

## RADIATION TEST REPORT

PRODUCT:	REF02AL/QMLL
GAMMA:	0, 50k, 75k, 100k/TM1019 Condition D
GAMMA SOURCE:	Co60
DOSE RATE:	7.3 mRad/s
FACILITIES:	University of Massachusetts @ Lowell
TESTED:	2010

The RADTEST<sup>SM</sup> 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.

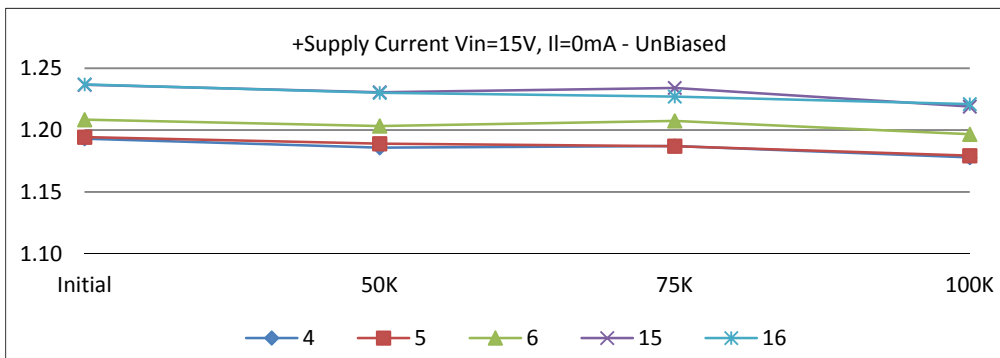
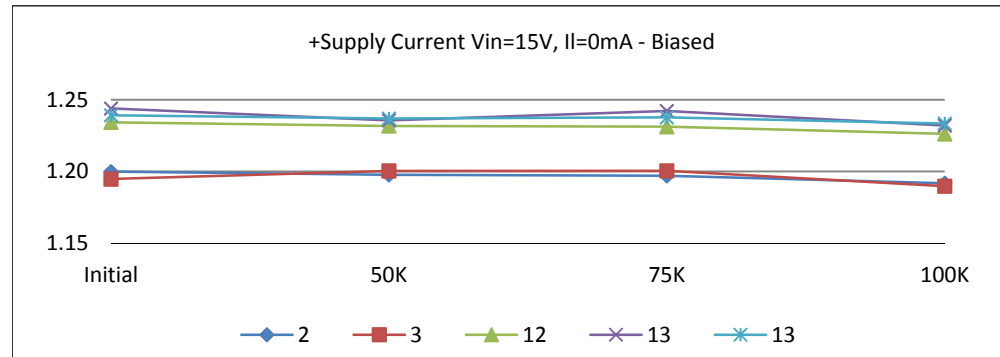
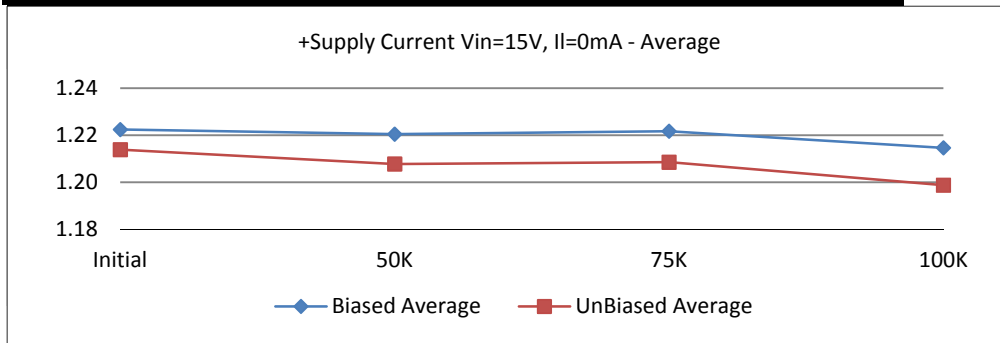
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### WARNING:

