RH1185AMK Datasheet Rev B.

RLAT Test Result: PASSED the HDR-TID test to the maximum tested dose level of 200krad(Si) on 05/17/2024 with all parameters remaining within their datasheet specifications.

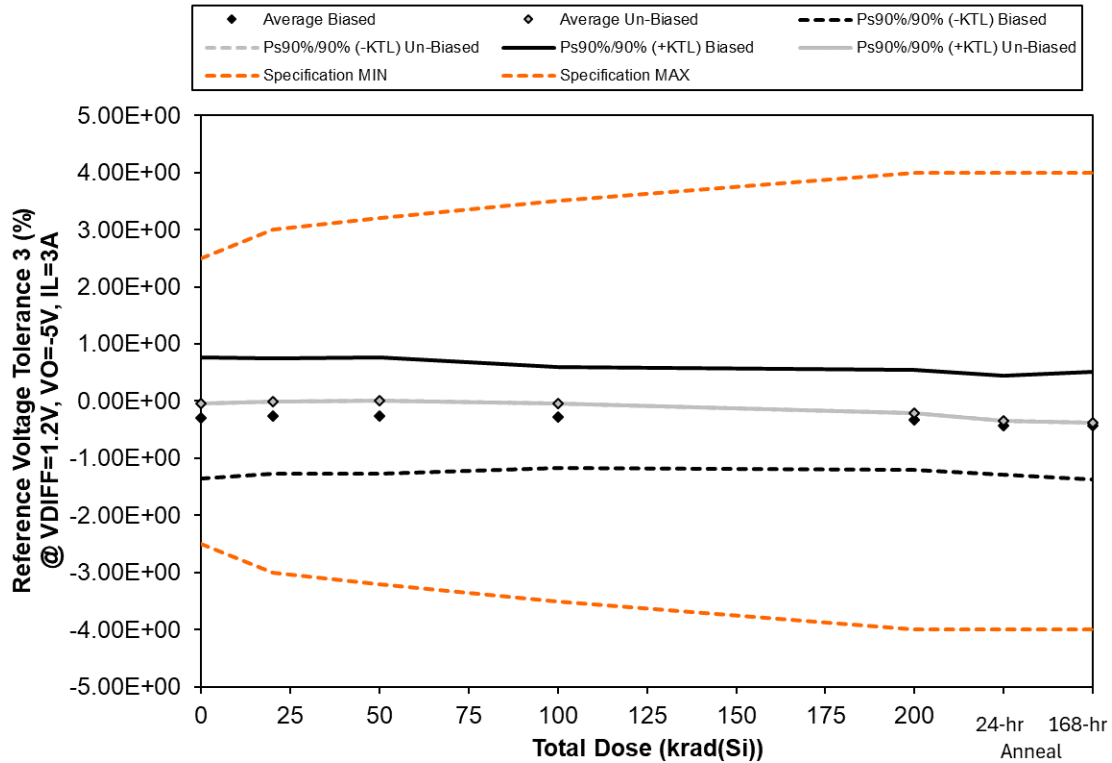
HDR-TID Test Results



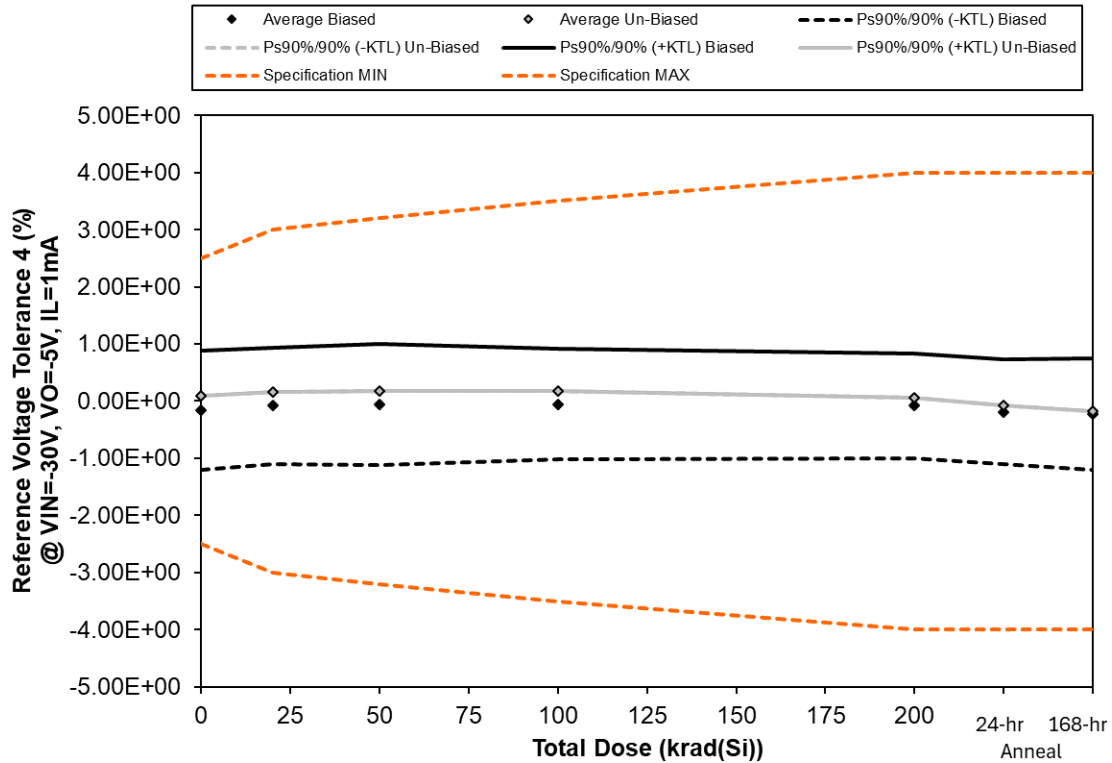
Reference Voltage Tolerance 1 (%) @ VDIFF=5V, VO=VREF	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	-4.17E-01	-3.45E-01	-3.29E-01	-2.91E-01	-3.08E-01	-4.11E-01	-4.75E-01
92	7.50E-02	1.41E-01	1.68E-01	1.65E-01	1.21E-01	1.80E-02	-1.60E-02
93	-1.50E-01	-8.50E-02	-4.60E-02	-7.20E-02	-7.80E-02	-1.82E-01	-2.36E-01
95	9.20E-02	1.43E-01	1.71E-01	1.66E-01	4.30E-02	-9.40E-02	-1.80E-01
96	-4.71E-01	-4.40E-01	-4.48E-01	-4.39E-01	-4.37E-01	-4.83E-01	-4.83E-01
Biased Statistics							
Average Biased	-1.64E-01	-9.63E-02	-6.90E-02	-6.60E-02	-8.83E-02	-1.92E-01	-2.42E-01
Std Dev Biased	2.46E-01	2.43E-01	2.49E-01	2.28E-01	2.15E-01	2.15E-01	2.30E-01
Ps90%/90% (+KTL) Biased	8.85E-01	9.39E-01	9.93E-01	9.05E-01	8.26E-01	7.23E-01	7.35E-01
Ps90%/90% (-KTL) Biased	-1.21E+00	-1.13E+00	-1.13E+00	-1.04E+00	-1.00E+00	-1.11E+00	-1.22E+00
Un-Biased Statistics							
Average Un-Biased	9.20E-02	1.43E-01	1.71E-01	1.66E-01	4.30E-02	-9.40E-02	-1.80E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	9.20E-02	1.43E-01	1.71E-01	1.66E-01	4.30E-02	-9.40E-02	-1.80E-01
Ps90%/90% (-KTL) Un-Biased	9.20E-02	1.43E-01	1.71E-01	1.66E-01	4.30E-02	-9.40E-02	-1.80E-01
Specification MIN	-1.00E+00	-1.20E+00	-1.50E+00	-1.50E+00	-2.00E+00	-2.00E+00	-2.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	1.00E+00	1.20E+00	1.50E+00	1.50E+00	2.00E+00	2.00E+00	2.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



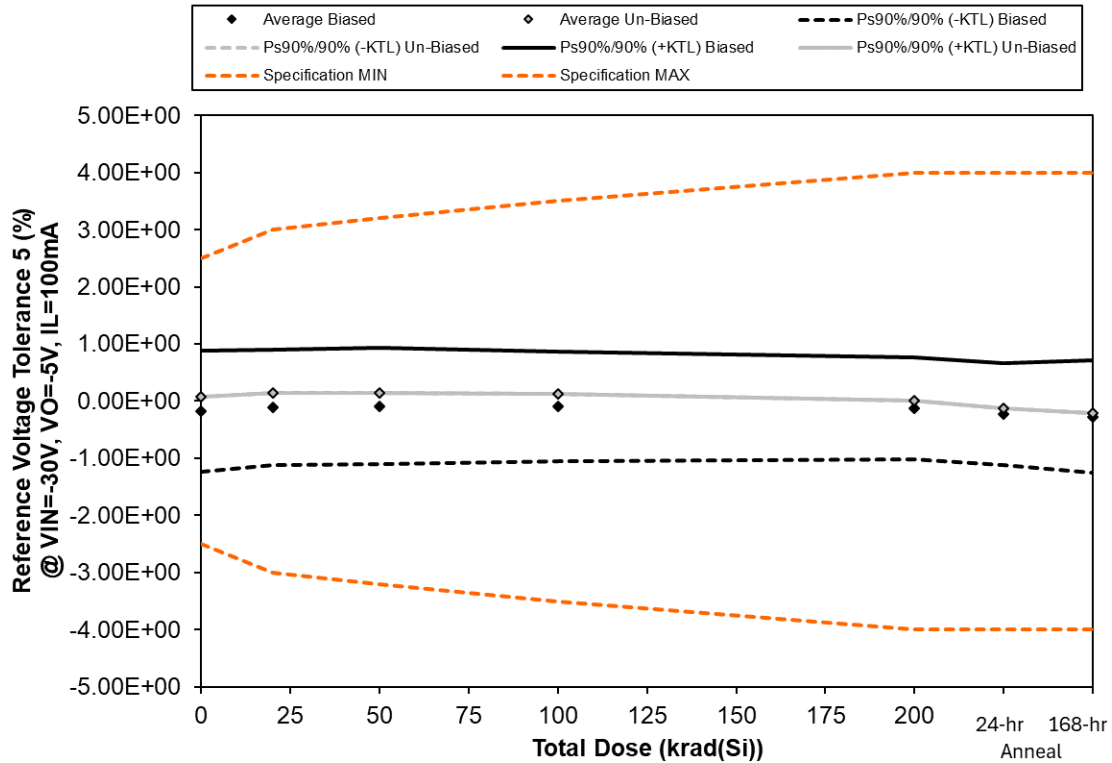
Reference Voltage Tolerance 2 (%) @ VDIFF=1.2V, VO=-5V, IL=1mA	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-4.21E-01	-3.44E-01	-3.28E-01	-2.89E-01	-3.05E-01	-4.08E-01	-4.72E-01
92	7.30E-02	1.39E-01	1.65E-01	1.65E-01	1.24E-01	1.80E-02	-1.40E-02
93	-1.48E-01	-8.40E-02	-4.70E-02	-7.40E-02	-7.40E-02	-1.78E-01	-2.34E-01
95	9.10E-02	1.42E-01	1.72E-01	1.68E-01	5.60E-02	-8.50E-02	-1.78E-01
96	-4.73E-01	-4.41E-01	-4.48E-01	-4.38E-01	-4.37E-01	-4.87E-01	-4.82E-01
Biased Statistics							
Average Biased	-1.65E-01	-9.63E-02	-7.00E-02	-6.60E-02	-8.50E-02	-1.89E-01	-2.40E-01
Std Dev Biased	2.47E-01	2.42E-01	2.47E-01	2.27E-01	2.15E-01	2.13E-01	2.29E-01
Ps90%/90% (+KTL) Biased	8.89E-01	9.33E-01	9.83E-01	9.01E-01	8.29E-01	7.19E-01	7.36E-01
Ps90%/90% (-KTL) Biased	-1.22E+00	-1.13E+00	-1.12E+00	-1.03E+00	-9.99E-01	-1.10E+00	-1.22E+00
Un-Biased Statistics							
Average Un-Biased	9.10E-02	1.42E-01	1.72E-01	1.68E-01	5.60E-02	-8.50E-02	-1.78E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	9.10E-02	1.42E-01	1.72E-01	1.68E-01	5.60E-02	-8.50E-02	-1.78E-01
Ps90%/90% (-KTL) Un-Biased	9.10E-02	1.42E-01	1.72E-01	1.68E-01	5.60E-02	-8.50E-02	-1.78E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



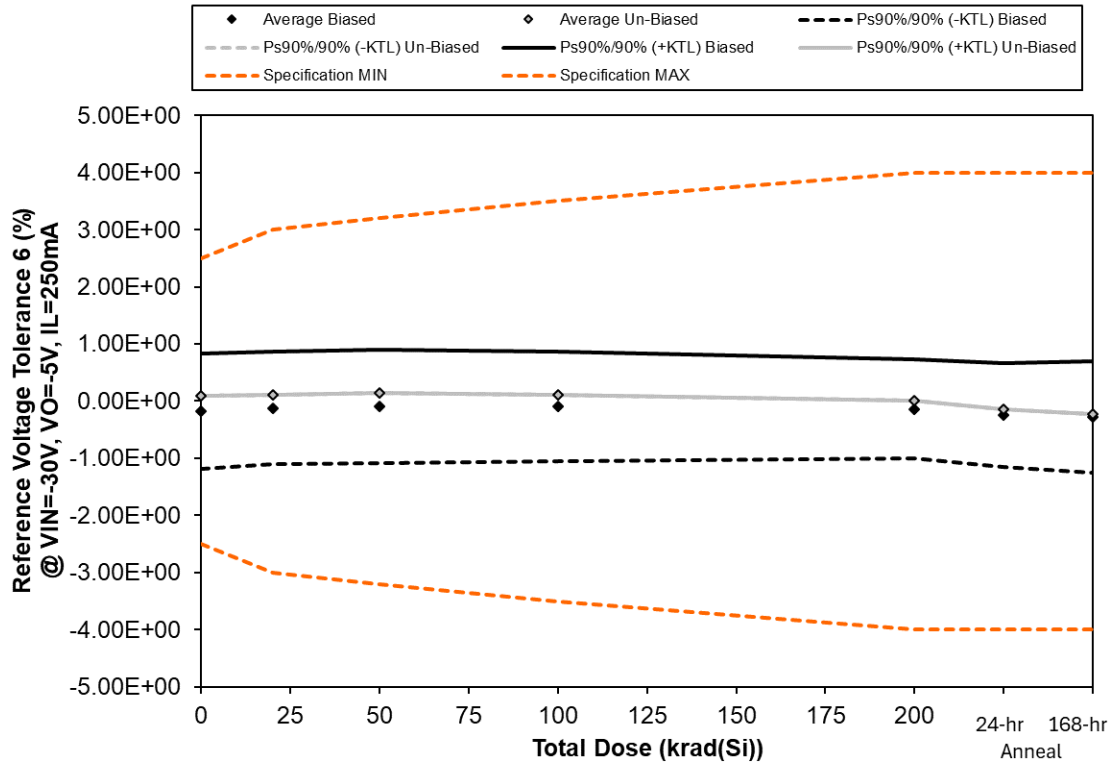
Reference Voltage Tolerance 3 (%) @ VDIFF=1.2V, VO=-5V, IL=3A	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-5.49E-01	-5.13E-01	-5.06E-01	-4.95E-01	-5.50E-01	-6.33E-01	-6.55E-01
92	-5.10E-02	-3.80E-02	-3.20E-02	-8.20E-02	-1.41E-01	-2.28E-01	-2.16E-01
93	-2.75E-01	-2.36E-01	-2.24E-01	-2.79E-01	-3.16E-01	-4.09E-01	-4.17E-01
95	-4.40E-02	-1.70E-02	4.00E-03	-4.60E-02	-2.08E-01	-3.38E-01	-3.78E-01
96	-6.02E-01	-5.84E-01	-5.56E-01	-5.74E-01	-5.68E-01	-6.11E-01	-6.06E-01
Biased Statistics							
Average Biased	-2.92E-01	-2.62E-01	-2.54E-01	-2.85E-01	-3.36E-01	-4.23E-01	-4.29E-01
Std Dev Biased	2.49E-01	2.39E-01	2.38E-01	2.07E-01	2.05E-01	2.03E-01	2.20E-01
Ps90%/90% (+KTL) Biased	7.71E-01	7.54E-01	7.61E-01	5.94E-01	5.38E-01	4.41E-01	5.07E-01
Ps90%/90% (-KTL) Biased	-1.35E+00	-1.28E+00	-1.27E+00	-1.17E+00	-1.21E+00	-1.29E+00	-1.37E+00
Un-Biased Statistics							
Average Un-Biased	-4.40E-02	-1.70E-02	4.00E-03	-4.60E-02	-2.08E-01	-3.38E-01	-3.78E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	-4.40E-02	-1.70E-02	4.00E-03	-4.60E-02	-2.08E-01	-3.38E-01	-3.78E-01
Ps90%/90% (-KTL) Un-Biased	-4.40E-02	-1.70E-02	4.00E-03	-4.60E-02	-2.08E-01	-3.38E-01	-3.78E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



