**RADIATION TEST REPORT**

| | |
|---|---|
| PRODUCT: | AD8351ARC/QMLL |
| DATE CODE: | 0839 |
| GAMMA/TM: | 0, 26.7k, 45.4k, 110k/Test Method 1019 Condition D |
| GAMMA SOURCE: | Co60 |
| DOSE RATE: | 6.8 mRad/s |
| FACILITIES: | University of Massachusetts @ Lowell |
| TESTED: | 2009/2010 |

The RADTEST[SM] DATA SERVICE is a compilation of radiation test results on Analog Devices' Space grade products. It is designed to assist customers in selecting the right product for applications where radiation is a consideration. Many products manufactured by Analog Devices, Inc. have been shown to be radiation tolerant to most tactical radiation environments. Analog Devices, Inc. does not make any claim to maintain or guarantee these levels of radiation tolerance without lot qualification test.

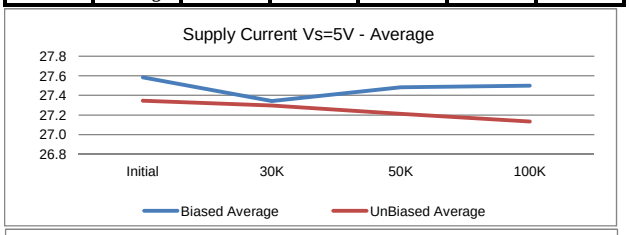
It is the responsibility of the Procuring Activity to screen products from Analog Devices, Inc. for compliance to Nuclear Hardness Critical Items (HCI) specifications.

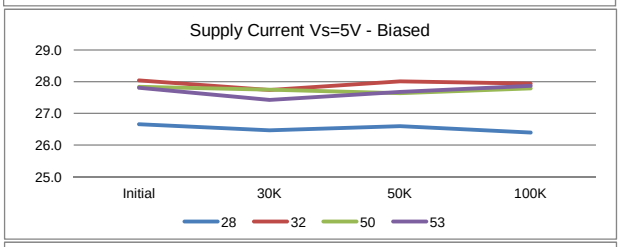
WARNING:

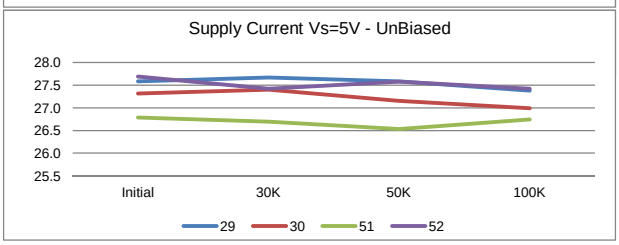
Analog Devices, Inc. does not recommend use of this data to qualify other product grades or process levels. Analog Devices, Inc. is not responsible and has no liability for any consequences, and all applicable Warranties are null and void if any Analog product is modified in any way or used outside of normal environmental and operating conditions, including the parameters specified in the corresponding data sheet. Analog Devices, Inc. does not guarantee that wafer manufacturing is the same for all process levels.

ANALOG DEVICES

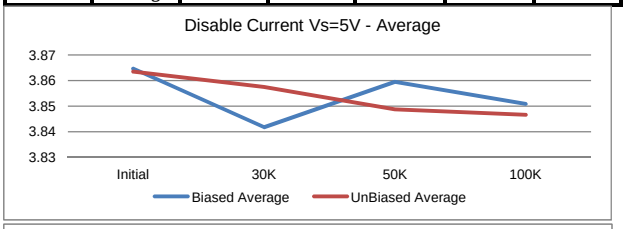
| | T# 1 | Supply Current 5v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 27.5038 | 27.24967 | 27.17898 | 27.26962 | <33 |
| | 48 | 28.26871 | 27.98945 | 27.94237 | 28.25167 | |
| Biased | 28 | 26.65227 | 26.46616 | 26.59598 | 26.39326 | |
| | 32 | 28.04208 | 27.74201 | 28.01517 | 27.94135 | |
| | 50 | 27.83655 | 27.743 | 27.63938 | 27.78746 | |
| | 53 | 27.80651 | 27.42272 | 27.68057 | 27.86983 | |
| | Min | 26.6523 | 26.4662 | 26.5960 | 26.3933 | |
| | Max | 28.0421 | 27.7430 | 28.0152 | 27.9414 | |
| | Average | 27.5844 | 27.3435 | 27.4828 | 27.4980 | |
| UnBiased | 29 | 27.58403 | 27.67176 | 27.58255 | 27.37977 | |
| | 30 | 27.31745 | 27.39878 | 27.15567 | 26.99091 | |
| | 51 | 26.78652 | 26.69636 | 26.53053 | 26.74763 | |
| | 52 | 27.69335 | 27.42336 | 27.58031 | 27.42127 | |
| | Min | 26.7865 | 26.6964 | 26.5305 | 26.7476 | |
| | Max | 27.6934 | 27.6718 | 27.5826 | 27.4213 | |
| | Average | 27.3453 | 27.2976 | 27.2123 | 27.1349 | |