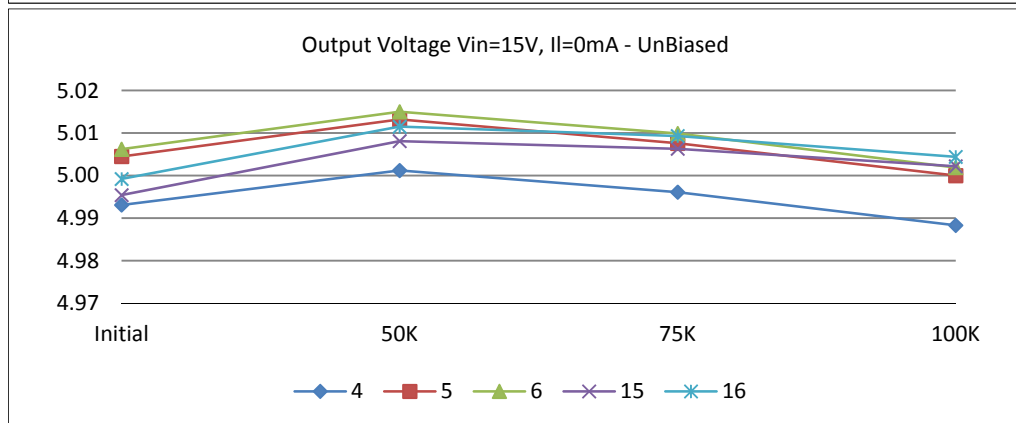
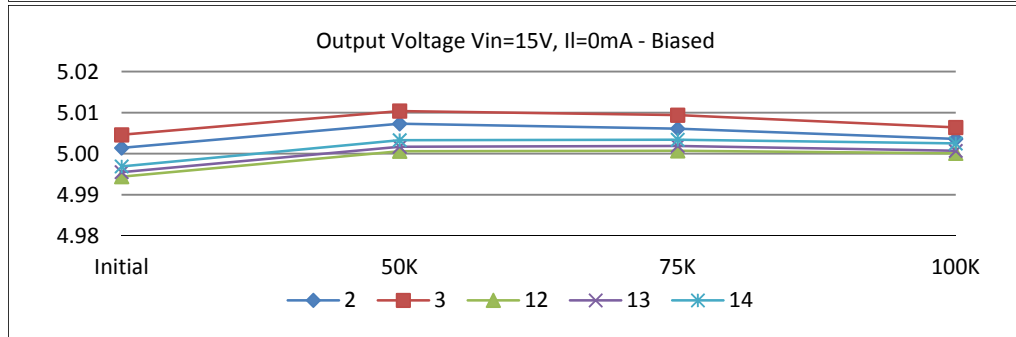
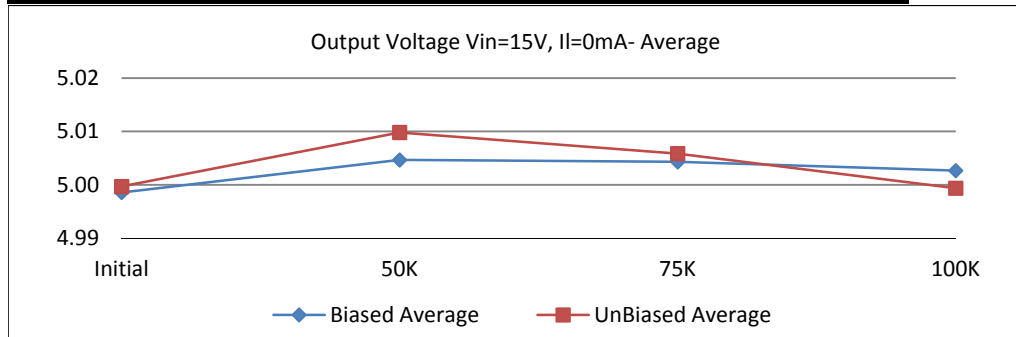
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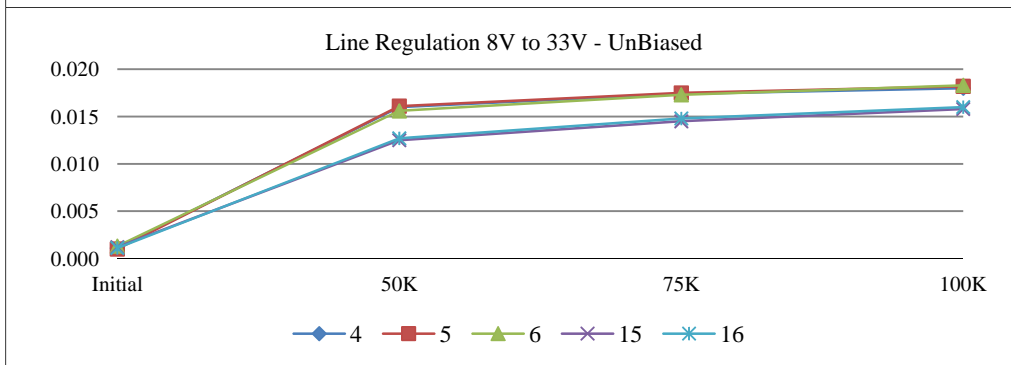
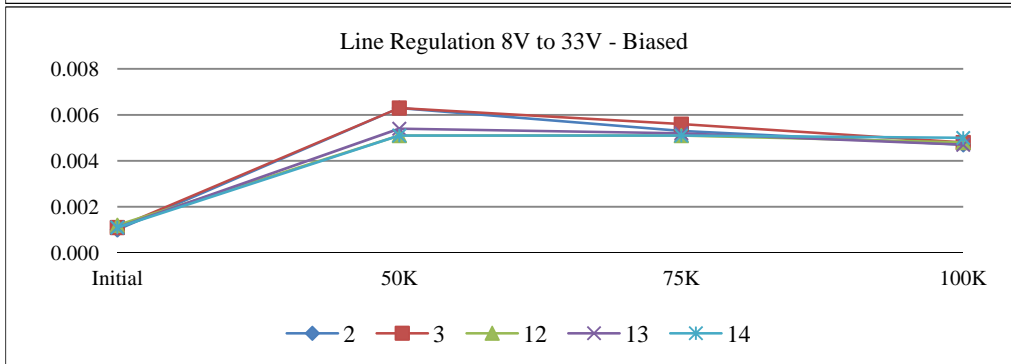
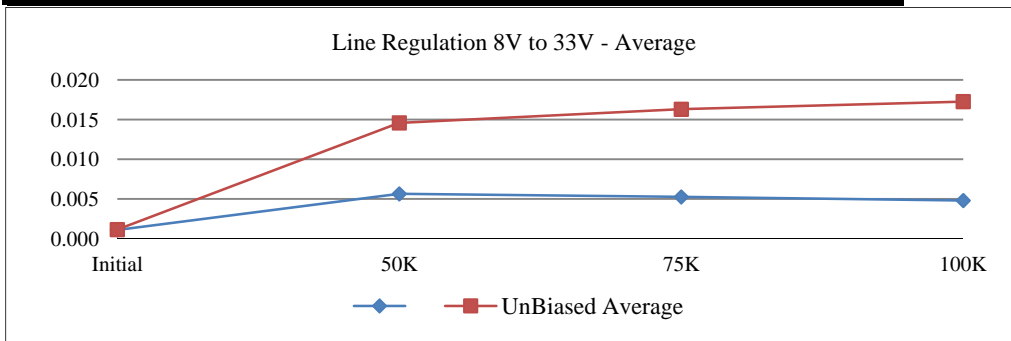
	T# 1	ISY @ Vin=15V & IL=0mA				mA
	SN	Initial	50K	75K	100K	Limit
Control	8	1.2067	1.2054	1.2049	1.2059	<1.4
	18	1.2365	1.2320	1.2283	1.2300	
Biased	2	1.1999	1.1977	1.1970	1.1918	
	3	1.1948	1.2004	1.2005	1.1898	
	12	1.2343	1.2317	1.2312	1.2262	
	13	1.2439	1.2356	1.2422	1.2320	
	14	1.2392	1.2369	1.2377	1.2334	
	Min	1.1948	1.1977	1.1970	1.1898	
	Max	1.2439	1.2369	1.2422	1.2334	
	Average	1.2224	1.2205	1.2217	1.2146	
UnBiased	4	1.1931	1.1858	1.1871	1.1779	
	5	1.1943	1.1890	1.1870	1.1793	
	6	1.2084	1.2033	1.2074	1.1966	
	15	1.2366	1.2306	1.2341	1.2190	
	16	1.2369	1.2301	1.2271	1.2210	
	Min	1.1931	1.1858	1.1870	1.1779	
	Max	1.2369	1.2306	1.2341	1.2210	
	Average	1.2139	1.2078	1.2085	1.1988	