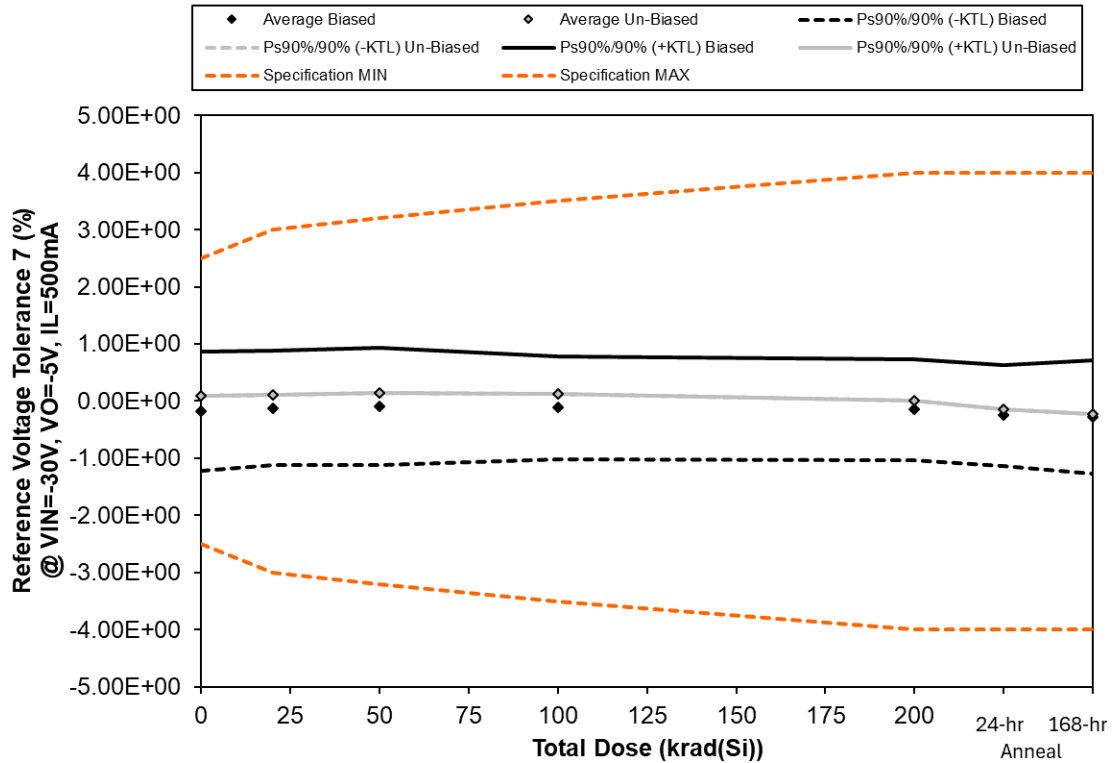
Reference Voltage Tolerance 4 (%) @ VIN=-30V, VO=-5V, IL=1mA	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-4.06E-01	-3.31E-01	-3.18E-01	-2.80E-01	-3.01E-01	-4.08E-01	-4.66E-01
92	8.40E-02	1.49E-01	1.75E-01	1.75E-01	1.31E-01	2.10E-02	-8.00E-03
93	-1.41E-01	-7.10E-02	-3.60E-02	-6.30E-02	-7.40E-02	-1.81E-01	-2.28E-01
95	9.90E-02	1.56E-01	1.79E-01	1.75E-01	6.40E-02	-8.20E-02	-1.73E-01
96	-4.62E-01	-4.31E-01	-4.38E-01	-4.29E-01	-4.27E-01	-4.77E-01	-4.74E-01
Biased Statistics							
Average Biased	-1.54E-01	-8.43E-02	-5.97E-02	-5.60E-02	-8.13E-02	-1.89E-01	-2.34E-01
Std Dev Biased	2.45E-01	2.40E-01	2.47E-01	2.28E-01	2.16E-01	2.15E-01	2.29E-01
Ps90%/90% (+KTL) Biased	8.90E-01	9.39E-01	9.94E-01	9.13E-01	8.39E-01	7.25E-01	7.42E-01
Ps90%/90% (-KTL) Biased	-1.20E+00	-1.11E+00	-1.11E+00	-1.03E+00	-1.00E+00	-1.10E+00	-1.21E+00
Un-Biased Statistics							
Average Un-Biased	9.90E-02	1.56E-01	1.79E-01	1.75E-01	6.40E-02	-8.20E-02	-1.73E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	9.90E-02	1.56E-01	1.79E-01	1.75E-01	6.40E-02	-8.20E-02	-1.73E-01
Ps90%/90% (-KTL) Un-Biased	9.90E-02	1.56E-01	1.79E-01	1.75E-01	6.40E-02	-8.20E-02	-1.73E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



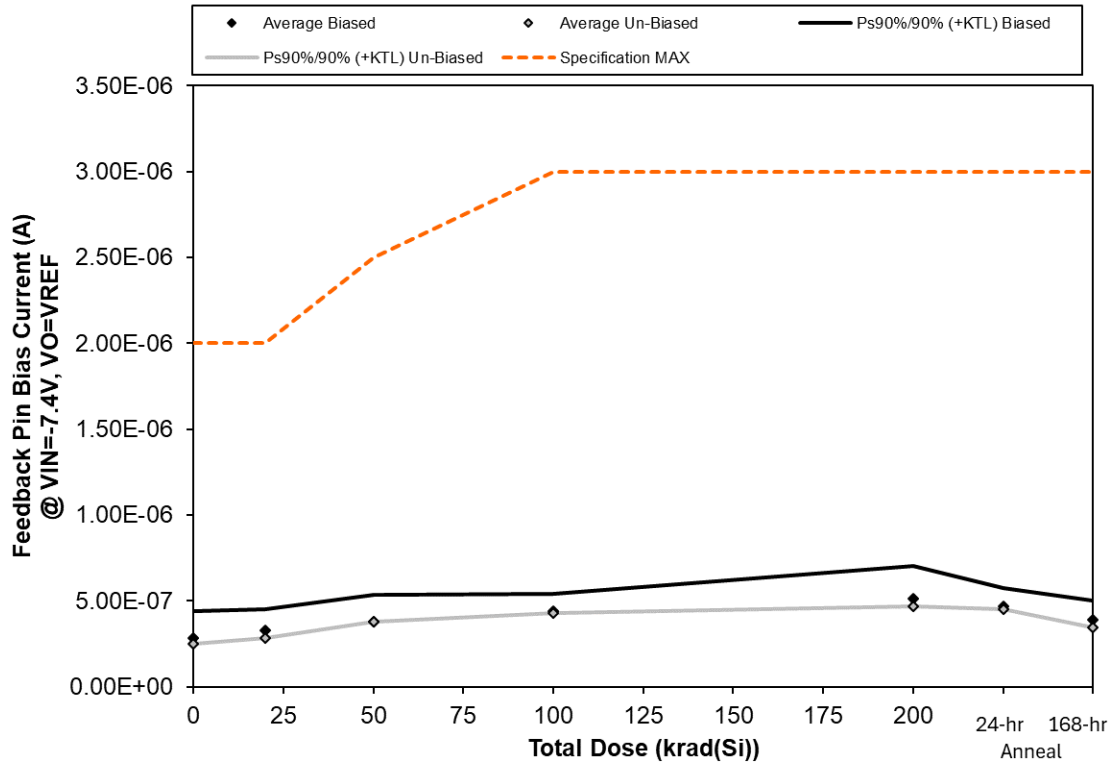
Reference Voltage Tolerance 5 (%) @ VIN=-30V, VO=-5V, IL=100mA	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-4.32E-01	-3.56E-01	-3.39E-01	-3.18E-01	-3.44E-01	-4.48E-01	-5.06E-01
92	6.20E-02	1.18E-01	1.39E-01	1.35E-01	7.60E-02	-2.90E-02	-4.50E-02
93	-1.51E-01	-9.70E-02	-6.70E-02	-1.01E-01	-1.23E-01	-2.13E-01	-2.68E-01
95	7.30E-02	1.36E-01	1.49E-01	1.32E-01	1.60E-02	-1.28E-01	-2.11E-01
96	-4.78E-01	-4.56E-01	-4.56E-01	-4.46E-01	-4.54E-01	-4.84E-01	-4.95E-01
Biased Statistics							
Average Biased	-1.74E-01	-1.12E-01	-8.90E-02	-9.47E-02	-1.30E-01	-2.30E-01	-2.73E-01
Std Dev Biased	2.48E-01	2.37E-01	2.40E-01	2.27E-01	2.10E-01	2.10E-01	2.31E-01
Ps90%/90% (+KTL) Biased	8.82E-01	8.99E-01	9.32E-01	8.70E-01	7.64E-01	6.64E-01	7.09E-01
Ps90%/90% (-KTL) Biased	-1.23E+00	-1.12E+00	-1.11E+00	-1.06E+00	-1.03E+00	-1.12E+00	-1.25E+00
Un-Biased Statistics							
Average Un-Biased	7.30E-02	1.36E-01	1.49E-01	1.32E-01	1.60E-02	-1.28E-01	-2.11E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	7.30E-02	1.36E-01	1.49E-01	1.32E-01	1.60E-02	-1.28E-01	-2.11E-01
Ps90%/90% (-KTL) Un-Biased	7.30E-02	1.36E-01	1.49E-01	1.32E-01	1.60E-02	-1.28E-01	-2.11E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



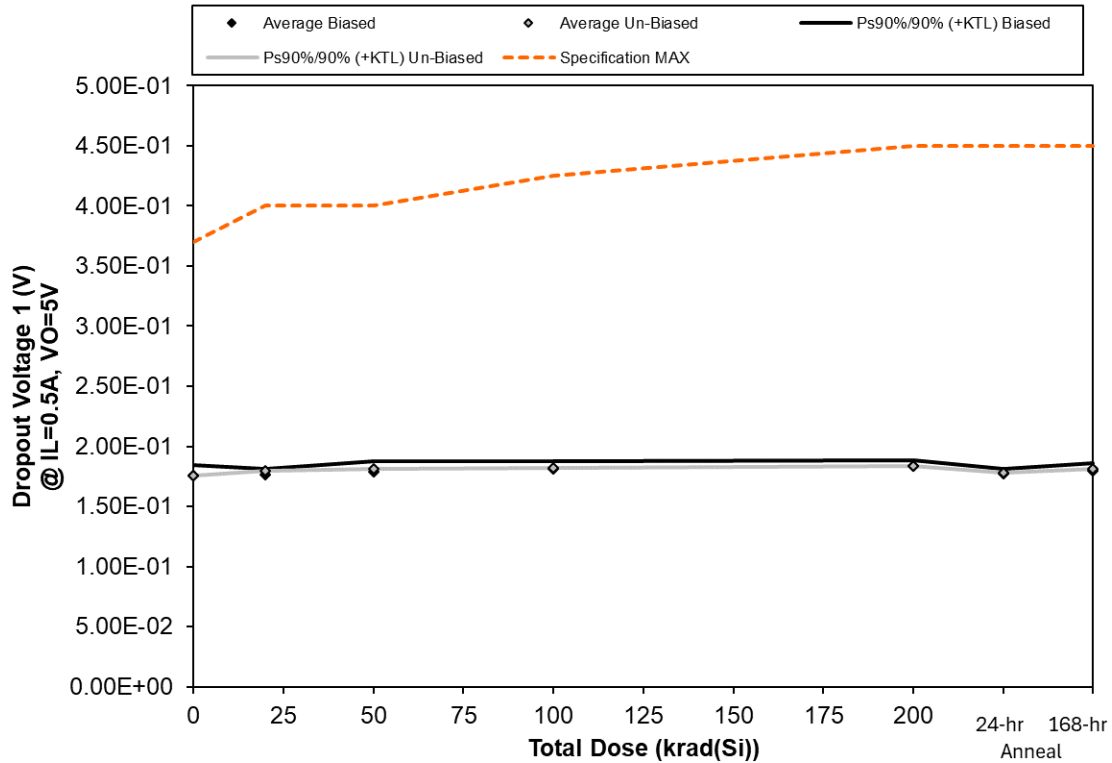
Reference Voltage Tolerance 6 (%) @ VIN=-30V, VO=-5V, IL=250mA	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-4.21E-01	-3.60E-01	-3.39E-01	-3.25E-01	-3.51E-01	-4.62E-01	-5.13E-01
92	5.50E-02	1.04E-01	1.24E-01	1.24E-01	5.50E-02	-3.90E-02	-5.60E-02
93	-1.69E-01	-1.04E-01	-7.50E-02	-9.30E-02	-1.27E-01	-2.24E-01	-2.79E-01
95	8.70E-02	1.15E-01	1.49E-01	1.17E-01	1.00E-03	-1.42E-01	-2.22E-01
96	-4.85E-01	-4.52E-01	-4.59E-01	-4.53E-01	-4.51E-01	-4.94E-01	-4.85E-01
Biased Statistics							
Average Biased	-1.78E-01	-1.20E-01	-9.67E-02	-9.80E-02	-1.41E-01	-2.42E-01	-2.83E-01
Std Dev Biased	2.38E-01	2.32E-01	2.32E-01	2.25E-01	2.03E-01	2.12E-01	2.29E-01
Ps90%/90% (+KTL) Biased	8.36E-01	8.70E-01	8.93E-01	8.58E-01	7.25E-01	6.61E-01	6.91E-01
Ps90%/90% (-KTL) Biased	-1.19E+00	-1.11E+00	-1.09E+00	-1.05E+00	-1.01E+00	-1.14E+00	-1.26E+00
Un-Biased Statistics							
Average Un-Biased	8.70E-02	1.15E-01	1.49E-01	1.17E-01	1.00E-03	-1.42E-01	-2.22E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	8.70E-02	1.15E-01	1.49E-01	1.17E-01	1.00E-03	-1.42E-01	-2.22E-01
Ps90%/90% (-KTL) Un-Biased	8.70E-02	1.15E-01	1.49E-01	1.17E-01	1.00E-03	-1.42E-01	-2.22E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