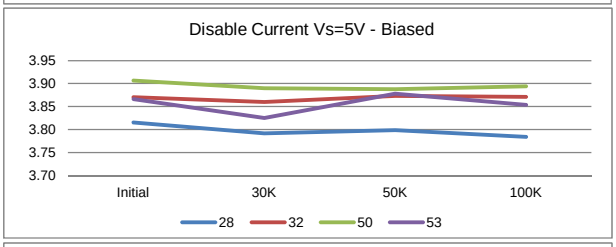


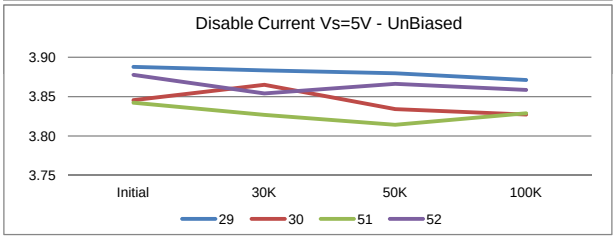



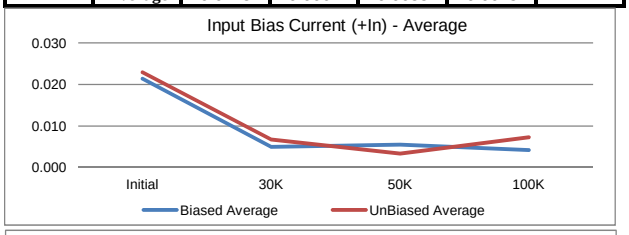

| | T# 2 | Disable Current 5v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 3.86565 | 3.8365 | 3.83432 | 3.83865 | <6 |
| | 48 | 3.93198 | 3.90275 | 3.89897 | 3.92086 | |
| Biased | 28 | 3.81531 | 3.7918 | 3.7984 | 3.78438 | |
| | 32 | 3.87045 | 3.85965 | 3.87343 | 3.87138 | |
| | 50 | 3.90641 | 3.890 | 3.8878 | 3.89373 | |
| | 53 | 3.86645 | 3.82532 | 3.87822 | 3.85382 | |
| | Min | 3.8153 | 3.7918 | 3.7984 | 3.7844 | |
| | Max | 3.9064 | 3.8900 | 3.8878 | 3.8937 | |
| | Average | 3.8647 | 3.8417 | 3.8595 | 3.8508 | |
| UnBiased | 29 | 3.88803 | 3.88359 | 3.87982 | 3.87138 | |
| | 30 | 3.84568 | 3.86523 | 3.83432 | 3.82748 | |
| | 51 | 3.84248 | 3.82692 | 3.81437 | 3.82908 | |
| | 52 | 3.87764 | 3.85406 | 3.86625 | 3.85861 | |
| | Min | 3.8425 | 3.8269 | 3.8144 | 3.8275 | |
| | Max | 3.8880 | 3.8836 | 3.8798 | 3.8714 | |
| | Average | 3.8635 | 3.8575 | 3.8487 | 3.8466 | |

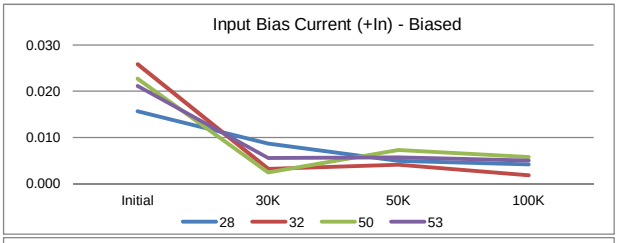


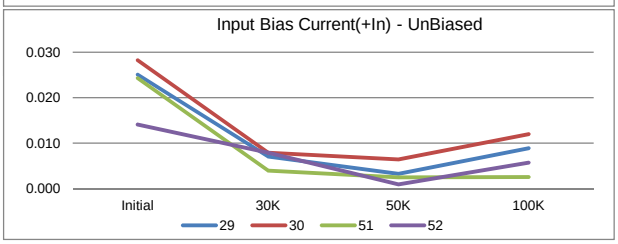



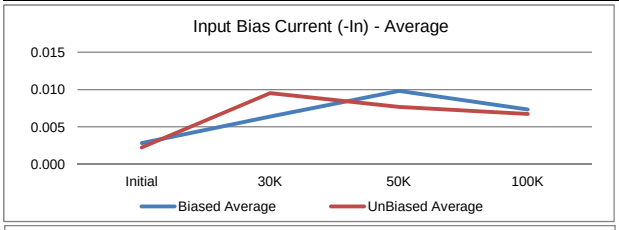
| | T# 4 | VIN IIB | | | | uA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 0.02745 | 0.00631 | 0.00801 | -0.00134 | +/-20 |
| | 48 | 0.01959 | 0.00474 | 0.0033 | 0.00101 | |
| Biased | 28 | 0.01566 | 0.00866 | 0.00487 | 0.00415 | |
| | 32 | 0.02588 | 0.00317 | 0.00409 | 0.0018 | |
| | 50 | 0.02273 | 0.002 | 0.00723 | 0.00572 | |
| | 53 | 0.02116 | 0.00552 | 0.00566 | 0.00494 | |
| | Min | 0.0157 | 0.0024 | 0.0041 | 0.0018 | |
| | Max | 0.0259 | 0.0087 | 0.0072 | 0.0057 | |
| | Average | 0.0214 | 0.0049 | 0.0055 | 0.0042 | |
| UnBiased | 29 | 0.02509 | 0.00709 | 0.0033 | 0.00886 | |
| | 30 | 0.02824 | 0.00788 | 0.00644 | 0.012 | |
| | 51 | 0.02431 | 0.00395 | 0.00252 | 0.00258 | |
| | 52 | 0.01409 | 0.00788 | 0.000949 | 0.00572 | |
| | Min | 0.0141 | 0.0040 | 0.0009 | 0.0026 | |
| | Max | 0.0282 | 0.0079 | 0.0064 | 0.0120 | |
| | Average | 0.0229 | 0.0067 | 0.0033 | 0.0073 | |

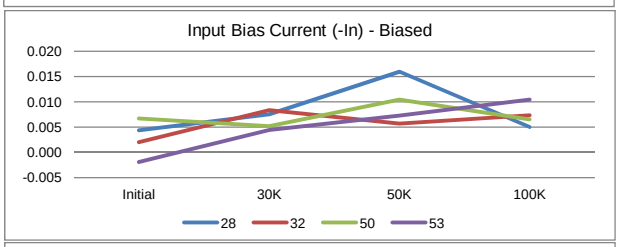


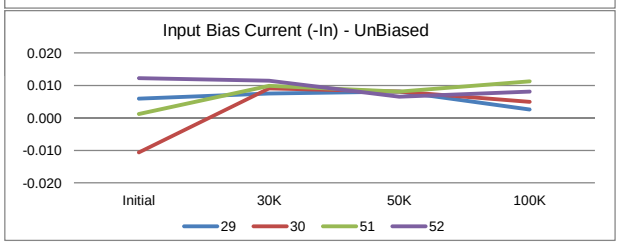



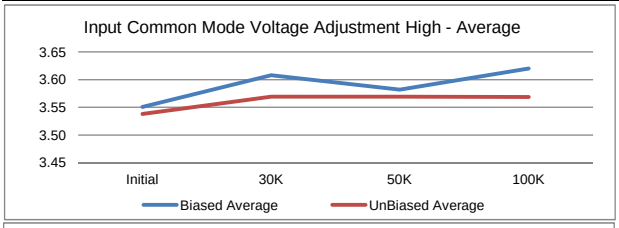

| | T# 6 | VIN neg IIB | | | | uA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | -0.0027 | 0.00835 | 0.01199 | 0.01047 | +/-20 |
| | 48 | 0.00751 | 0.00599 | 0.0065 | 0.00497 | |
| Biased | 28 | 0.00437 | 0.00756 | 0.01592 | 0.00497 | |
| | 32 | 0.00201 | 0.00835 | 0.00571 | 0.00733 | |
| | 50 | 0.00673 | 0.005 | 0.01042 | 0.00654 | |
| | 53 | -0.00192 | 0.00442 | 0.00728 | 0.01047 | |
| | Min | -0.0019 | 0.0044 | 0.0057 | 0.0050 | |
| | Max | 0.0067 | 0.0084 | 0.0159 | 0.0105 | |
| | Average | 0.0028 | 0.0064 | 0.0098 | 0.0073 | |
| UnBiased | 29 | 0.00594 | 0.00756 | 0.00807 | 0.00262 | |
| | 30 | -0.01056 | 0.00913 | 0.00807 | 0.00497 | |
| | 51 | 0.00123 | 0.00992 | 0.00807 | 0.01125 | |
| | 52 | 0.01223 | 0.01149 | 0.0065 | 0.00811 | |
| | Min | -0.0106 | 0.0076 | 0.0065 | 0.0026 | |
| | Max | 0.0122 | 0.0115 | 0.0081 | 0.0113 | |
| | Average | 0.0022 | 0.0095 | 0.0077 | 0.0067 | |