	T#2	Vout @ Vin=15V & IL=0mA				V
	SN	Initial	50K	75K	100K	Limit
Control	8	5.0000	5.0000	4.9998	4.9998	>4.975
	18	4.9931	4.9931	4.9931	4.9931	<5.025
Biased	2	5.0014	5.0073	5.0061	5.0036	
	3	5.0046	5.0104	5.0094	5.0064	
	12	4.9944	5.0006	5.0007	5.0001	
	13	4.9955	5.0017	5.0019	5.0007	
	14	4.9969	5.0033	5.0034	5.0025	
	Min	4.9944	5.0006	5.0007	5.0001	
UnBiased	Max	5.0046	5.0104	5.0094	5.0064	
	Average	4.9986	5.0047	5.0043	5.0027	
	4	4.9931	5.0012	4.9961	4.9883	
	5	5.0045	5.0132	5.0076	5.0000	
	6	5.0062	5.0150	5.0099	5.0019	
	15	4.9954	5.0081	5.0063	5.0022	
UnBiased	16	4.9992	5.0115	5.0093	5.0044	
	Min	4.9931	5.0012	4.9961	4.9883	
	Max	5.0062	5.0150	5.0099	5.0044	
	Average	4.9997	5.0098	5.0058	4.9994	



T#3		Line Reg. 8V to 33V				%/V
SN		Initial	50K	75K	100K	Limit
Control	8	0.0014	0.0014	0.0013	0.0012	<0.03
	18	0.0011	0.0011	0.0011	0.0011	
Biased	2	0.0010	0.0063	0.0053	0.0047	
	3	0.0011	0.0063	0.0056	0.0048	
	12	0.0012	0.0051	0.0051	0.0048	
	13	0.0011	0.0054	0.0052	0.0047	
	14	0.0011	0.0051	0.0051	0.0050	
	Min	0.0010	0.0051	0.0051	0.0047	
	Max	0.0012	0.0063	0.0056	0.0050	
Average	0.0011	0.0056	0.0053	0.0048		
UnBiased	4	0.0011	0.0160	0.0174	0.0180	
	5	0.0010	0.0161	0.0175	0.0182	
	6	0.0013	0.0156	0.0173	0.0183	
	15	0.0012	0.0125	0.0145	0.0158	
	16	0.0011	0.0127	0.0148	0.0160	
	Min	0.0010	0.0125	0.0145	0.0158	
	Max	0.0013	0.0161	0.0175	0.0183	
	Average	0.0011	0.0146	0.0163	0.0173	



	T#4	Load Reg 0 to 10mA				%/mA
	SN	Initial	50K	75K	100K	Limit
<b>Control</b>	8	0.00180	0.00190	0.00210	0.00200	<0.015
	18	0.00200	0.00200	0.00200	0.00210	
<b>Biased</b>	2	0.00180	0.00180	0.00190	0.00200	
	3	0.00190	0.00230	0.00230	0.00200	
	12	0.00200	0.00200	0.00200	0.00210	
	13	0.00180	0.00200	0.00180	0.00180	
	14	0.00230	0.00200	0.00230	0.00250	
	Min	0.00180	0.00180	0.00180	0.00180	
	Max	0.00230	0.00230	0.00230	0.00250	
	Average	0.00196	0.00202	0.00206	0.00208	
	<b>UnBiased</b>	4	0.00180	0.00220	0.00230	0.00220
5		0.00220	0.00220	0.00230	0.00230	
6		0.00210	0.00230	0.00220	0.00220	
15		0.00190	0.00220	0.00220	0.00250	
16		0.00190	0.00220	0.00190	0.00210	
Min		0.00180	0.00220	0.00190	0.00210	
Max		0.00220	0.00230	0.00230	0.00250	
Average		0.00198	0.00222	0.00218	0.00226	