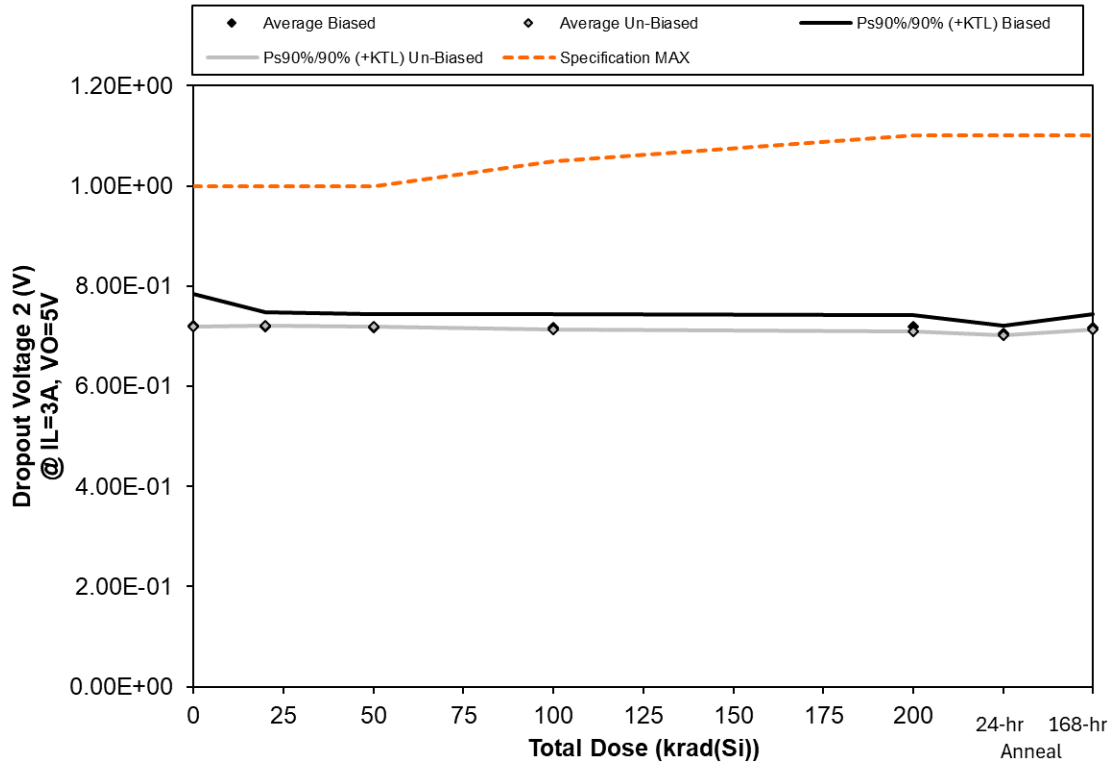
Reference Voltage Tolerance 7 (%) @ VIN=-30V, VO=-5V, IL=500mA	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	-4.28E-01	-3.63E-01	-3.46E-01	-3.32E-01	-3.66E-01	-4.62E-01	-5.17E-01
92	6.20E-02	1.08E-01	1.35E-01	8.80E-02	4.40E-02	-5.00E-02	-5.20E-02
93	-1.62E-01	-1.04E-01	-7.10E-02	-1.05E-01	-1.27E-01	-2.35E-01	-2.82E-01
95	8.70E-02	1.15E-01	1.46E-01	1.28E-01	1.00E-03	-1.42E-01	-2.22E-01
96	-4.85E-01	-4.56E-01	-4.63E-01	-4.53E-01	-4.58E-01	-5.05E-01	-4.92E-01
Biased Statistics							
Average Biased	-1.76E-01	-1.20E-01	-9.40E-02	-1.16E-01	-1.50E-01	-2.49E-01	-2.84E-01
Std Dev Biased	2.45E-01	2.36E-01	2.41E-01	2.10E-01	2.06E-01	2.06E-01	2.33E-01
Ps90%/90% (+KTL) Biased	8.69E-01	8.85E-01	9.34E-01	7.79E-01	7.27E-01	6.30E-01	7.07E-01
Ps90%/90% (-KTL) Biased	-1.22E+00	-1.12E+00	-1.12E+00	-1.01E+00	-1.03E+00	-1.13E+00	-1.27E+00
Un-Biased Statistics							
Average Un-Biased	8.70E-02	1.15E-01	1.46E-01	1.28E-01	1.00E-03	-1.42E-01	-2.22E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	8.70E-02	1.15E-01	1.46E-01	1.28E-01	1.00E-03	-1.42E-01	-2.22E-01
Ps90%/90% (-KTL) Un-Biased	8.70E-02	1.15E-01	1.46E-01	1.28E-01	1.00E-03	-1.42E-01	-2.22E-01
Specification MIN	-2.50E+00	-3.00E+00	-3.20E+00	-3.50E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.50E+00	3.00E+00	3.20E+00	3.50E+00	4.00E+00	4.00E+00	4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



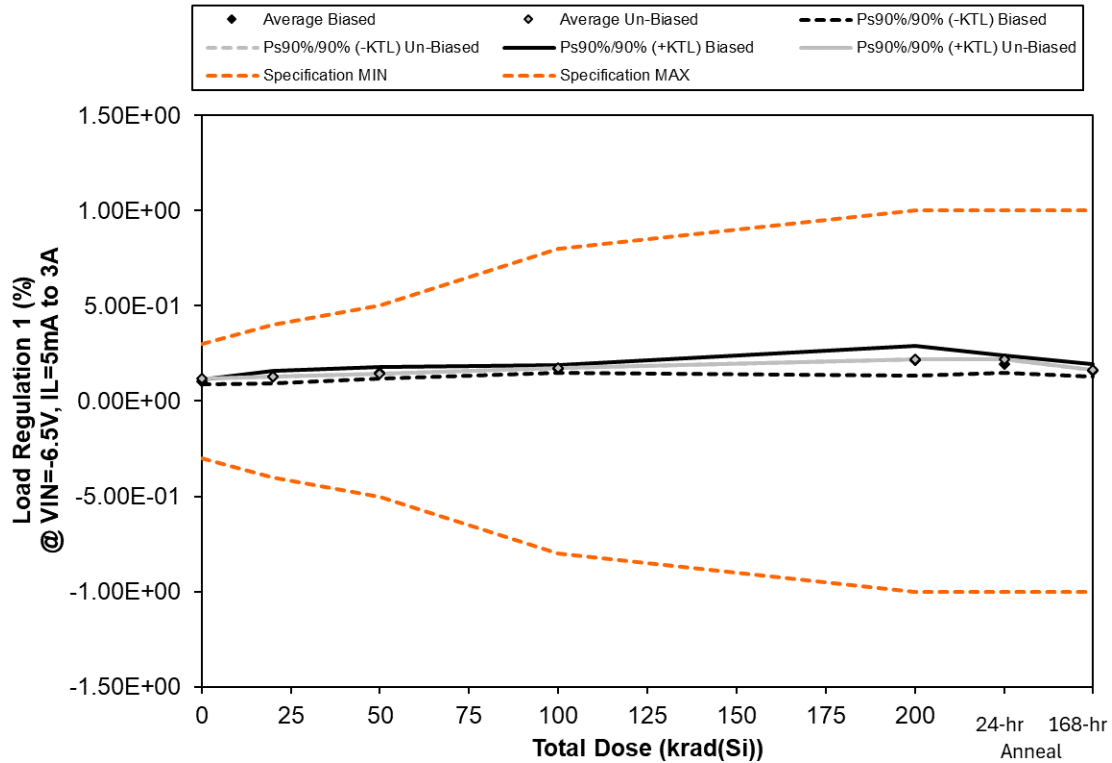
Feedback Pin Bias Current (A) @ VIN=-7.4V, VO=VREF	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	3.16E-07	3.55E-07	4.10E-07	4.62E-07	5.44E-07	4.87E-07	4.08E-07
92	2.42E-07	2.96E-07	3.40E-07	4.17E-07	4.63E-07	4.42E-07	3.63E-07
93	2.87E-07	3.28E-07	3.91E-07	4.50E-07	5.34E-07	4.81E-07	4.07E-07
95	2.52E-07	2.83E-07	3.76E-07	4.29E-07	4.69E-07	4.53E-07	3.44E-07
96	2.94E-07	2.95E-07	2.90E-07	2.89E-07	2.88E-07	2.93E-07	3.04E-07
Biased Statistics							
Average Biased	2.82E-07	3.26E-07	3.80E-07	4.43E-07	5.14E-07	4.70E-07	3.93E-07
Std Dev Biased	3.73E-08	2.95E-08	3.62E-08	2.33E-08	4.42E-08	2.44E-08	2.57E-08
Ps90%/90% (+KTL) Biased	4.40E-07	4.52E-07	5.35E-07	5.42E-07	7.02E-07	5.74E-07	5.02E-07
Ps90%/90% (-KTL) Biased	1.23E-07	2.01E-07	2.26E-07	3.44E-07	3.26E-07	3.66E-07	2.83E-07
Un-Biased Statistics							
Average Un-Biased	2.52E-07	2.83E-07	3.76E-07	4.29E-07	4.69E-07	4.53E-07	3.44E-07
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	2.52E-07	2.83E-07	3.76E-07	4.29E-07	4.69E-07	4.53E-07	3.44E-07
Ps90%/90% (-KTL) Un-Biased	2.52E-07	2.83E-07	3.76E-07	4.29E-07	4.69E-07	4.53E-07	3.44E-07
Specification MAX	2.00E-06	2.00E-06	2.50E-06	3.00E-06	3.00E-06	3.00E-06	3.00E-06
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



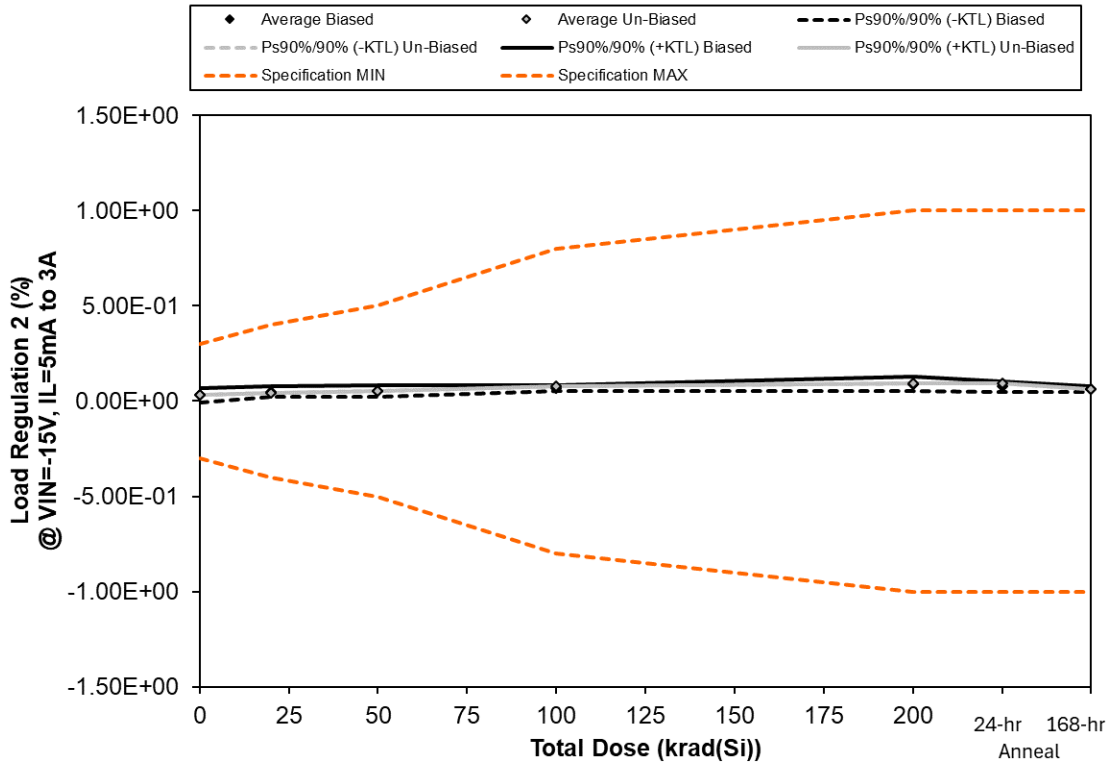
Dropout Voltage 1 (V) @ IL=0.5A, VO=5V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	1.73E-01	1.76E-01	1.77E-01	1.80E-01	1.83E-01	1.76E-01	1.80E-01
92	1.77E-01	1.78E-01	1.81E-01	1.83E-01	1.85E-01	1.78E-01	1.81E-01
93	1.76E-01	1.76E-01	1.79E-01	1.81E-01	1.83E-01	1.77E-01	1.78E-01
95	1.76E-01	1.80E-01	1.81E-01	1.82E-01	1.84E-01	1.78E-01	1.81E-01
96	1.76E-01	1.76E-01	1.78E-01	1.76E-01	1.78E-01	1.74E-01	1.76E-01
Biased Statistics							
Average Biased	1.75E-01	1.77E-01	1.79E-01	1.81E-01	1.84E-01	1.77E-01	1.80E-01
Std Dev Biased	2.08E-03	1.15E-03	2.00E-03	1.53E-03	1.15E-03	1.00E-03	1.53E-03
Ps90%/90% (+KTL) Biased	1.84E-01	1.82E-01	1.88E-01	1.88E-01	1.89E-01	1.81E-01	1.86E-01
Ps90%/90% (-KTL) Biased	1.66E-01	1.72E-01	1.70E-01	1.75E-01	1.79E-01	1.73E-01	1.73E-01
Un-Biased Statistics							
Average Un-Biased	1.76E-01	1.80E-01	1.81E-01	1.82E-01	1.84E-01	1.78E-01	1.81E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	1.76E-01	1.80E-01	1.81E-01	1.82E-01	1.84E-01	1.78E-01	1.81E-01
Ps90%/90% (-KTL) Un-Biased	1.76E-01	1.80E-01	1.81E-01	1.82E-01	1.84E-01	1.78E-01	1.81E-01
Specification MAX	3.70E-01	4.00E-01	4.00E-01	4.25E-01	4.50E-01	4.50E-01	4.50E-01
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



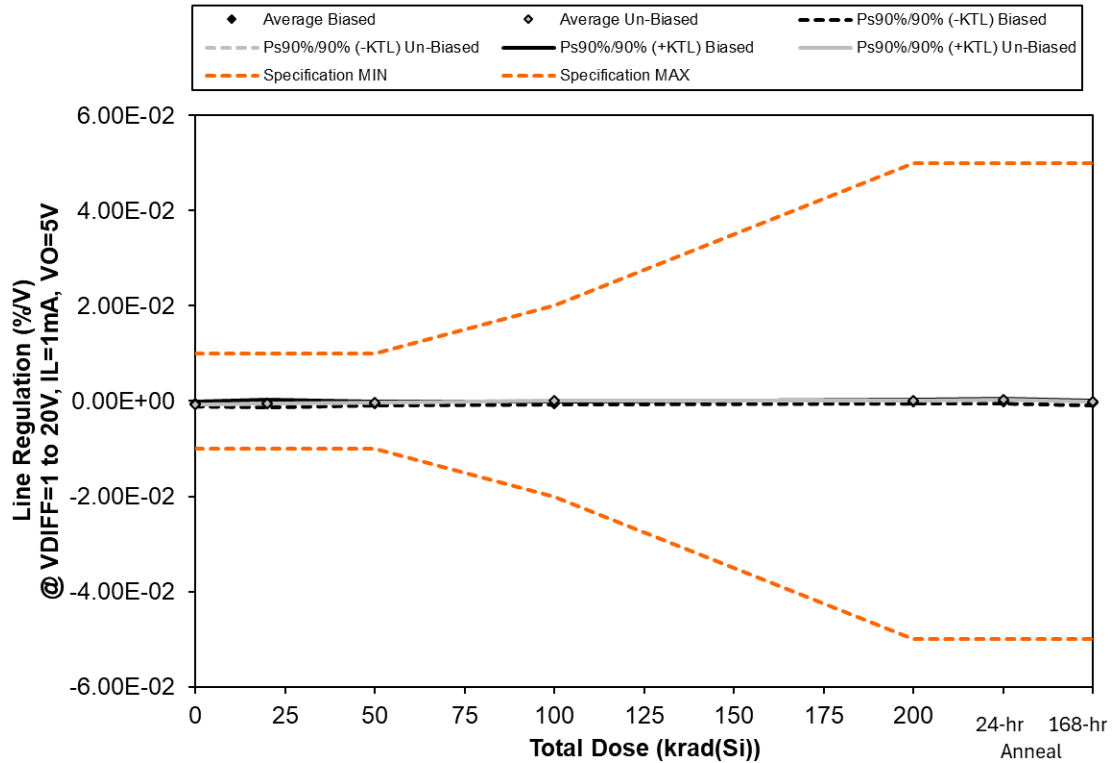
Dropout Voltage 2 (V) @ IL=3A, VO=5V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	7.04E-01	7.12E-01	7.10E-01	7.11E-01	7.12E-01	7.01E-01	7.12E-01
92	7.30E-01	7.26E-01	7.23E-01	7.23E-01	7.23E-01	7.08E-01	7.24E-01
93	7.29E-01	7.17E-01	7.16E-01	7.19E-01	7.20E-01	7.07E-01	7.18E-01
95	7.19E-01	7.20E-01	7.19E-01	7.14E-01	7.09E-01	7.02E-01	7.14E-01
96	7.19E-01	7.17E-01	7.17E-01	7.18E-01	7.20E-01	7.12E-01	7.14E-01
Biased Statistics							
Average Biased	7.21E-01	7.18E-01	7.16E-01	7.18E-01	7.18E-01	7.05E-01	7.18E-01
Std Dev Biased	1.47E-02	7.09E-03	6.51E-03	6.11E-03	5.69E-03	3.79E-03	6.00E-03
Ps90%/90% (+KTL) Biased	7.84E-01	7.49E-01	7.44E-01	7.44E-01	7.43E-01	7.21E-01	7.44E-01
Ps90%/90% (-KTL) Biased	6.58E-01	6.88E-01	6.89E-01	6.92E-01	6.94E-01	6.89E-01	6.92E-01
Un-Biased Statistics							
Average Un-Biased	7.19E-01	7.20E-01	7.19E-01	7.14E-01	7.09E-01	7.02E-01	7.14E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	7.19E-01	7.20E-01	7.19E-01	7.14E-01	7.09E-01	7.02E-01	7.14E-01
Ps90%/90% (-KTL) Un-Biased	7.19E-01	7.20E-01	7.19E-01	7.14E-01	7.09E-01	7.02E-01	7.14E-01
Specification MAX	1.00E+00	1.00E+00	1.00E+00	1.05E+00	1.10E+00	1.10E+00	1.10E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