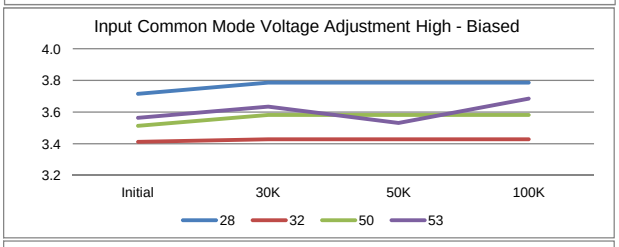


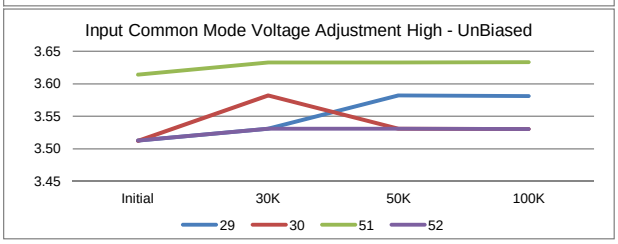



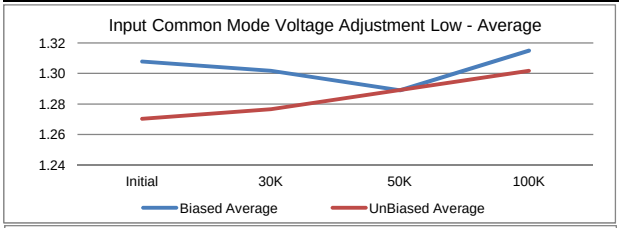
| | T# 14 | VCOM Range HIGH | | | | V |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 3.66418 | 3.7353 | 3.73527 | 3.736 | <3.9 |
| | 48 | 3.56293 | 3.63311 | 3.63308 | 3.68475 | |
| Biased | 28 | 3.71527 | 3.78639 | 3.78621 | 3.78678 | |
| | 32 | 3.41114 | 3.42874 | 3.42871 | 3.42863 | |
| | 50 | 3.51271 | 3.582 | 3.58183 | 3.5816 | |
| | 53 | 3.56277 | 3.63359 | 3.53057 | 3.68411 | |
| | Min | 3.4111 | 3.4287 | 3.4287 | 3.4286 | |
| | Max | 3.7153 | 3.7864 | 3.7862 | 3.7868 | |
| | Average | 3.5505 | 3.6077 | 3.5818 | 3.6203 | |
| UnBiased | 29 | 3.51239 | 3.53093 | 3.58183 | 3.58112 | |
| | 30 | 3.51223 | 3.58202 | 3.53105 | 3.5305 | |
| | 51 | 3.61428 | 3.63279 | 3.63292 | 3.63317 | |
| | 52 | 3.51255 | 3.53093 | 3.53105 | 3.5305 | |
| | Min | 3.5122 | 3.5309 | 3.5311 | 3.5305 | |
| | Max | 3.6143 | 3.6328 | 3.6329 | 3.6332 | |
| | Average | 3.5379 | 3.5692 | 3.5692 | 3.5688 | |

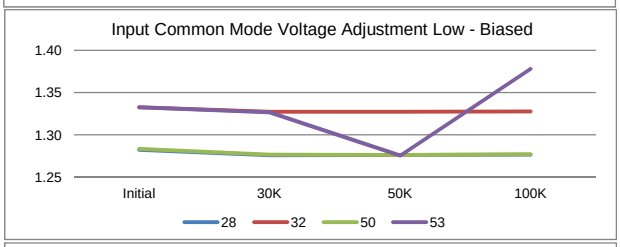


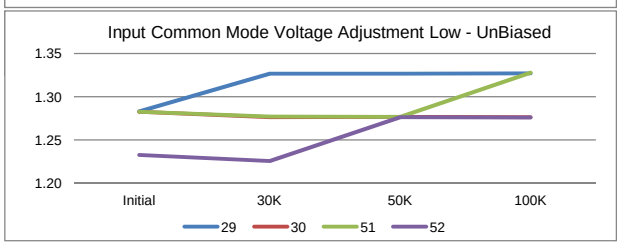



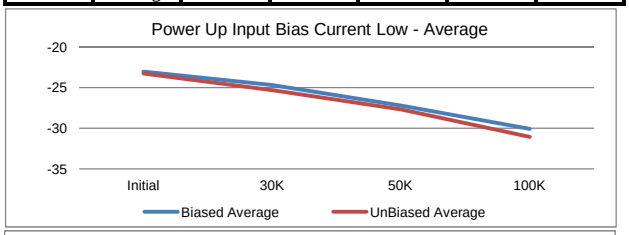

| | T# 15 | VCOM Range LOW | | | | V |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 1.23208 | 1.27633 | 1.27593 | 1.27618 | >1.1 |
| | 48 | 1.33316 | 1.32835 | 1.37812 | 1.37853 | |
| Biased | 28 | 1.2823 | 1.27601 | 1.27622 | 1.27664 | |
| | 32 | 1.33284 | 1.32739 | 1.32748 | 1.32789 | |
| | 50 | 1.28342 | 1.276 | 1.27638 | 1.27712 | |
| | 53 | 1.33284 | 1.32678 | 1.27561 | 1.37805 | |
| | Min | 1.2823 | 1.2760 | 1.2756 | 1.2766 | |
| | Max | 1.3328 | 1.3274 | 1.3275 | 1.3781 | |
| | Average | 1.3079 | 1.3017 | 1.2889 | 1.3149 | |
| UnBiased | 29 | 1.2831 | 1.32646 | 1.32654 | 1.3268 | |
| | 30 | 1.28262 | 1.27646 | 1.2767 | 1.27632 | |
| | 51 | 1.28262 | 1.2771 | 1.2767 | 1.3276 | |
| | 52 | 1.23272 | 1.22585 | 1.27625 | 1.27586 | |
| | Min | 1.2327 | 1.2259 | 1.2763 | 1.2759 | |
| | Max | 1.2831 | 1.3265 | 1.3265 | 1.3276 | |
| | Average | 1.2703 | 1.2765 | 1.2890 | 1.3016 | |