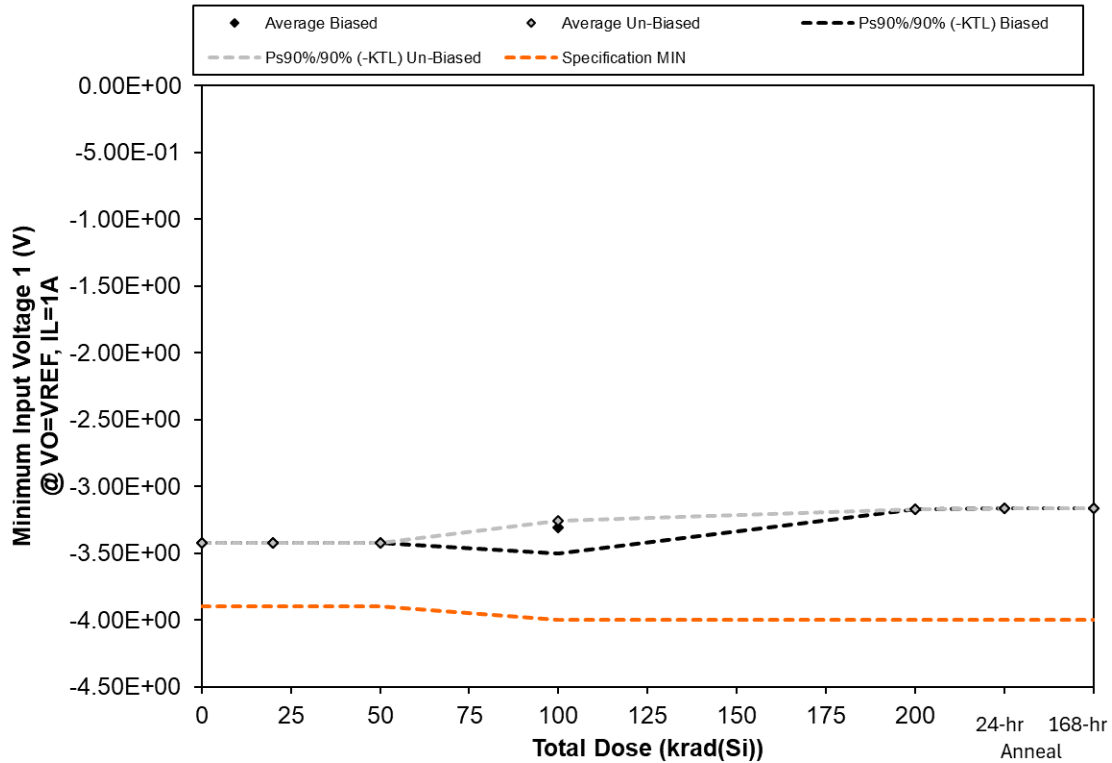
Load Regulation 1 (%) @ VIN=-6.5V, IL=5mA to 3A	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device	0	20	50	100	200		
91	1.06E-01	1.33E-01	1.47E-01	1.67E-01	2.10E-01	1.87E-01	1.57E-01
92	1.03E-01	1.32E-01	1.56E-01	1.76E-01	2.32E-01	2.06E-01	1.68E-01
93	1.00E-01	1.19E-01	1.43E-01	1.68E-01	1.96E-01	1.87E-01	1.53E-01
95	1.17E-01	1.30E-01	1.43E-01	1.74E-01	2.19E-01	2.17E-01	1.62E-01
96	1.09E-01	1.04E-01	1.03E-01	1.09E-01	1.09E-01	1.06E-01	1.06E-01
Biased Statistics							
Average Biased	1.03E-01	1.28E-01	1.49E-01	1.70E-01	2.13E-01	1.93E-01	1.59E-01
Std Dev Biased	3.00E-03	7.81E-03	6.66E-03	4.93E-03	1.81E-02	1.10E-02	7.77E-03
Ps90%/90% (+KTL) Biased	1.16E-01	1.61E-01	1.77E-01	1.91E-01	2.90E-01	2.40E-01	1.92E-01
Ps90%/90% (-KTL) Biased	9.02E-02	9.47E-02	1.20E-01	1.49E-01	1.35E-01	1.47E-01	1.26E-01
Un-Biased Statistics							
Average Un-Biased	1.17E-01	1.30E-01	1.43E-01	1.74E-01	2.19E-01	2.17E-01	1.62E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	1.17E-01	1.30E-01	1.43E-01	1.74E-01	2.19E-01	2.17E-01	1.62E-01
Ps90%/90% (-KTL) Un-Biased	1.17E-01	1.30E-01	1.43E-01	1.74E-01	2.19E-01	2.17E-01	1.62E-01
Specification MIN	-3.00E-01	-4.00E-01	-5.00E-01	-8.00E-01	-1.00E+00	-1.00E+00	-1.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	3.00E-01	4.00E-01	5.00E-01	8.00E-01	1.00E+00	1.00E+00	1.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



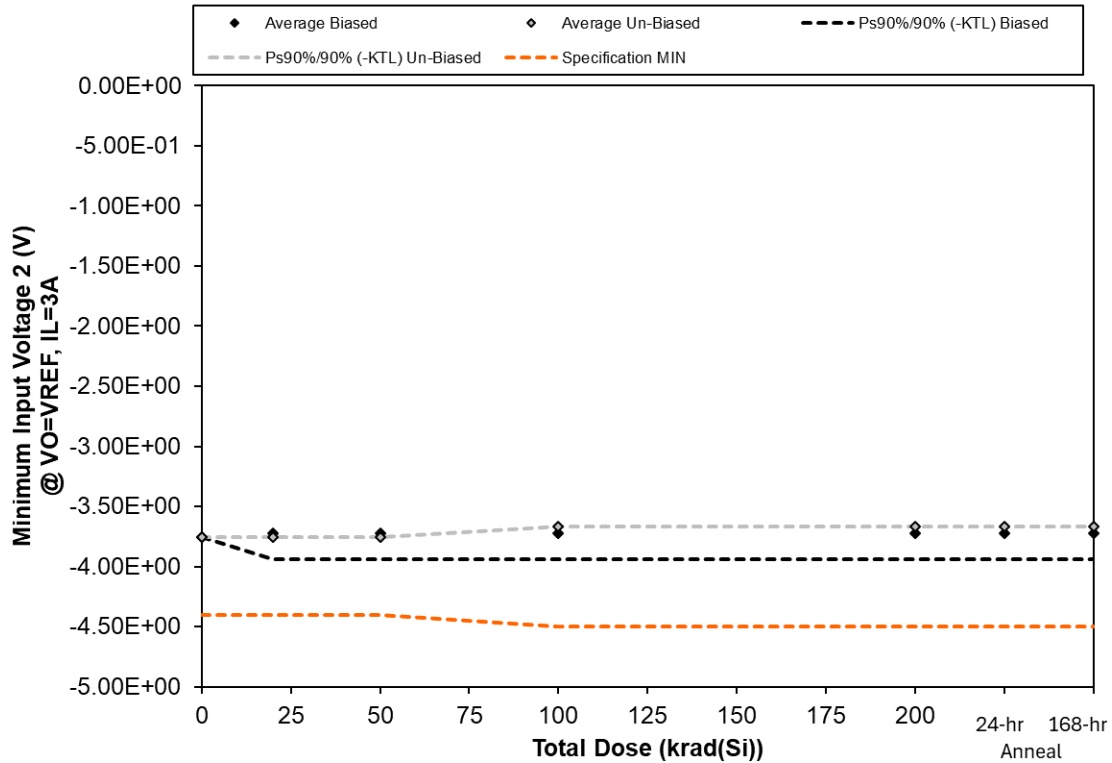
Load Regulation 2 (%) @ VIN=-15V, IL=5mA to 3A	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device	0	20	50	100	200		
91	2.90E-02	5.10E-02	4.60E-02	6.50E-02	9.20E-02	7.50E-02	6.50E-02
92	4.10E-02	5.30E-02	6.00E-02	7.10E-02	9.90E-02	8.30E-02	6.70E-02
93	2.40E-02	4.10E-02	4.90E-02	6.60E-02	8.10E-02	7.00E-02	6.00E-02
95	3.10E-02	4.10E-02	5.50E-02	7.60E-02	9.40E-02	9.10E-02	6.10E-02
96	3.80E-02	3.50E-02	3.40E-02	3.20E-02	3.10E-02	3.40E-02	3.40E-02
Biased Statistics							
Average Biased	3.13E-02	4.83E-02	5.17E-02	6.73E-02	9.07E-02	7.60E-02	6.40E-02
Std Dev Biased	8.74E-03	6.43E-03	7.37E-03	3.21E-03	9.07E-03	6.56E-03	3.61E-03
Ps90%/90% (+KTL) Biased	6.85E-02	7.57E-02	8.31E-02	8.10E-02	1.29E-01	1.04E-01	7.94E-02
Ps90%/90% (-KTL) Biased	-5.88E-03	2.10E-02	2.03E-02	5.36E-02	5.20E-02	4.81E-02	4.86E-02
Un-Biased Statistics							
Average Un-Biased	3.10E-02	4.10E-02	5.50E-02	7.60E-02	9.40E-02	9.10E-02	6.10E-02
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.10E-02	4.10E-02	5.50E-02	7.60E-02	9.40E-02	9.10E-02	6.10E-02
Ps90%/90% (-KTL) Un-Biased	3.10E-02	4.10E-02	5.50E-02	7.60E-02	9.40E-02	9.10E-02	6.10E-02
Specification MIN	-3.00E-01	-4.00E-01	-5.00E-01	-8.00E-01	-1.00E+00	-1.00E+00	-1.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	3.00E-01	4.00E-01	5.00E-01	8.00E-01	1.00E+00	1.00E+00	1.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



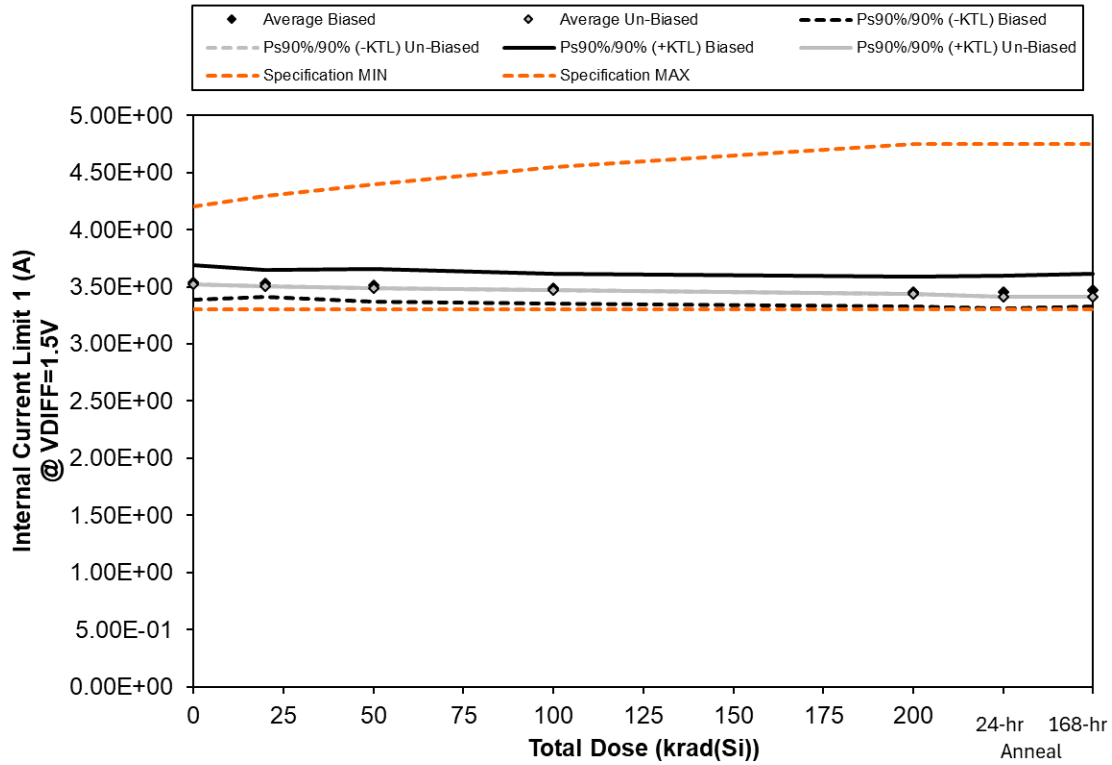
Line Regulation (%/V) @ VDIFF=1 to 20V, IL=1mA, VO=5V	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	-5.00E-04	-7.00E-04	-4.00E-04	-5.00E-04	-2.00E-04	0.00E+00	-4.00E-04
92	-7.00E-04	-5.00E-04	-6.00E-04	-4.00E-04	-1.00E-04	-2.00E-04	-5.00E-04
93	-5.00E-04	-3.00E-04	-5.00E-04	-4.00E-04	0.00E+00	0.00E+00	-3.00E-04
95	-7.00E-04	-5.00E-04	-4.00E-04	0.00E+00	0.00E+00	2.00E-04	-2.00E-04
96	-6.00E-04	-6.00E-04	-5.00E-04	-6.00E-04	-7.00E-04	-6.00E-04	-6.00E-04
Biased Statistics							
Average Biased	-5.67E-04	-5.00E-04	-5.00E-04	-4.33E-04	-1.00E-04	-6.67E-05	-4.00E-04
Std Dev Biased	1.15E-04	2.00E-04	1.00E-04	5.77E-05	1.00E-04	1.15E-04	1.00E-04
Ps90%/90% (+KTL) Biased	-7.49E-05	3.52E-04	-7.41E-05	-1.87E-04	3.26E-04	4.25E-04	2.59E-05
Ps90%/90% (-KTL) Biased	-1.06E-03	-1.35E-03	-9.26E-04	-6.79E-04	-5.26E-04	-5.58E-04	-8.26E-04
Un-Biased Statistics							
Average Un-Biased	-7.00E-04	-5.00E-04	-4.00E-04	0.00E+00	0.00E+00	2.00E-04	-2.00E-04
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	-7.00E-04	-5.00E-04	-4.00E-04	0.00E+00	0.00E+00	2.00E-04	-2.00E-04
Ps90%/90% (-KTL) Un-Biased	-7.00E-04	-5.00E-04	-4.00E-04	0.00E+00	0.00E+00	2.00E-04	-2.00E-04
Specification MIN	-1.00E-02	-1.00E-02	-1.00E-02	-2.00E-02	-5.00E-02	-5.00E-02	-5.00E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	1.00E-02	1.00E-02	1.00E-02	2.00E-02	5.00E-02	5.00E-02	5.00E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



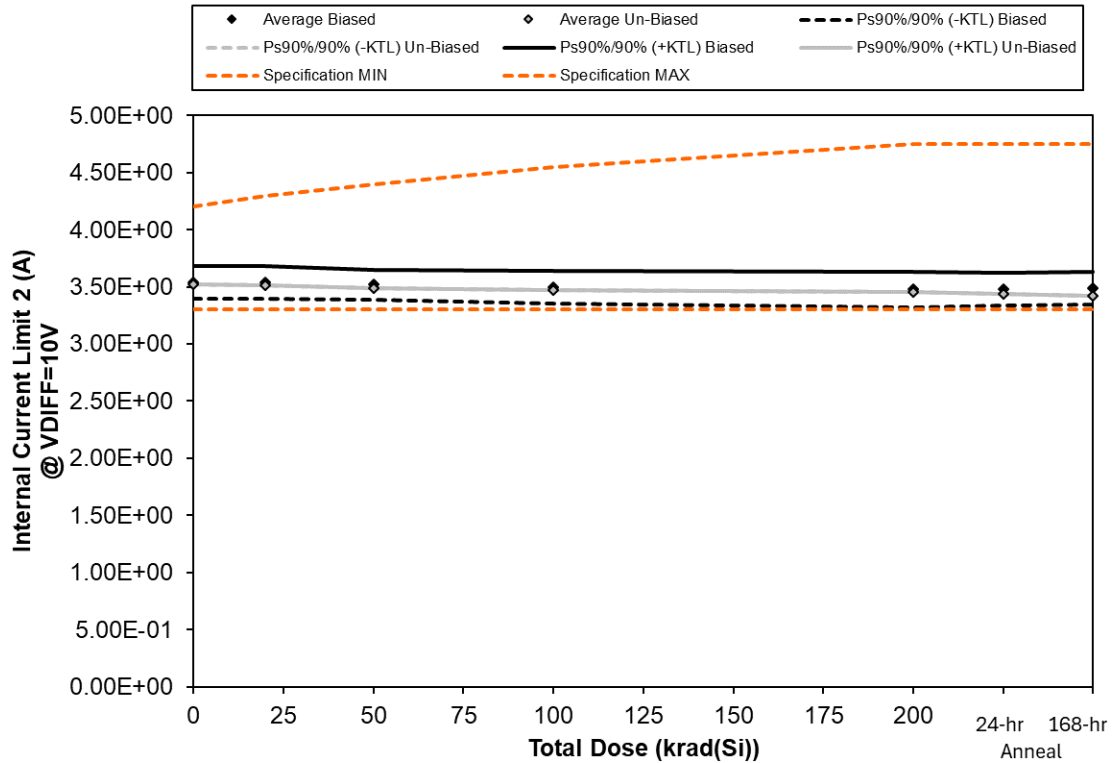
Minimum Input Voltage 1 (V) @ VO=VREF, IL=1A	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	-3.42E+00	-3.42E+00	-3.42E+00	-3.34E+00	-3.17E+00	-3.17E+00	-3.17E+00
92	-3.42E+00	-3.42E+00	-3.42E+00	-3.26E+00	-3.17E+00	-3.17E+00	-3.17E+00
93	-3.42E+00	-3.42E+00	-3.42E+00	-3.34E+00	-3.17E+00	-3.17E+00	-3.17E+00
95	-3.42E+00	-3.42E+00	-3.42E+00	-3.26E+00	-3.17E+00	-3.17E+00	-3.17E+00
96	-3.42E+00	-3.42E+00	-3.42E+00	-3.42E+00	-3.42E+00	-3.42E+00	-3.42E+00
Biased Statistics							
Average Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.31E+00	-3.17E+00	-3.17E+00	-3.17E+00
Std Dev Biased	0.00E+00	0.00E+00	0.00E+00	4.62E-02	5.44E-16	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.11E+00	-3.17E+00	-3.17E+00	-3.17E+00
Ps90%/90% (-KTL) Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.51E+00	-3.17E+00	-3.17E+00	-3.17E+00
Un-Biased Statistics							
Average Un-Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.26E+00	-3.17E+00	-3.17E+00	-3.17E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.26E+00	-3.17E+00	-3.17E+00	-3.17E+00
Ps90%/90% (-KTL) Un-Biased	-3.42E+00	-3.42E+00	-3.42E+00	-3.26E+00	-3.17E+00	-3.17E+00	-3.17E+00
Specification MIN	-3.90E+00	-3.90E+00	-3.90E+00	-4.00E+00	-4.00E+00	-4.00E+00	-4.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



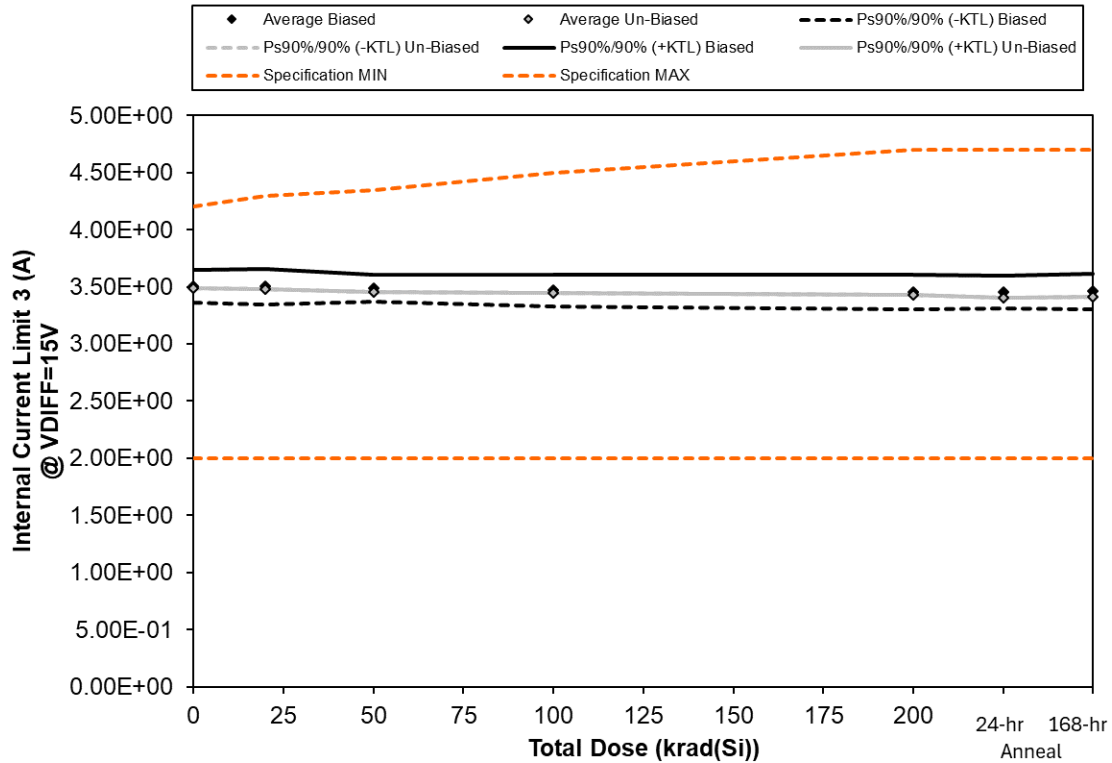
Minimum Input Voltage 2 (V) @ VO=VREF, IL=3A	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.75E+00	-3.75E+00
92	-3.76E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00
93	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.75E+00	-3.75E+00
95	-3.76E+00	-3.76E+00	-3.76E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00
96	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.76E+00	-3.75E+00	-3.75E+00
Biased Statistics							
Average Biased	-3.76E+00	-3.73E+00	-3.73E+00	-3.73E+00	-3.73E+00	-3.72E+00	-3.73E+00
Std Dev Biased	5.44E-16	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02
Ps90%/90% (+KTL) Biased	-3.76E+00	-3.51E+00	-3.51E+00	-3.51E+00	-3.51E+00	-3.51E+00	-3.51E+00
Ps90%/90% (-KTL) Biased	-3.76E+00	-3.94E+00	-3.94E+00	-3.94E+00	-3.94E+00	-3.94E+00	-3.94E+00
Un-Biased Statistics							
Average Un-Biased	-3.76E+00	-3.76E+00	-3.76E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	-3.76E+00	-3.76E+00	-3.76E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00
Ps90%/90% (-KTL) Un-Biased	-3.76E+00	-3.76E+00	-3.76E+00	-3.67E+00	-3.67E+00	-3.67E+00	-3.67E+00
Specification MIN	-4.40E+00	-4.40E+00	-4.40E+00	-4.50E+00	-4.50E+00	-4.50E+00	-4.50E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



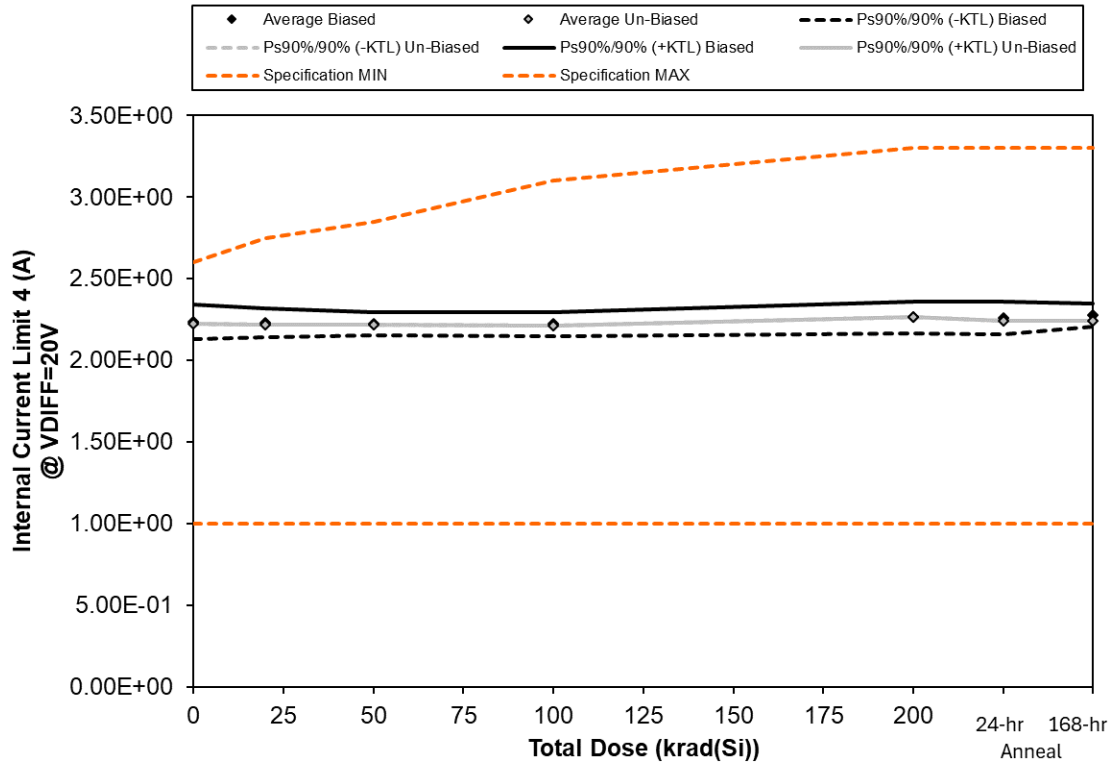
Internal Current Limit 1 (A) @ VDIFF=1.5V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	3.50E+00	3.50E+00	3.48E+00	3.46E+00	3.43E+00	3.42E+00	3.44E+00
92	3.58E+00	3.56E+00	3.55E+00	3.52E+00	3.49E+00	3.49E+00	3.50E+00
93	3.54E+00	3.53E+00	3.51E+00	3.49E+00	3.46E+00	3.46E+00	3.46E+00
95	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.44E+00	3.42E+00	3.41E+00
96	3.47E+00	3.47E+00	3.47E+00	3.47E+00	3.47E+00	3.47E+00	3.47E+00
Biased Statistics							
Average Biased	3.54E+00	3.53E+00	3.51E+00	3.49E+00	3.46E+00	3.45E+00	3.47E+00
Std Dev Biased	3.60E-02	2.75E-02	3.30E-02	3.05E-02	3.05E-02	3.35E-02	3.37E-02
Ps90%/90% (+KTL) Biased	3.69E+00	3.65E+00	3.65E+00	3.62E+00	3.59E+00	3.60E+00	3.61E+00
Ps90%/90% (-KTL) Biased	3.38E+00	3.41E+00	3.37E+00	3.36E+00	3.33E+00	3.31E+00	3.32E+00
Un-Biased Statistics							
Average Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.44E+00	3.42E+00	3.41E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.44E+00	3.42E+00	3.41E+00
Ps90%/90% (-KTL) Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.44E+00	3.42E+00	3.41E+00
Specification MIN	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	4.20E+00	4.30E+00	4.40E+00	4.55E+00	4.75E+00	4.75E+00	4.75E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