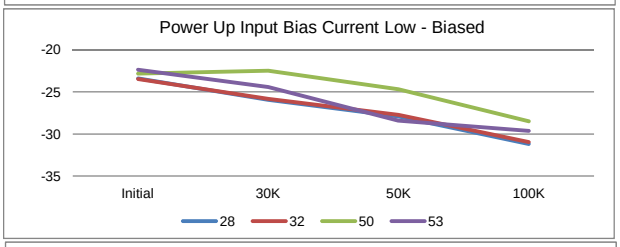


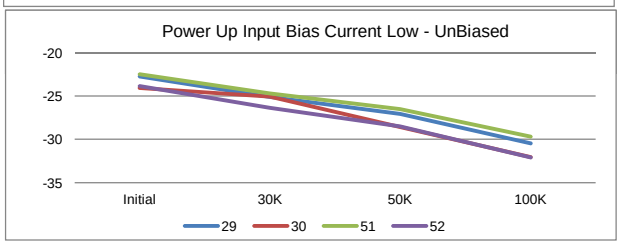



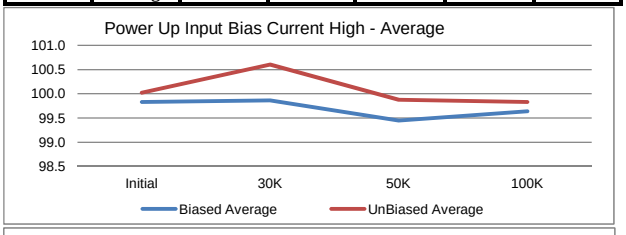
| | T# 16 | PWDN Current Low | | | | uA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | -23.98033 | -23.5916 | -24.20231 | -24.09872 | >-30 |
| | 48 | -22.10324 | -21.7357 | -22.30786 | -22.24269 | |
| Biased | 28 | -23.41584 | -25.9413 | -27.90968 | -31.19443 | |
| | 32 | -23.47138 | -25.8249 | -27.71491 | -30.95662 | |
| | 50 | -22.82982 | -22.487 | -24.69036 | -28.50834 | |
| | 53 | -22.39909 | -24.4242 | -28.43057 | -29.64982 | |
| | Min | -23.4714 | -25.9413 | -28.4306 | -31.1944 | |
| | Max | -22.3991 | -22.4869 | -24.6904 | -28.5083 | |
| | Average | -23.0290 | -24.6693 | -27.1864 | -30.0773 | |
| UnBiased | 29 | -22.74821 | -25.1019 | -27.06947 | -30.45157 | |
| | 30 | -24.07328 | -25.0861 | -28.58457 | -32.04148 | |
| | 51 | -22.48183 | -24.6885 | -26.50668 | -29.68945 | |
| | 52 | -23.85451 | -26.3728 | -28.49285 | -32.10489 | |
| | Min | -24.0733 | -26.3728 | -28.5846 | -32.1049 | |
| | Max | -22.4818 | -24.6885 | -26.5067 | -29.6895 | |
| | Average | -23.2895 | -25.3123 | -27.6634 | -31.0718 | |

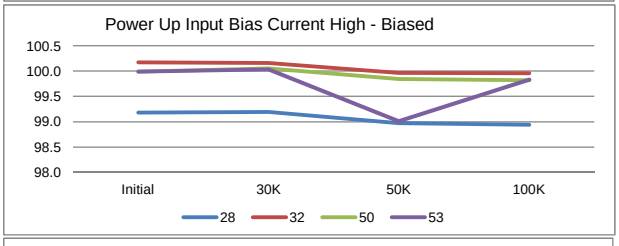


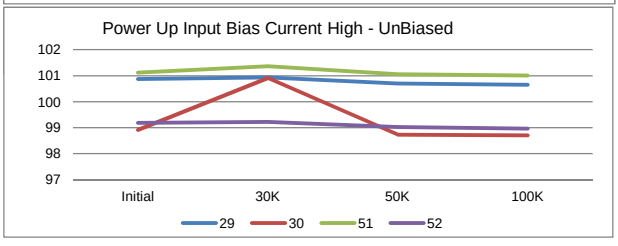



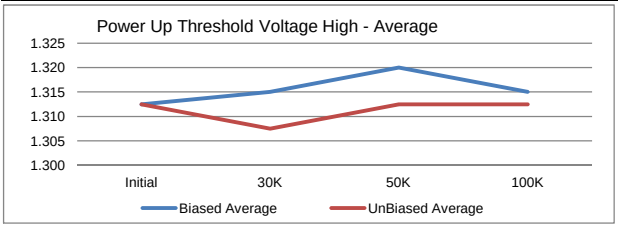

| | T# 17 | PWDN Current High | | | | uA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 98.38676 | 98.42766 | 98.19695 | 98.2214 | <120 |
| | 48 | 101.7419 | 101.7939 | 101.5839 | 101.6254 | |
| Biased | 28 | 99.17795 | 99.19467 | 98.96923 | 98.93822 | |
| | 32 | 100.1743 | 100.1616 | 99.96231 | 99.95739 | |
| | 50 | 99.9884 | 100.054 | 99.84115 | 99.81811 | |
| | 53 | 99.9918 | 100.034 | 99.01112 | 99.83283 | |
| | Min | 99.1780 | 99.1947 | 98.9692 | 98.9382 | |
| | Max | 100.1743 | 100.1616 | 99.9623 | 99.9574 | |
| | Average | 99.8331 | 99.8612 | 99.4460 | 99.6366 | |
| UnBiased | 29 | 100.8691 | 100.9343 | 100.6938 | 100.655 | |
| | 30 | 98.91384 | 100.9061 | 98.73143 | 98.70154 | |
| | 51 | 101.123 | 101.3669 | 101.0618 | 101.006 | |
| | 52 | 99.18248 | 99.21501 | 99.02584 | 98.96426 | |
| | Min | 98.9138 | 99.2150 | 98.7314 | 98.7015 | |
| | Max | 101.1230 | 101.3669 | 101.0618 | 101.0060 | |
| | Average | 100.0221 | 100.6056 | 99.8782 | 99.8317 | |

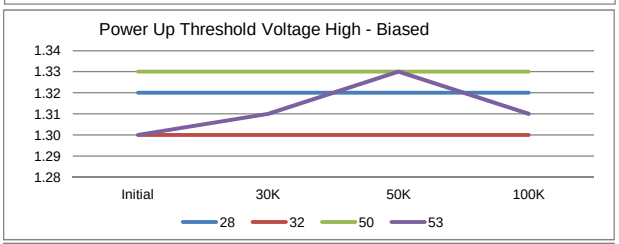


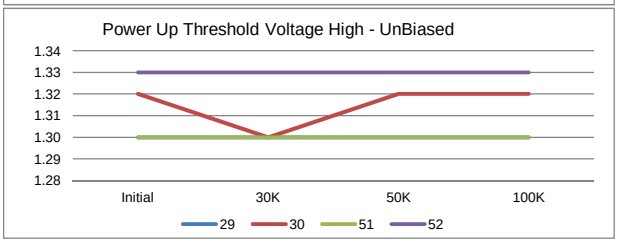



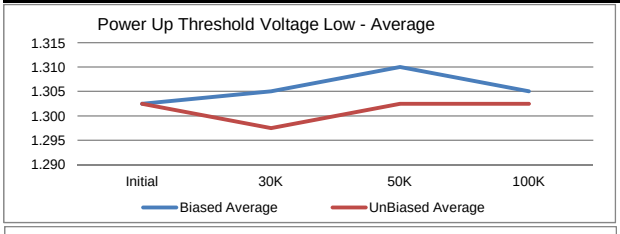
| | T# 18 | PWDN VIH | | | | V |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 1.330 | 1.330 | 1.330 | 1.330 | |
| | 48 | 1.310 | 1.310 | 1.310 | 1.310 | |
| Biased | 28 | 1.320 | 1.320 | 1.320 | 1.320 | |
| | 32 | 1.300 | 1.300 | 1.300 | 1.300 | |
| | 50 | 1.330 | 1.330 | 1.330 | 1.330 | |
| | 53 | 1.300 | 1.310 | 1.330 | 1.310 | |
| | Min | 1.300 | 1.300 | 1.300 | 1.300 | |
| | Max | 1.330 | 1.330 | 1.330 | 1.330 | |
| | Average | 1.313 | 1.315 | 1.320 | 1.315 | |
| UnBiased | 29 | 1.300 | 1.300 | 1.300 | 1.300 | |
| | 30 | 1.320 | 1.300 | 1.320 | 1.320 | |
| | 51 | 1.300 | 1.300 | 1.300 | 1.300 | |
| | 52 | 1.330 | 1.330 | 1.330 | 1.330 | |
| | Min | 1.300 | 1.300 | 1.300 | 1.300 | |
| | Max | 1.330 | 1.330 | 1.330 | 1.330 | |
| | Average | 1.313 | 1.308 | 1.313 | 1.313 | |

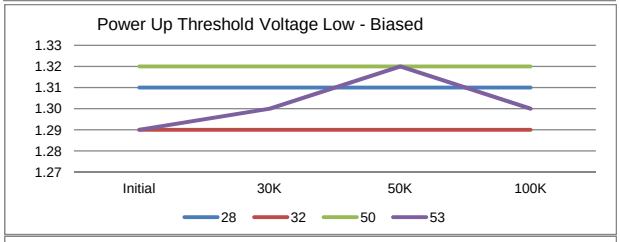


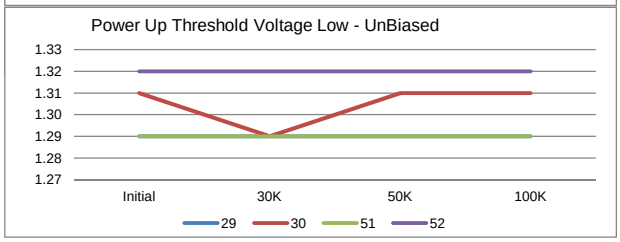



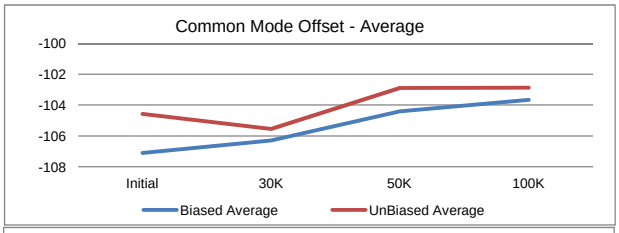

| | T# 19 | PWDN VIL | | | | V |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 1.32 | 1.32 | 1.32 | 1.32 | |
| | 48 | 1.3 | 1.3 | 1.3 | 1.3 | |
| Biased | 28 | 1.31 | 1.31 | 1.31 | 1.31 | |
| | 32 | 1.29 | 1.29 | 1.29 | 1.29 | |
| | 50 | 1.32 | 1.320 | 1.32 | 1.32 | |
| | 53 | 1.29 | 1.3 | 1.32 | 1.3 | |
| | Min | 1.2900 | 1.2900 | 1.2900 | 1.2900 | |
| | Max | 1.3200 | 1.3200 | 1.3200 | 1.3200 | |
| | Average | 1.3025 | 1.3050 | 1.3100 | 1.3050 | |
| UnBiased | 29 | 1.29 | 1.29 | 1.29 | 1.29 | |
| | 30 | 1.31 | 1.29 | 1.31 | 1.31 | |
| | 51 | 1.29 | 1.29 | 1.29 | 1.29 | |
| | 52 | 1.32 | 1.32 | 1.32 | 1.32 | |
| | Min | 1.2900 | 1.2900 | 1.2900 | 1.2900 | |
| | Max | 1.3200 | 1.3200 | 1.3200 | 1.3200 | |
| | Average | 1.3025 | 1.2975 | 1.3025 | 1.3025 | |