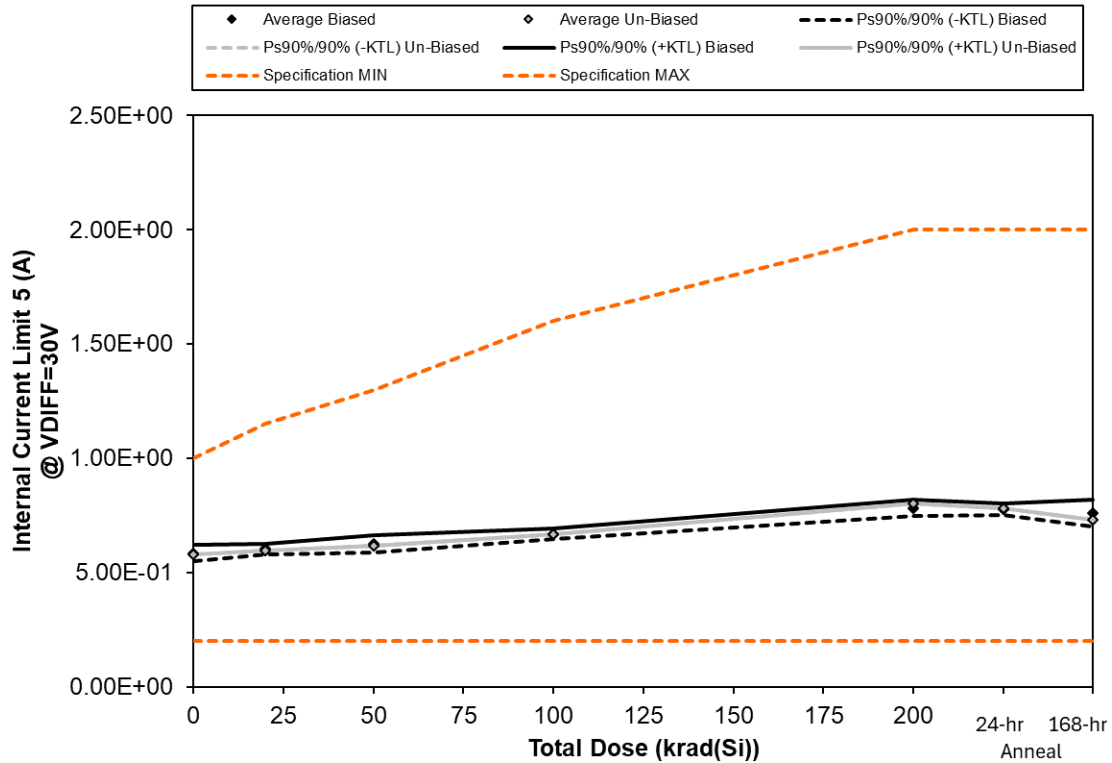
Internal Current Limit 2 (A) @ VDIFF=10V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	3.51E+00	3.50E+00	3.49E+00	3.47E+00	3.44E+00	3.44E+00	3.45E+00
92	3.58E+00	3.57E+00	3.55E+00	3.54E+00	3.51E+00	3.51E+00	3.52E+00
93	3.54E+00	3.54E+00	3.52E+00	3.50E+00	3.48E+00	3.48E+00	3.48E+00
95	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.46E+00	3.44E+00	3.43E+00
96	3.48E+00	3.47E+00	3.47E+00	3.47E+00	3.47E+00	3.48E+00	3.48E+00
Biased Statistics							
Average Biased	3.54E+00	3.54E+00	3.52E+00	3.50E+00	3.48E+00	3.48E+00	3.48E+00
Std Dev Biased	3.35E-02	3.35E-02	3.09E-02	3.37E-02	3.60E-02	3.32E-02	3.37E-02
Ps90%/90% (+KTL) Biased	3.68E+00	3.68E+00	3.65E+00	3.64E+00	3.63E+00	3.62E+00	3.63E+00
Ps90%/90% (-KTL) Biased	3.40E+00	3.39E+00	3.39E+00	3.36E+00	3.32E+00	3.34E+00	3.34E+00
Un-Biased Statistics							
Average Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.46E+00	3.44E+00	3.43E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.46E+00	3.44E+00	3.43E+00
Ps90%/90% (-KTL) Un-Biased	3.52E+00	3.51E+00	3.49E+00	3.47E+00	3.46E+00	3.44E+00	3.43E+00
Specification MIN	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00	3.30E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	4.20E+00	4.30E+00	4.40E+00	4.55E+00	4.75E+00	4.75E+00	4.75E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



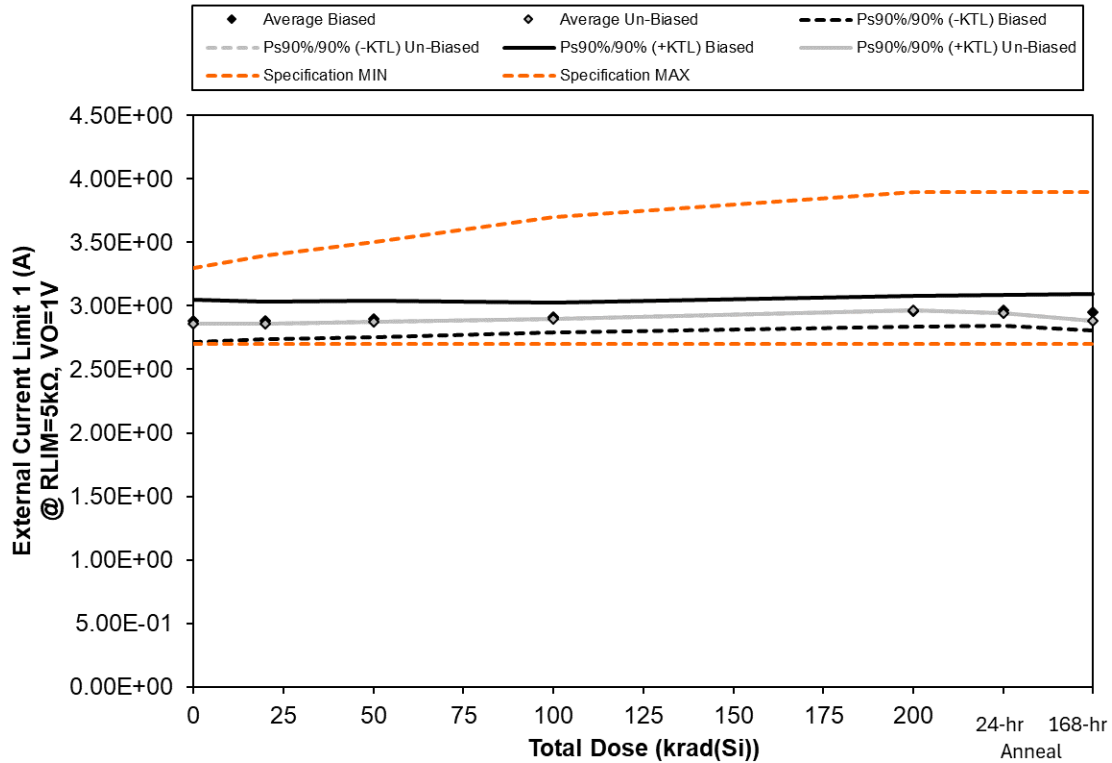
Internal Current Limit 3 (A) @ VDIFF=15V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	3.48E+00	3.47E+00	3.46E+00	3.44E+00	3.42E+00	3.42E+00	3.43E+00
92	3.54E+00	3.54E+00	3.52E+00	3.50E+00	3.49E+00	3.49E+00	3.50E+00
93	3.50E+00	3.50E+00	3.49E+00	3.47E+00	3.45E+00	3.46E+00	3.46E+00
95	3.49E+00	3.48E+00	3.46E+00	3.45E+00	3.43E+00	3.41E+00	3.41E+00
96	3.45E+00	3.45E+00	3.44E+00	3.44E+00	3.44E+00	3.44E+00	3.44E+00
Biased Statistics							
Average Biased	3.51E+00	3.50E+00	3.49E+00	3.47E+00	3.45E+00	3.46E+00	3.46E+00
Std Dev Biased	3.37E-02	3.64E-02	2.77E-02	3.30E-02	3.60E-02	3.37E-02	3.60E-02
Ps90%/90% (+KTL) Biased	3.65E+00	3.66E+00	3.61E+00	3.61E+00	3.61E+00	3.60E+00	3.61E+00
Ps90%/90% (-KTL) Biased	3.36E+00	3.35E+00	3.37E+00	3.33E+00	3.30E+00	3.31E+00	3.31E+00
Un-Biased Statistics							
Average Un-Biased	3.49E+00	3.48E+00	3.46E+00	3.45E+00	3.43E+00	3.41E+00	3.41E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.49E+00	3.48E+00	3.46E+00	3.45E+00	3.43E+00	3.41E+00	3.41E+00
Ps90%/90% (-KTL) Un-Biased	3.49E+00	3.48E+00	3.46E+00	3.45E+00	3.43E+00	3.41E+00	3.41E+00
Specification MIN	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00	2.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	4.20E+00	4.30E+00	4.35E+00	4.50E+00	4.70E+00	4.70E+00	4.70E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



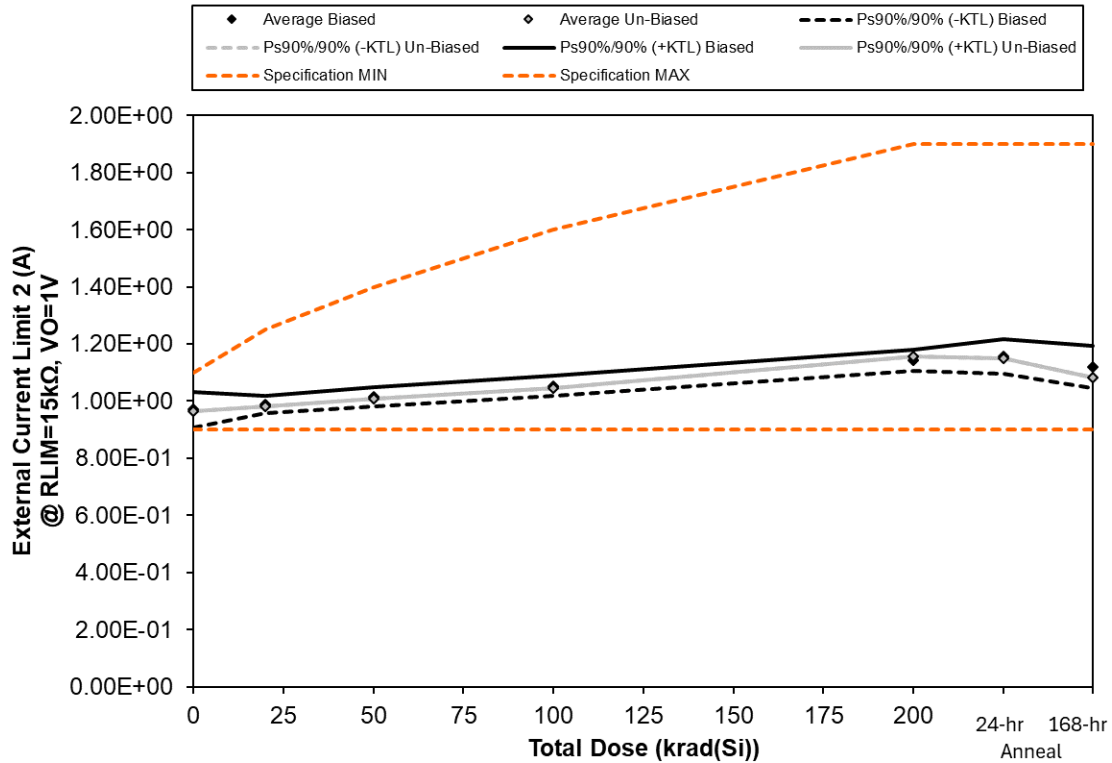
Internal Current Limit 4 (A) @ VDIFF=20V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	2.21E+00	2.21E+00	2.21E+00	2.21E+00	2.24E+00	2.23E+00	2.26E+00
92	2.26E+00	2.25E+00	2.24E+00	2.24E+00	2.29E+00	2.28E+00	2.29E+00
93	2.23E+00	2.22E+00	2.22E+00	2.22E+00	2.26E+00	2.27E+00	2.28E+00
95	2.23E+00	2.22E+00	2.22E+00	2.21E+00	2.26E+00	2.24E+00	2.24E+00
96	2.20E+00	2.20E+00	2.21E+00	2.20E+00	2.21E+00	2.21E+00	2.20E+00
Biased Statistics							
Average Biased	2.24E+00	2.23E+00	2.22E+00	2.22E+00	2.26E+00	2.26E+00	2.28E+00
Std Dev Biased	2.54E-02	2.01E-02	1.60E-02	1.68E-02	2.25E-02	2.35E-02	1.65E-02
Ps90%/90% (+KTL) Biased	2.34E+00	2.32E+00	2.29E+00	2.29E+00	2.36E+00	2.36E+00	2.35E+00
Ps90%/90% (-KTL) Biased	2.13E+00	2.14E+00	2.16E+00	2.15E+00	2.17E+00	2.16E+00	2.21E+00
Un-Biased Statistics							
Average Un-Biased	2.23E+00	2.22E+00	2.22E+00	2.21E+00	2.26E+00	2.24E+00	2.24E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	2.23E+00	2.22E+00	2.22E+00	2.21E+00	2.26E+00	2.24E+00	2.24E+00
Ps90%/90% (-KTL) Un-Biased	2.23E+00	2.22E+00	2.22E+00	2.21E+00	2.26E+00	2.24E+00	2.24E+00
Specification MIN	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	2.60E+00	2.75E+00	2.85E+00	3.10E+00	3.30E+00	3.30E+00	3.30E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



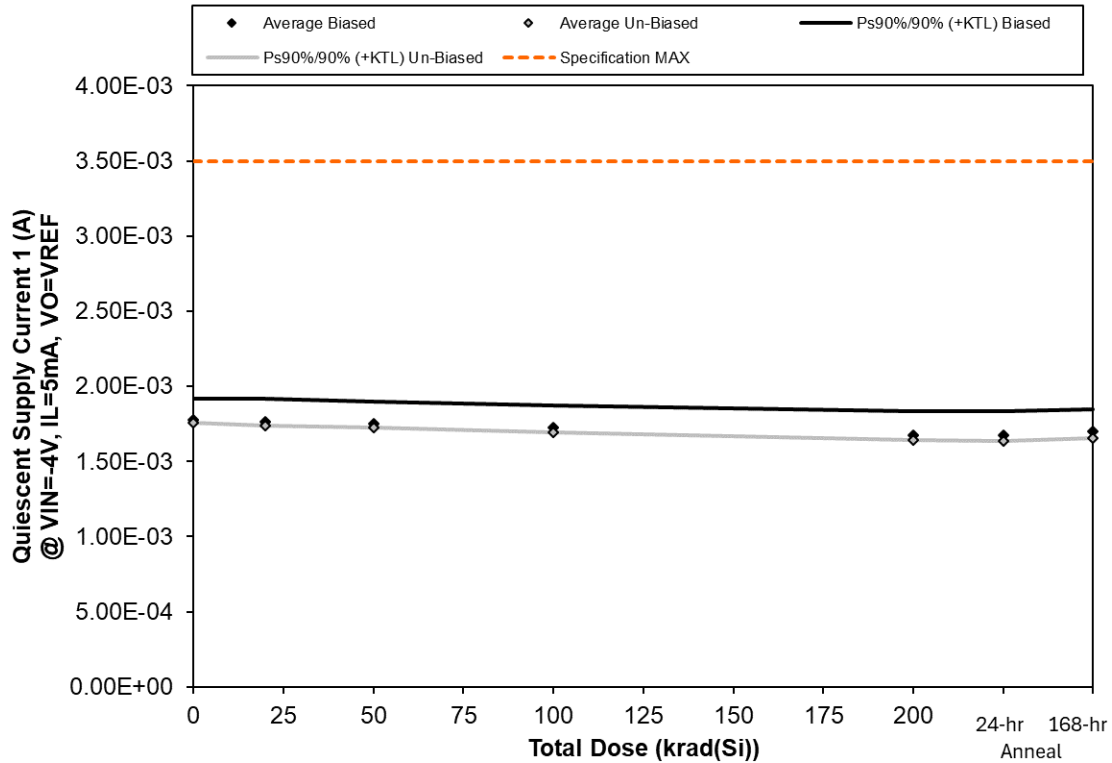
Internal Current Limit 5 (A) @ VDIFF=30V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	5.86E-01	6.02E-01	6.24E-01	6.68E-01	7.74E-01	7.71E-01	7.59E-01
92	5.92E-01	6.08E-01	6.35E-01	6.74E-01	7.90E-01	7.82E-01	7.75E-01
93	5.75E-01	5.97E-01	6.18E-01	6.63E-01	7.85E-01	7.77E-01	7.48E-01
95	5.81E-01	5.97E-01	6.18E-01	6.68E-01	8.02E-01	7.82E-01	7.31E-01
96	5.86E-01	5.91E-01	5.90E-01	5.85E-01	5.85E-01	5.88E-01	5.87E-01
Biased Statistics							
Average Biased	5.84E-01	6.02E-01	6.26E-01	6.68E-01	7.83E-01	7.77E-01	7.61E-01
Std Dev Biased	8.62E-03	5.51E-03	8.62E-03	5.51E-03	8.19E-03	5.51E-03	1.36E-02
Ps90%/90% (+KTL) Biased	6.21E-01	6.26E-01	6.62E-01	6.92E-01	8.18E-01	8.00E-01	8.18E-01
Ps90%/90% (-KTL) Biased	5.48E-01	5.79E-01	5.89E-01	6.45E-01	7.48E-01	7.53E-01	7.03E-01
Un-Biased Statistics							
Average Un-Biased	5.81E-01	5.97E-01	6.18E-01	6.68E-01	8.02E-01	7.82E-01	7.31E-01
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	5.81E-01	5.97E-01	6.18E-01	6.68E-01	8.02E-01	7.82E-01	7.31E-01
Ps90%/90% (-KTL) Un-Biased	5.81E-01	5.97E-01	6.18E-01	6.68E-01	8.02E-01	7.82E-01	7.31E-01
Specification MIN	2.00E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01	2.00E-01
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	1.00E+00	1.15E+00	1.30E+00	1.60E+00	2.00E+00	2.00E+00	2.00E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



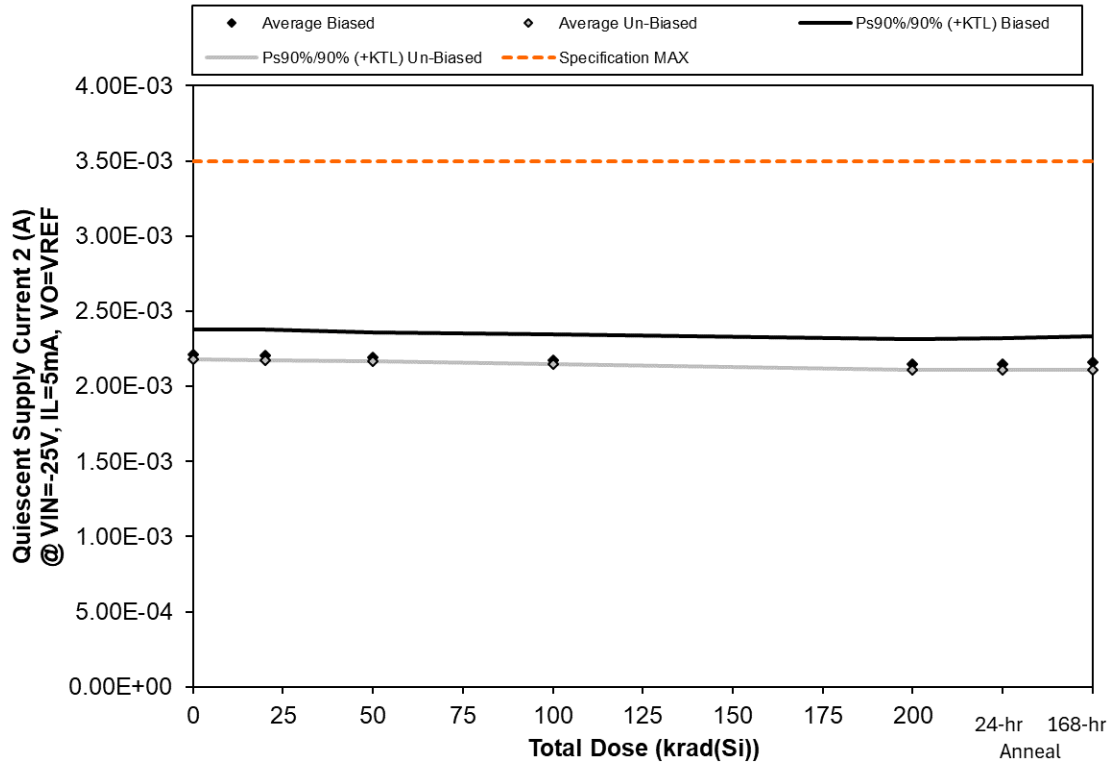
External Current Limit 1 (A) @ RLIM=5kΩ, VO=1V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	2.85E+00	2.86E+00	2.87E+00	2.89E+00	2.94E+00	2.94E+00	2.93E+00
92	2.93E+00	2.92E+00	2.94E+00	2.94E+00	2.99E+00	3.00E+00	2.99E+00
93	2.86E+00	2.87E+00	2.88E+00	2.90E+00	2.95E+00	2.96E+00	2.94E+00
95	2.86E+00	2.86E+00	2.87E+00	2.90E+00	2.96E+00	2.94E+00	2.88E+00
96	2.92E+00	2.92E+00	2.92E+00	2.92E+00	2.92E+00	2.92E+00	2.92E+00
Biased Statistics							
Average Biased	2.88E+00	2.89E+00	2.90E+00	2.91E+00	2.96E+00	2.97E+00	2.95E+00
Std Dev Biased	3.88E-02	3.44E-02	3.39E-02	2.83E-02	2.83E-02	2.83E-02	3.39E-02
Ps90%/90% (+KTL) Biased	3.05E+00	3.03E+00	3.04E+00	3.03E+00	3.08E+00	3.09E+00	3.10E+00
Ps90%/90% (-KTL) Biased	2.72E+00	2.74E+00	2.75E+00	2.79E+00	2.84E+00	2.85E+00	2.81E+00
Un-Biased Statistics							
Average Un-Biased	2.86E+00	2.86E+00	2.87E+00	2.90E+00	2.96E+00	2.94E+00	2.88E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	2.86E+00	2.86E+00	2.87E+00	2.90E+00	2.96E+00	2.94E+00	2.88E+00
Ps90%/90% (-KTL) Un-Biased	2.86E+00	2.86E+00	2.87E+00	2.90E+00	2.96E+00	2.94E+00	2.88E+00
Specification MIN	2.70E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00	2.70E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	3.30E+00	3.40E+00	3.50E+00	3.70E+00	3.90E+00	3.90E+00	3.90E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



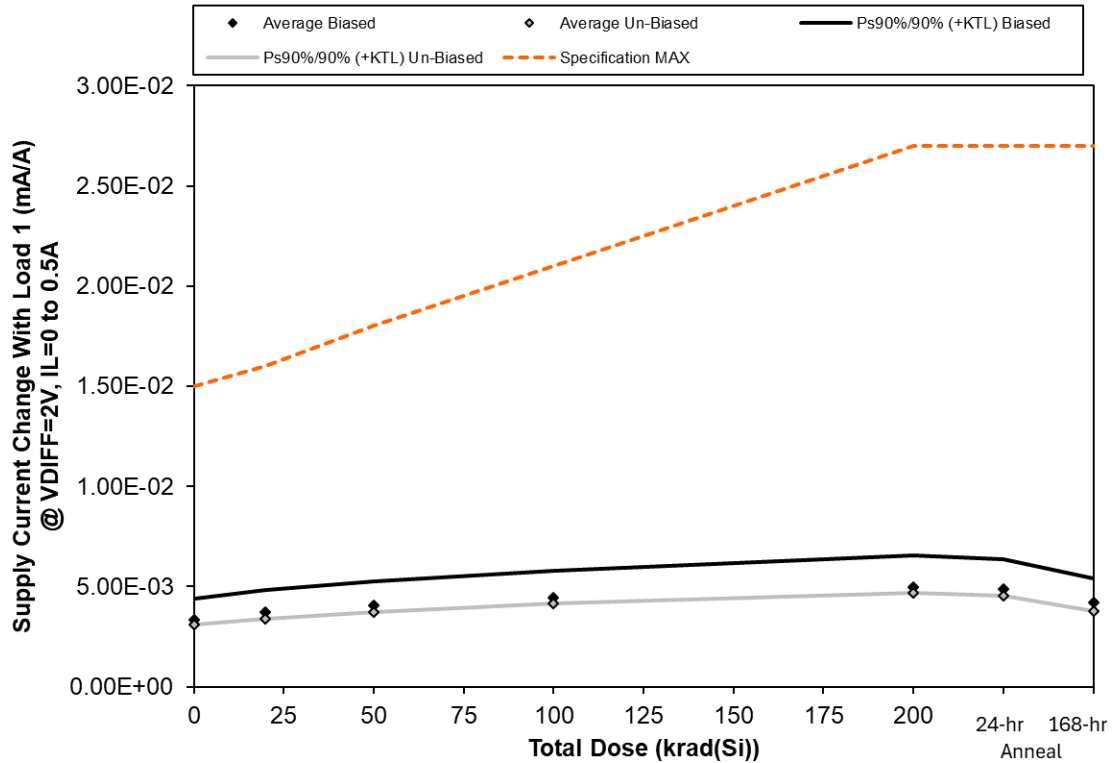
External Current Limit 2 (A) @ RLIM=15kΩ, VO=1V	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	9.64E-01	9.85E-01	1.01E+00	1.05E+00	1.14E+00	1.14E+00	1.10E+00
92	9.86E-01	9.97E-01	1.02E+00	1.06E+00	1.15E+00	1.17E+00	1.14E+00
93	9.59E-01	9.85E-01	1.01E+00	1.05E+00	1.15E+00	1.15E+00	1.11E+00
95	9.64E-01	9.80E-01	1.01E+00	1.05E+00	1.16E+00	1.15E+00	1.08E+00
96	9.86E-01	9.85E-01	9.90E-01	9.90E-01	9.90E-01	9.88E-01	9.87E-01
Biased Statistics							
Average Biased	9.70E-01	9.89E-01	1.02E+00	1.05E+00	1.14E+00	1.16E+00	1.12E+00
Std Dev Biased	1.44E-02	6.93E-03	8.19E-03	8.62E-03	8.62E-03	1.41E-02	1.73E-02
Ps90%/90% (+KTL) Biased	1.03E+00	1.02E+00	1.05E+00	1.09E+00	1.18E+00	1.22E+00	1.19E+00
Ps90%/90% (-KTL) Biased	9.08E-01	9.59E-01	9.80E-01	1.02E+00	1.11E+00	1.10E+00	1.04E+00
Un-Biased Statistics							
Average Un-Biased	9.64E-01	9.80E-01	1.01E+00	1.05E+00	1.16E+00	1.15E+00	1.08E+00
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	9.64E-01	9.80E-01	1.01E+00	1.05E+00	1.16E+00	1.15E+00	1.08E+00
Ps90%/90% (-KTL) Un-Biased	9.64E-01	9.80E-01	1.01E+00	1.05E+00	1.16E+00	1.15E+00	1.08E+00
Specification MIN	9.00E-01	9.00E-01	9.00E-01	9.00E-01	9.00E-01	9.00E-01	9.00E-01
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Specification MAX	1.10E+00	1.25E+00	1.40E+00	1.60E+00	1.90E+00	1.90E+00	1.90E+00
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



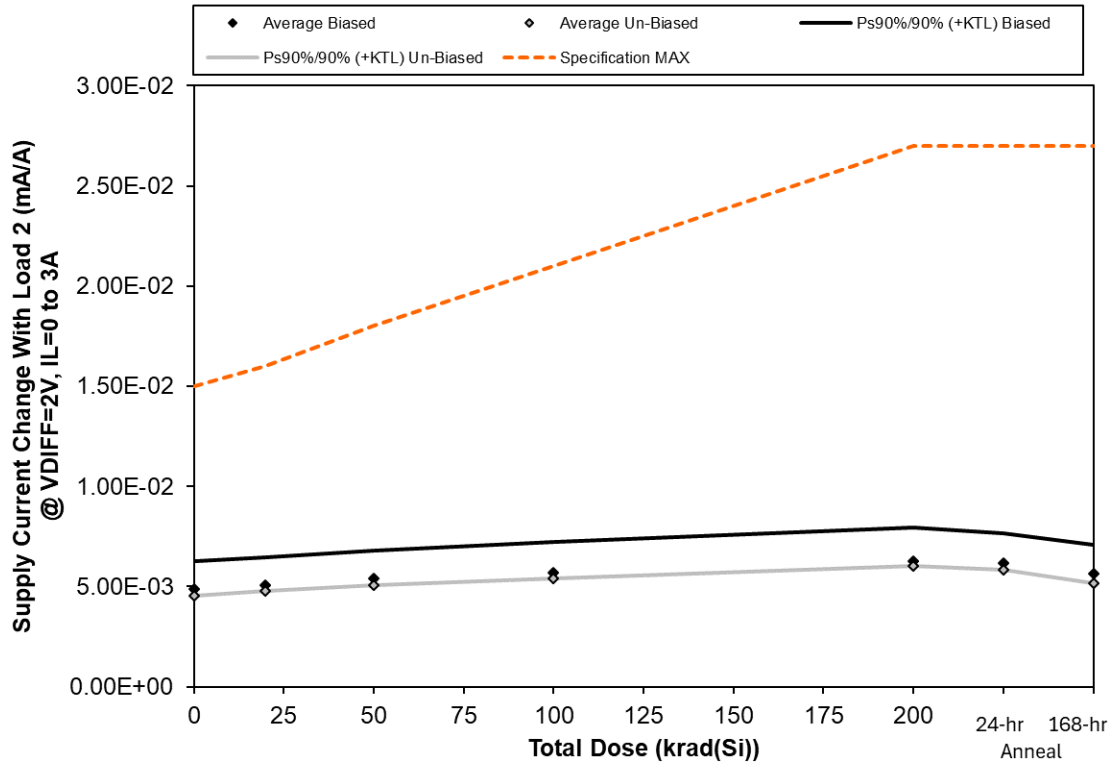
Quiescent Supply Current 1 (A) @ VIN=-4V, IL=5mA, VO=VREF	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	1.78E-03	1.77E-03	1.76E-03	1.72E-03	1.68E-03	1.68E-03	1.70E-03
92	1.74E-03	1.73E-03	1.72E-03	1.69E-03	1.64E-03	1.64E-03	1.66E-03
93	1.81E-03	1.80E-03	1.78E-03	1.76E-03	1.71E-03	1.71E-03	1.73E-03
95	1.75E-03	1.74E-03	1.72E-03	1.70E-03	1.64E-03	1.63E-03	1.65E-03
96	1.76E-03	1.76E-03	1.76E-03	1.76E-03	1.76E-03	1.76E-03	1.76E-03
Biased Statistics							
Average Biased	1.78E-03	1.77E-03	1.75E-03	1.72E-03	1.68E-03	1.68E-03	1.70E-03
Std Dev Biased	3.30E-05	3.55E-05	3.37E-05	3.55E-05	3.65E-05	3.70E-05	3.50E-05
Ps90%/90% (+KTL) Biased	1.92E-03	1.92E-03	1.90E-03	1.87E-03	1.83E-03	1.83E-03	1.85E-03
Ps90%/90% (-KTL) Biased	1.63E-03	1.61E-03	1.61E-03	1.57E-03	1.52E-03	1.52E-03	1.55E-03
Un-Biased Statistics							
Average Un-Biased	1.75E-03	1.74E-03	1.72E-03	1.70E-03	1.64E-03	1.63E-03	1.65E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	1.75E-03	1.74E-03	1.72E-03	1.70E-03	1.64E-03	1.63E-03	1.65E-03
Ps90%/90% (-KTL) Un-Biased	1.75E-03	1.74E-03	1.72E-03	1.70E-03	1.64E-03	1.63E-03	1.65E-03
Specification MAX	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