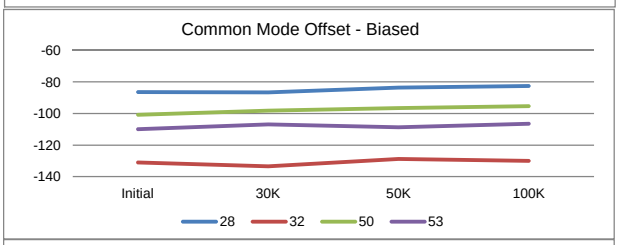


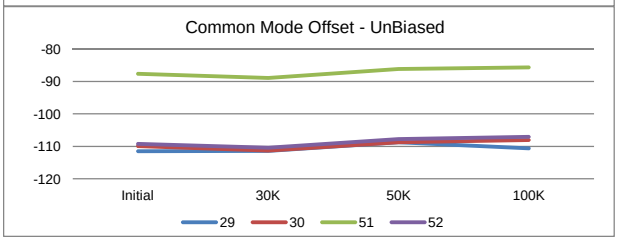



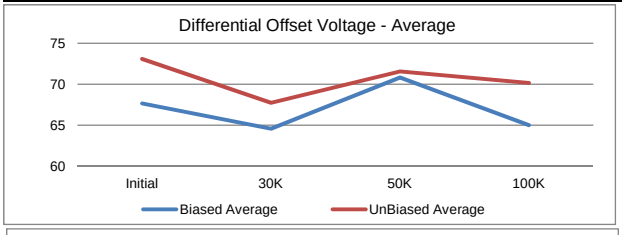
| | T# 20 | Common Mode Offset | | | | mV |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | -91.76354 | -91.0688 | -88.913 | -88.16518 | >-150 |
| | 48 | -98.19521 | -98.509 | -95.50522 | -95.28729 | |
| Biased | 28 | -86.46678 | -86.6726 | -83.56935 | -82.65118 | |
| | 32 | -130.9873 | -133.374 | -128.7554 | -130.0603 | |
| | 50 | -100.9361 | -98.126 | -96.6711 | -95.44748 | |
| | 53 | -110.005 | -106.978 | -108.6371 | -106.4773 | |
| | Min | -130.9873 | -133.3739 | -128.7554 | -130.0603 | |
| | Max | -86.4668 | -86.6726 | -83.5694 | -82.6512 | |
| | Average | -107.0988 | -106.2878 | -104.4082 | -103.6591 | |
| UnBiased | 29 | -111.5008 | -111.461 | -108.7871 | -110.5922 | |
| | 30 | -109.9017 | -111.276 | -108.7852 | -108.0578 | |
| | 51 | -87.66799 | -88.9788 | -86.17561 | -85.73916 | |
| | 52 | -109.2086 | -110.452 | -107.8083 | -107.0922 | |
| | Min | -111.5008 | -111.4608 | -108.7871 | -110.5922 | |
| | Max | -87.6680 | -88.9788 | -86.1756 | -85.7392 | |
| | Average | -104.5698 | -105.5419 | -102.8890 | -102.8703 | |

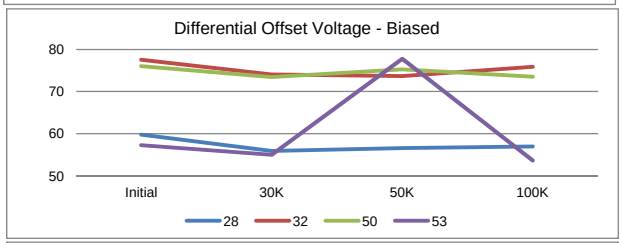


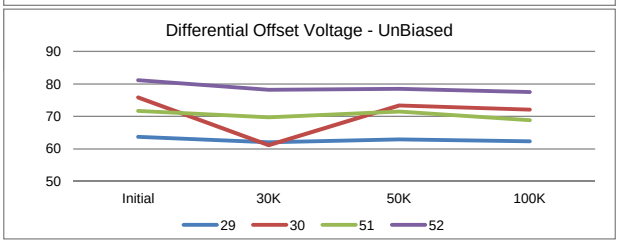



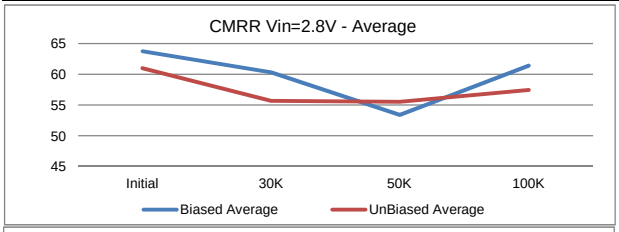

| | T# 21 | Differential Offset | | | | mV |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 72.40278 | 70.74453 | 72.05521 | 71.45303 | <100 |
| | 48 | 67.57361 | 65.60154 | 67.13188 | 66.09053 | |
| Biased | 28 | 59.76519 | 55.87973 | 56.59496 | 56.9646 | |
| | 32 | 77.54605 | 74.03791 | 73.65507 | 75.84397 | |
| | 50 | 76.04048 | 73.442 | 75.28535 | 73.49153 | |
| | 53 | 57.28809 | 54.97053 | 77.76289 | 53.6407 | |
| | Min | 57.2881 | 54.9705 | 56.5950 | 53.6407 | |
| | Max | 77.5461 | 74.0379 | 77.7629 | 75.8440 | |
| | Average | 67.6600 | 64.5824 | 70.8246 | 64.9852 | |
| UnBiased | 29 | 63.65392 | 62.02664 | 62.86716 | 62.29615 | |
| | 30 | 75.7897 | 61.11719 | 73.37254 | 72.08046 | |
| | 51 | 71.68148 | 69.67826 | 71.45938 | 68.7874 | |
| | 52 | 81.15204 | 78.17716 | 78.48416 | 77.47442 | |
| | Min | 63.6539 | 61.1172 | 62.8672 | 62.2962 | |
| | Max | 81.1520 | 78.1772 | 78.4842 | 77.4744 | |
| | Average | 73.0693 | 67.7498 | 71.5458 | 70.1596 | |

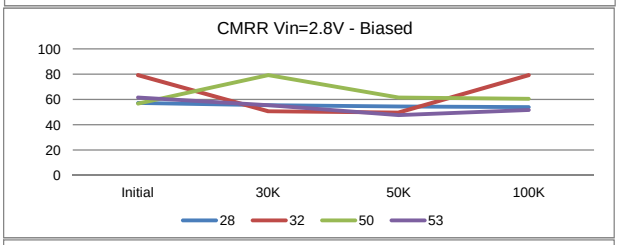


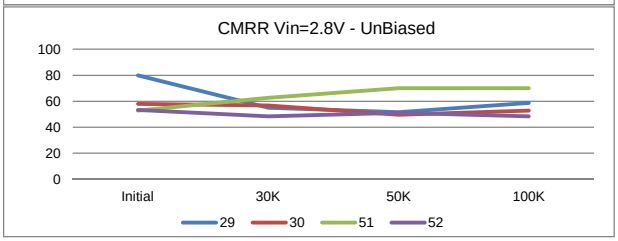



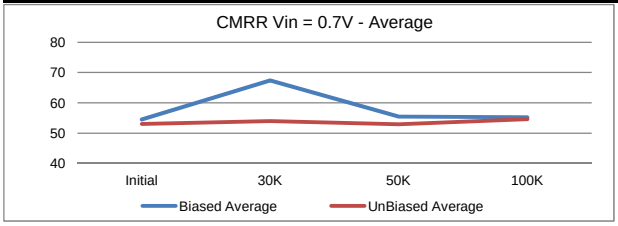
| | T# 22 | CMRR_HI | | | | dB |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 50.37451 | 79.85537 | 73.71402 | 64.08958 | >35 |
| | 48 | 67.62486 | 51.32425 | 64.09079 | 51.66481 | |
| Biased | 28 | 57.35258 | 55.54736 | 54.523 | 54.05179 | |
| | 32 | 79.41415 | 50.67998 | 49.79536 | 79.39664 | |
| | 50 | 56.67818 | 79.386 | 61.52414 | 60.55459 | |
| | 53 | 61.57909 | 55.54698 | 47.79985 | 51.66496 | |
| | Min | 56.6782 | 50.6800 | 47.7999 | 51.6650 | |
| | Max | 79.4142 | 79.3861 | 61.5241 | 79.3966 | |
| | Average | 63.7560 | 60.2901 | 53.4106 | 61.4170 | |
| UnBiased | 29 | 79.82061 | 55.01945 | 51.66559 | 58.807 | |
| | 30 | 58.04887 | 56.70876 | 49.51942 | 52.77654 | |
| | 51 | 52.77613 | 62.74615 | 69.99466 | 69.99867 | |
| | 52 | 53.18073 | 48.2572 | 50.9966 | 48.25687 | |
| | Min | 52.7761 | 48.2572 | 49.5194 | 48.2569 | |
| | Max | 79.8206 | 62.7462 | 69.9947 | 69.9987 | |
| | Average | 60.9566 | 55.6829 | 55.5441 | 57.4598 | |

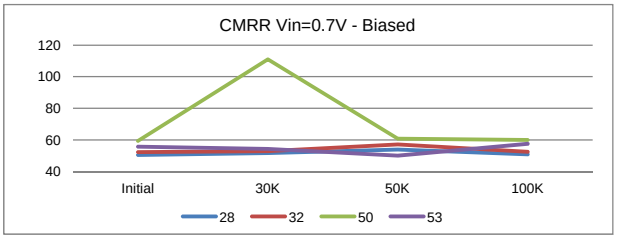


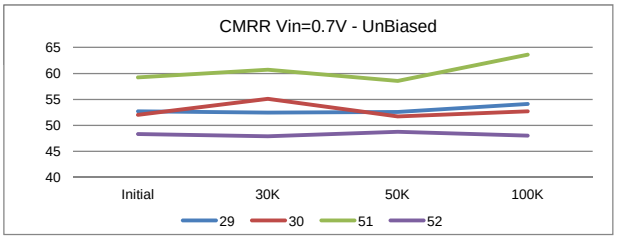



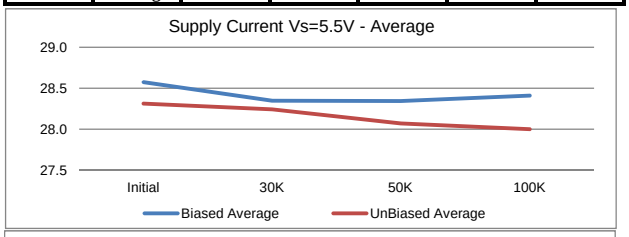

| | T# 23 | CMRR_LO | | | | dB |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 53.89995 | 56.70943 | 58.17335 | 60.08443 | >35 |
| | 48 | 54.28281 | 53.8261 | 55.63845 | 54.36213 | |
| Biased | 28 | 50.42462 | 51.60785 | 53.90145 | 50.83651 | |
| | 32 | 52.38969 | 52.84326 | 57.13419 | 52.58123 | |
| | 50 | 59.35031 | 110.941 | 60.71946 | 60.08397 | |
| | 53 | 55.72888 | 54.28417 | 50.03249 | 57.57931 | |
| | Min | 50.4246 | 51.6079 | 50.0325 | 50.8365 | |
| | Max | 59.3503 | 110.9406 | 60.7195 | 60.0840 | |
| | Average | 54.4734 | 67.4190 | 55.4469 | 55.2703 | |
| UnBiased | 29 | 52.71049 | 52.45374 | 52.58193 | 54.12817 | |
| | 30 | 52.01973 | 55.10536 | 51.72406 | 52.71112 | |
| | 51 | 59.21101 | 60.71892 | 58.54883 | 63.61749 | |
| | 52 | 48.33552 | 47.87428 | 48.74057 | 48.02517 | |
| | Min | 48.3355 | 47.8743 | 48.7406 | 48.0252 | |
| | Max | 59.2110 | 60.7189 | 58.5488 | 63.6175 | |
| | Average | 53.0692 | 54.0381 | 52.8988 | 54.6205 | |

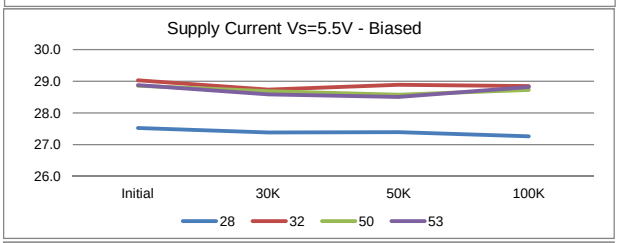


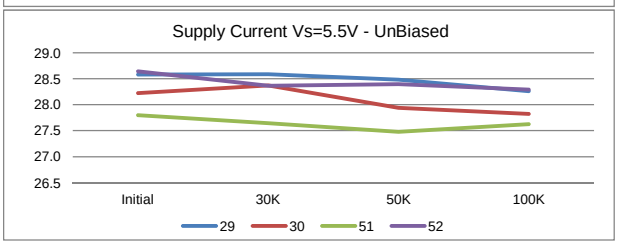



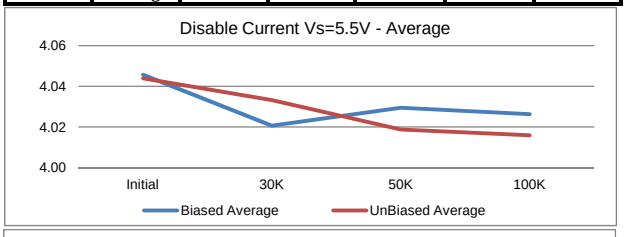
| | T# 26 | Supply Current 5.5v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 28.41266 | 28.18052 | 28.05238 | 28.12541 | <33 |
| | 48 | 29.3425 | 29.03364 | 28.9652 | 29.17833 | |
| Biased | 28 | 27.52693 | 27.37626 | 27.39211 | 27.25926 | |
| | 32 | 29.03341 | 28.73703 | 28.88761 | 28.84758 | |
| | 50 | 28.86048 | 28.689 | 28.58047 | 28.72307 | |
| | 53 | 28.8787 | 28.58473 | 28.50831 | 28.81661 | |
| | Min | 27.5269 | 27.3763 | 27.3921 | 27.2593 | |
| | Max | 29.0334 | 28.7370 | 28.8876 | 28.8476 | |
| | Average | 28.5749 | 28.3467 | 28.3421 | 28.4116 | |
| UnBiased | 29 | 28.58175 | 28.58505 | 28.4783 | 28.26078 | |
| | 30 | 28.22471 | 28.37209 | 27.93744 | 27.82307 | |
| | 51 | 27.7983 | 27.64349 | 27.48023 | 27.62609 | |
| | 52 | 28.64025 | 28.36411 | 28.39209 | 28.29111 | |
| | Min | 27.7983 | 27.6435 | 27.4802 | 27.6261 | |
| | Max | 28.6403 | 28.5851 | 28.4783 | 28.2911 | |
| | Average | 28.3113 | 28.2412 | 28.0720 | 28.0003 | |