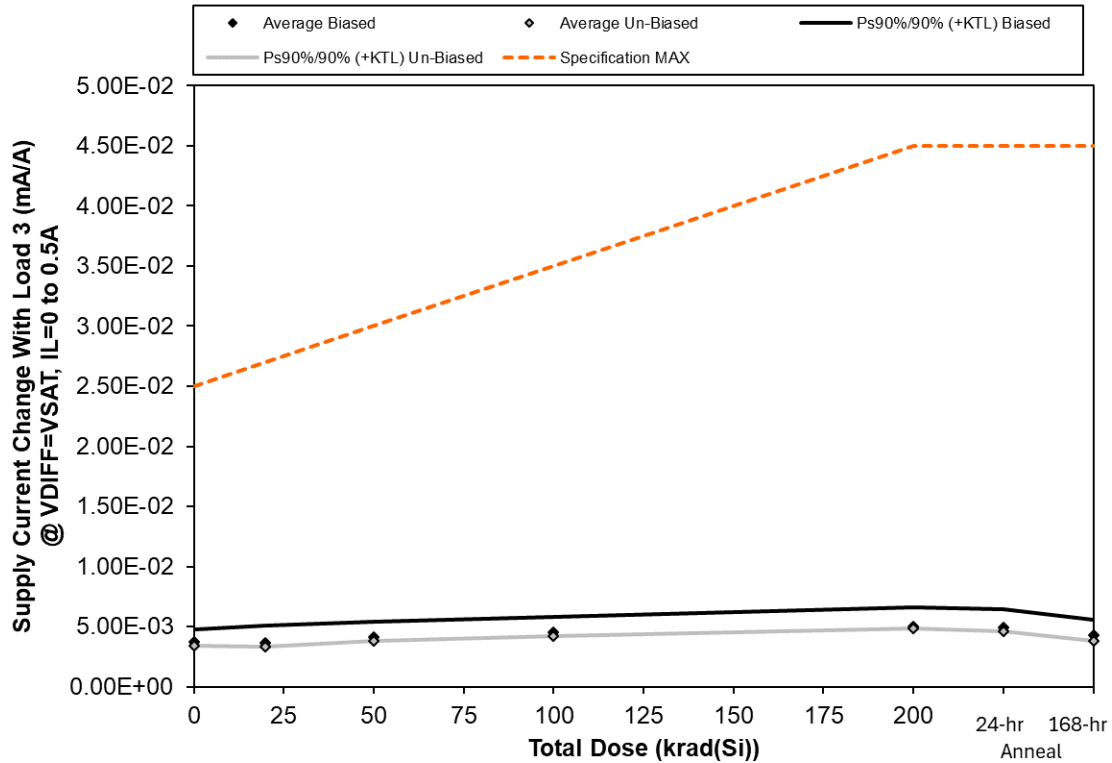
Quiescent Supply Current 2 (A) @ VIN=-25V, IL=5mA, VO=VREF	Total Dose (krad(Si))					24-hr Anneal	168-hr Anneal
	0	20	50	100	200		
Device							
91	2.21E-03	2.20E-03	2.19E-03	2.17E-03	2.14E-03	2.15E-03	2.16E-03
92	2.18E-03	2.17E-03	2.16E-03	2.14E-03	2.11E-03	2.11E-03	2.12E-03
93	2.25E-03	2.25E-03	2.23E-03	2.22E-03	2.19E-03	2.19E-03	2.20E-03
95	2.18E-03	2.18E-03	2.17E-03	2.15E-03	2.11E-03	2.11E-03	2.11E-03
96	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
Biased Statistics							
Average Biased	2.21E-03	2.21E-03	2.19E-03	2.18E-03	2.15E-03	2.15E-03	2.16E-03
Std Dev Biased	3.91E-05	3.96E-05	3.86E-05	3.96E-05	4.00E-05	4.05E-05	4.05E-05
Ps90%/90% (+KTL) Biased	2.38E-03	2.37E-03	2.36E-03	2.34E-03	2.32E-03	2.32E-03	2.33E-03
Ps90%/90% (-KTL) Biased	2.05E-03	2.04E-03	2.03E-03	2.01E-03	1.97E-03	1.98E-03	1.99E-03
Un-Biased Statistics							
Average Un-Biased	2.18E-03	2.18E-03	2.17E-03	2.15E-03	2.11E-03	2.11E-03	2.11E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	2.18E-03	2.18E-03	2.17E-03	2.15E-03	2.11E-03	2.11E-03	2.11E-03
Ps90%/90% (-KTL) Un-Biased	2.18E-03	2.18E-03	2.17E-03	2.15E-03	2.11E-03	2.11E-03	2.11E-03
Specification MAX	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



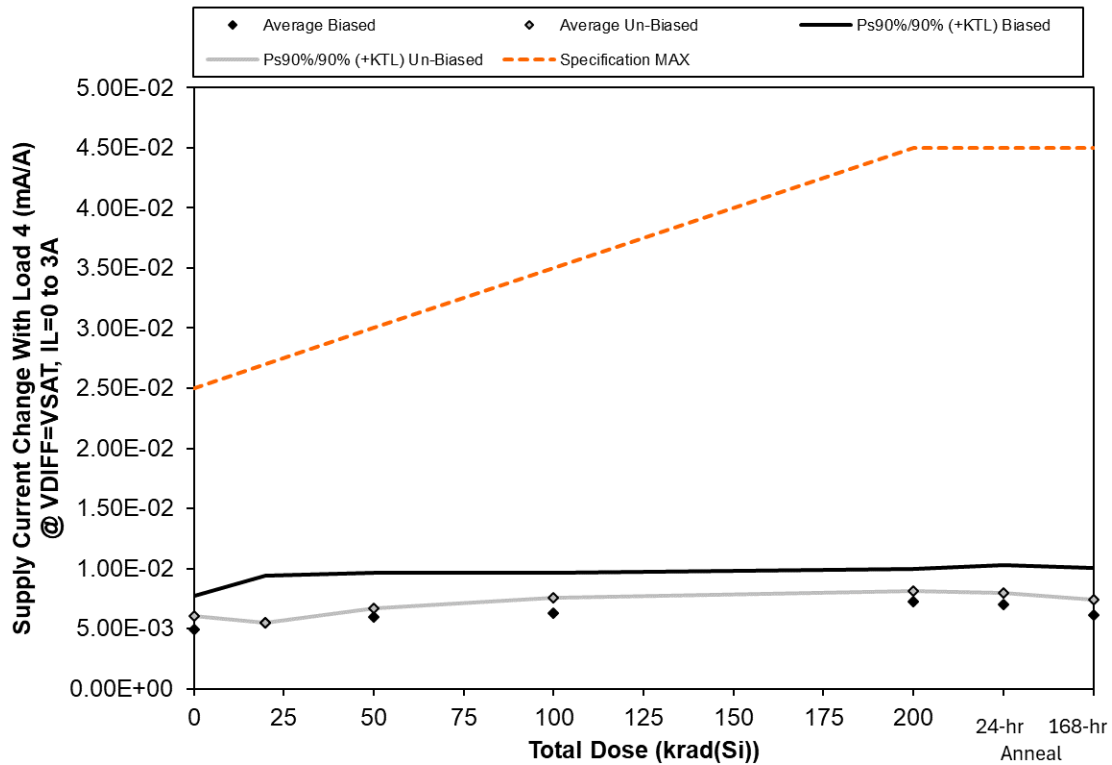
Supply Current Change With Load 1 (mA/A) @ VDIFF=2V, IL=0 to 0.5A	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	3.53E-03	3.91E-03	4.26E-03	4.68E-03	5.20E-03	5.10E-03	4.40E-03
92	3.07E-03	3.42E-03	3.74E-03	4.11E-03	4.56E-03	4.49E-03	3.91E-03
93	3.46E-03	3.84E-03	4.19E-03	4.61E-03	5.20E-03	5.10E-03	4.37E-03
95	3.09E-03	3.39E-03	3.71E-03	4.16E-03	4.70E-03	4.54E-03	3.78E-03
96	3.38E-03	3.39E-03	3.39E-03	3.38E-03	3.38E-03	3.39E-03	3.39E-03
Biased Statistics							
Average Biased	3.35E-03	3.72E-03	4.06E-03	4.47E-03	4.99E-03	4.90E-03	4.23E-03
Std Dev Biased	2.45E-04	2.64E-04	2.85E-04	3.08E-04	3.68E-04	3.50E-04	2.73E-04
Ps90%/90% (+KTL) Biased	4.39E-03	4.85E-03	5.28E-03	5.78E-03	6.56E-03	6.39E-03	5.39E-03
Ps90%/90% (-KTL) Biased	2.31E-03	2.60E-03	2.85E-03	3.15E-03	3.42E-03	3.41E-03	3.06E-03
Un-Biased Statistics							
Average Un-Biased	3.09E-03	3.39E-03	3.71E-03	4.16E-03	4.70E-03	4.54E-03	3.78E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.09E-03	3.39E-03	3.71E-03	4.16E-03	4.70E-03	4.54E-03	3.78E-03
Ps90%/90% (-KTL) Un-Biased	3.09E-03	3.39E-03	3.71E-03	4.16E-03	4.70E-03	4.54E-03	3.78E-03
Specification MAX	1.50E-02	1.60E-02	1.80E-02	2.10E-02	2.70E-02	2.70E-02	2.70E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



Supply Current Change With Load 2 (mA/A) @ VDIFF=2V, IL=0 to 3A	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	5.09E-03	5.30E-03	5.61E-03	5.95E-03	6.52E-03	6.36E-03	5.87E-03
92	4.52E-03	4.73E-03	5.01E-03	5.30E-03	5.82E-03	5.74E-03	5.26E-03
93	5.05E-03	5.26E-03	5.54E-03	5.89E-03	6.48E-03	6.36E-03	5.83E-03
95	4.54E-03	4.76E-03	5.05E-03	5.42E-03	6.01E-03	5.82E-03	5.18E-03
96	4.89E-03	4.89E-03	4.89E-03	4.89E-03	4.89E-03	4.89E-03	4.89E-03
Biased Statistics							
Average Biased	4.89E-03	5.09E-03	5.39E-03	5.71E-03	6.27E-03	6.15E-03	5.65E-03
Std Dev Biased	3.23E-04	3.19E-04	3.28E-04	3.61E-04	3.94E-04	3.57E-04	3.40E-04
Ps90%/90% (+KTL) Biased	6.26E-03	6.45E-03	6.78E-03	7.25E-03	7.95E-03	7.67E-03	7.10E-03
Ps90%/90% (-KTL) Biased	3.51E-03	3.74E-03	3.99E-03	4.17E-03	4.59E-03	4.63E-03	4.20E-03
Un-Biased Statistics							
Average Un-Biased	4.54E-03	4.76E-03	5.05E-03	5.42E-03	6.01E-03	5.82E-03	5.18E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	4.54E-03	4.76E-03	5.05E-03	5.42E-03	6.01E-03	5.82E-03	5.18E-03
Ps90%/90% (-KTL) Un-Biased	4.54E-03	4.76E-03	5.05E-03	5.42E-03	6.01E-03	5.82E-03	5.18E-03
Specification MAX	1.50E-02	1.60E-02	1.80E-02	2.10E-02	2.70E-02	2.70E-02	2.70E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



Supply Current Change With Load 3 (mA/A) @ VDIFF=VSAT, IL=0 to 0.5A	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	3.88E-03	3.81E-03	4.33E-03	4.70E-03	5.27E-03	5.13E-03	4.50E-03
92	3.44E-03	3.30E-03	3.79E-03	4.15E-03	4.62E-03	4.54E-03	3.98E-03
93	3.84E-03	3.91E-03	4.26E-03	4.68E-03	5.24E-03	5.16E-03	4.44E-03
95	3.42E-03	3.35E-03	3.79E-03	4.23E-03	4.82E-03	4.64E-03	3.84E-03
96	3.73E-03	3.72E-03	3.72E-03	3.72E-03	3.72E-03	3.76E-03	3.72E-03
Biased Statistics							
Average Biased	3.72E-03	3.67E-03	4.13E-03	4.51E-03	5.04E-03	4.94E-03	4.31E-03
Std Dev Biased	2.42E-04	3.28E-04	2.94E-04	3.09E-04	3.69E-04	3.52E-04	2.88E-04
Ps90%/90% (+KTL) Biased	4.75E-03	5.07E-03	5.38E-03	5.83E-03	6.61E-03	6.44E-03	5.53E-03
Ps90%/90% (-KTL) Biased	2.69E-03	2.27E-03	2.87E-03	3.19E-03	3.47E-03	3.44E-03	3.08E-03
Un-Biased Statistics							
Average Un-Biased	3.42E-03	3.35E-03	3.79E-03	4.23E-03	4.82E-03	4.64E-03	3.84E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	3.42E-03	3.35E-03	3.79E-03	4.23E-03	4.82E-03	4.64E-03	3.84E-03
Ps90%/90% (-KTL) Un-Biased	3.42E-03	3.35E-03	3.79E-03	4.23E-03	4.82E-03	4.64E-03	3.84E-03
Specification MAX	2.50E-02	2.70E-02	3.00E-02	3.50E-02	4.50E-02	4.50E-02	4.50E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS



Supply Current Change With Load 4 (mA/A) @ VDIFF=VSAT, IL=0 to 3A	Total Dose (krad(Si))					24-hr	168-hr
	0	20	50	100	200	Anneal	Anneal
Device							
91	4.69E-03	4.78E-03	5.25E-03	5.66E-03	6.60E-03	6.28E-03	5.54E-03
92	5.66E-03	6.52E-03	6.93E-03	7.17E-03	7.90E-03	7.82E-03	7.17E-03
93	4.40E-03	5.17E-03	5.75E-03	6.10E-03	7.17E-03	6.97E-03	5.62E-03
95	6.02E-03	5.49E-03	6.68E-03	7.54E-03	8.14E-03	7.94E-03	7.43E-03
96	4.61E-03	4.61E-03	4.93E-03	4.93E-03	4.77E-03	5.14E-03	4.97E-03
Biased Statistics							
Average Biased	4.91E-03	5.49E-03	5.97E-03	6.31E-03	7.22E-03	7.02E-03	6.11E-03
Std Dev Biased	6.59E-04	9.12E-04	8.62E-04	7.76E-04	6.50E-04	7.73E-04	9.19E-04
Ps90%/90% (+KTL) Biased	7.72E-03	9.37E-03	9.65E-03	9.62E-03	9.99E-03	1.03E-02	1.00E-02
Ps90%/90% (-KTL) Biased	2.11E-03	1.61E-03	2.30E-03	3.00E-03	4.45E-03	3.73E-03	2.20E-03
Un-Biased Statistics							
Average Un-Biased	6.02E-03	5.49E-03	6.68E-03	7.54E-03	8.14E-03	7.94E-03	7.43E-03
Std Dev Un-Biased	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ps90%/90% (+KTL) Un-Biased	6.02E-03	5.49E-03	6.68E-03	7.54E-03	8.14E-03	7.94E-03	7.43E-03
Ps90%/90% (-KTL) Un-Biased	6.02E-03	5.49E-03	6.68E-03	7.54E-03	8.14E-03	7.94E-03	7.43E-03
Specification MAX	2.50E-02	2.70E-02	3.00E-02	3.50E-02	4.50E-02	4.50E-02	4.50E-02
Status	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Appendix A: Photograph of Packing Label and a Sample Unit-Under-Test to Show Part Traceability

RAD/TID SAMPLES	
PARTNAME:	RH1185AMKDICE/RH1185AMK
LOT ID:	G131868.13
ASSYLOT ID:	A21680.1
DATE CODE:	2318A
PKG/LDS:	TO3- 4L
WAFER LOT#:	W1247967.1
WAFER #:	9
DIE TYPE:	6RH1185AK
QTY:	5



Appendix B: Radiation Bias Connections

TID Radiation Biased Conditions:

Pin	Function	Connection / Bias
1	GND	To +15V and to -15V via 4.7uF Capacitor
2	FB	To +15V via 4kΩ Resistor To Pin 4 via 4kΩ Resistor
3	REF	To +15V via 5kΩ Resistor
4	VOUT	To Pin 2 via 4kΩ Resistor To +15V via 4.7uF Capacitor
5 (CASE)	VIN	To -15V and to +15V via 4.7uF Capacitor

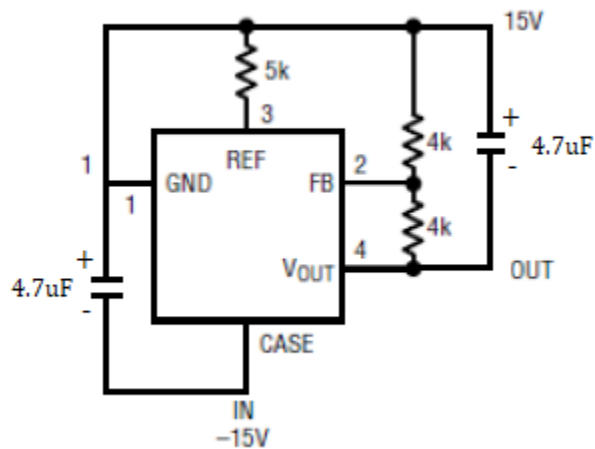


Figure B.1. Irradiation bias circuit.

TID Radiation Unbiased Conditions: All pins grounded.