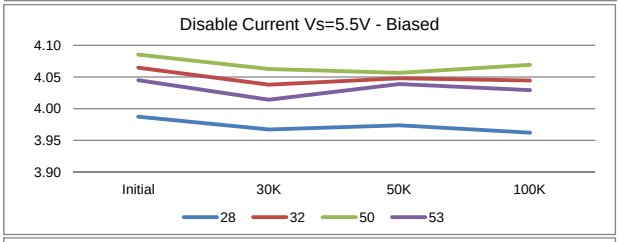


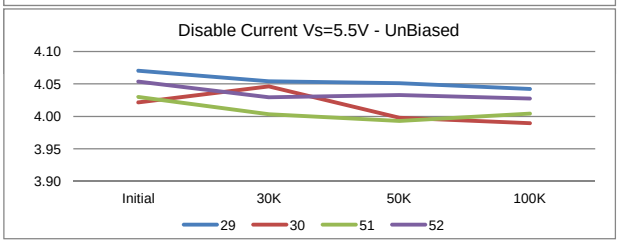



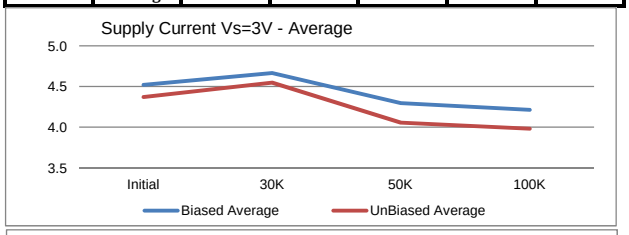

| | T# 27 | Disable Current 5.5v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 4.03853 | 4.01193 | 4.001 | 4.00691 | <6 |
| | 48 | 4.11365 | 4.07978 | 4.07922 | 4.09232 | |
| Biased | 28 | 3.98739 | 3.96723 | 3.97386 | 3.96222 | |
| | 32 | 4.0649 | 4.03827 | 4.04809 | 4.04443 | |
| | 50 | 4.08568 | 4.063 | 4.05687 | 4.06917 | |
| | 53 | 4.04492 | 4.01432 | 4.03931 | 4.02926 | |
| | Min | 3.9874 | 3.9672 | 3.9739 | 3.9622 | |
| | Max | 4.0857 | 4.0630 | 4.0569 | 4.0692 | |
| | Average | 4.0457 | 4.0207 | 4.0295 | 4.0263 | |
| UnBiased | 29 | 4.07049 | 4.05423 | 4.05128 | 4.04203 | |
| | 30 | 4.02175 | 4.04625 | 3.99781 | 3.98936 | |
| | 51 | 4.02974 | 4.00315 | 3.99302 | 4.00452 | |
| | 52 | 4.05371 | 4.02949 | 4.03293 | 4.02767 | |
| | Min | 4.0218 | 4.0032 | 3.9930 | 3.9894 | |
| | Max | 4.0705 | 4.0542 | 4.0513 | 4.0420 | |
| | Average | 4.0439 | 4.0333 | 4.0188 | 4.0159 | |

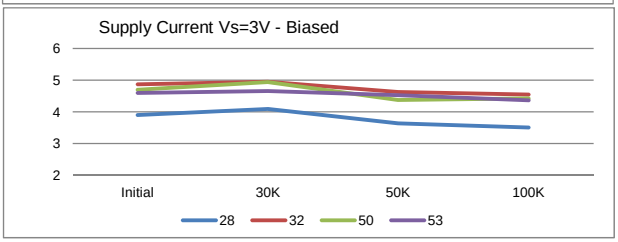


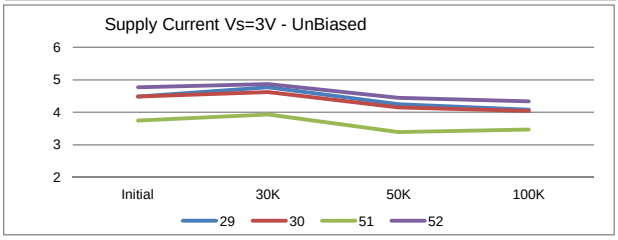



| | T# 38 | Supply Current 3.0v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 4.68814 | 4.86528 | 4.3499 | 4.39077 | <33 |
| | 48 | 5.03463 | 5.17307 | 4.69185 | 4.84955 | |
| Biased | 28 | 3.90086 | 4.09198 | 3.64206 | 3.51217 | |
| | 32 | 4.87225 | 4.95787 | 4.62895 | 4.54881 | |
| | 50 | 4.70508 | 4.942 | 4.38215 | 4.42493 | |
| | 53 | 4.5964 | 4.66349 | 4.52997 | 4.36874 | |
| | Min | 3.9009 | 4.0920 | 3.6421 | 3.5122 | |
| | Max | 4.8723 | 4.9579 | 4.6290 | 4.5488 | |
| | Average | 4.5186 | 4.6637 | 4.2958 | 4.2137 | |
| UnBiased | 29 | 4.47909 | 4.7663 | 4.24294 | 4.07534 | |
| | 30 | 4.48421 | 4.62103 | 4.1478 | 4.03895 | |
| | 51 | 3.74583 | 3.93234 | 3.39015 | 3.46588 | |
| | 52 | 4.76581 | 4.86368 | 4.43962 | 4.3365 | |
| | Min | 3.7458 | 3.9323 | 3.3902 | 3.4659 | |
| | Max | 4.7658 | 4.8637 | 4.4396 | 4.3365 | |
| | Average | 4.3687 | 4.5458 | 4.0551 | 3.9792 | |




| | T# 39 | Disable Current 3.0v | | | | mA |
|---|---|---|---|---|---|---|
| | SN | Initial | 30K | 50K | 100K | Limit |
| Control | 27 | 3.23088 | 3.20981 | 3.20194 | 3.20313 | <6 |
| | 48 | 3.26764 | 3.23934 | 3.23706 | 3.25022 | |
| Biased | 28 | 3.17015 | 3.15234 | 3.15245 | 3.14805 | |
| | 32 | 3.2165 | 3.20183 | 3.20114 | 3.19914 | |
| | 50 | 3.25006 | 3.224 | 3.22109 | 3.23106 | |
| | 53 | 3.19892 | 3.1683 | 3.22269 | 3.18477 | |
| | Min | 3.1702 | 3.1523 | 3.1525 | 3.1481 | |
| | Max | 3.2501 | 3.2242 | 3.2227 | 3.2311 | |
| | Average | 3.2089 | 3.1867 | 3.1993 | 3.1908 | |
| UnBiased | 29 | 3.2141 | 3.20741 | 3.19475 | 3.19355 | |
| | 30 | 3.21011 | 3.19145 | 3.18517 | 3.18158 | |
| | 51 | 3.16855 | 3.15393 | 3.14526 | 3.15604 | |
| | 52 | 3.23648 | 3.2122 | 3.21551 | 3.2135 | |
| | Min | 3.1686 | 3.1539 | 3.1453 | 3.1560 | |
| | Max | 3.2365 | 3.2122 | 3.2155 | 3.2135 | |
| | Average | 3.2073 | 3.1912 | 3.1852 | 3.1862 | |