RADIATION TEST REPORT

PRODUCT: AD8138ALQMLR

DATE CODE: 0914

GAMMA: 0, 100k

GAMMA SOURCE: Co60

DOSE RATE: 155 Rad(si)/s

FACILITIES: University of Massachusetts @ Lowell

TESTED: 12/10/09

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.
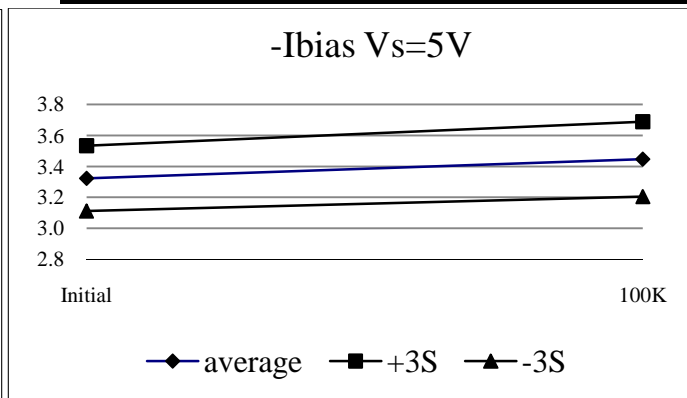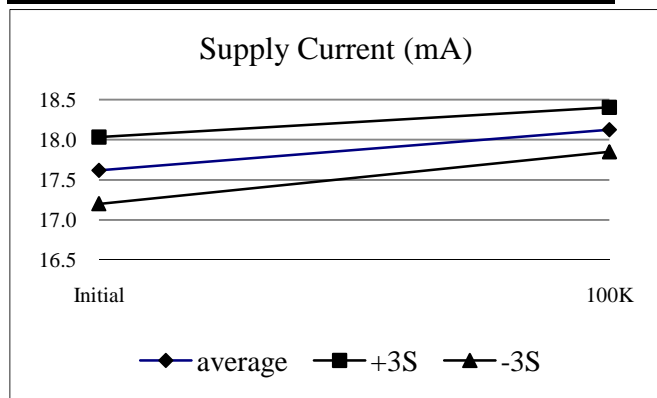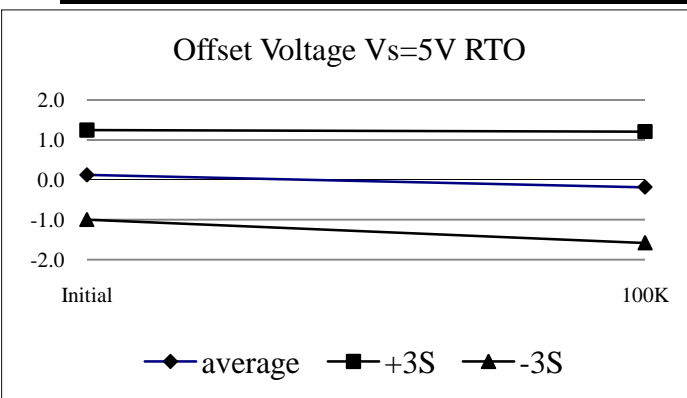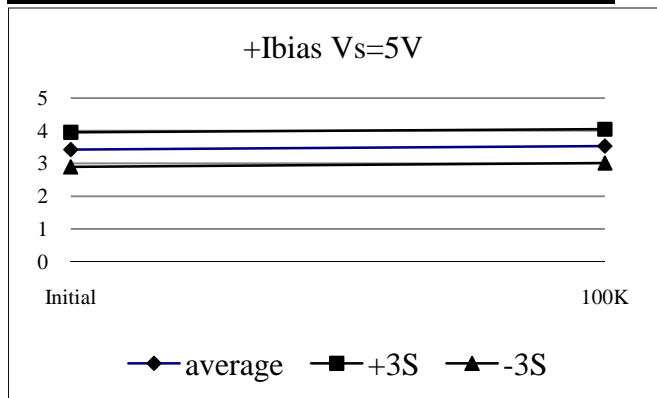
WARNING:

ANALOG DEVICES

T# 1	+Is @ Vs=5v	mA
SN	Initial	100K
21	17.557	17.638
1	17.524	18.146
3	17.598	18.135
4	17.817	18.223
5	17.524	18.000
min	17.524	18.000
max	17.817	18.223
stdev	0.138	0.093
average	17.616	18.126
+3S	18.031	18.404
-3S	17.201	17.848

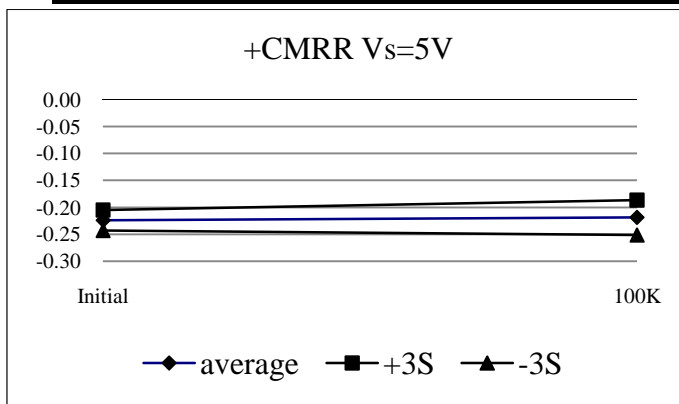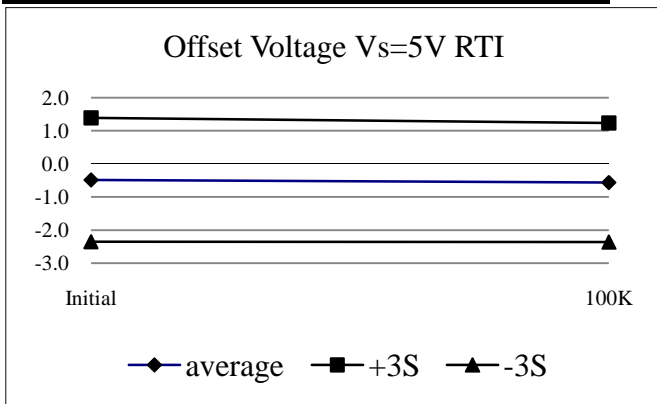| T# 2	-Ib @ Vs=5v	uA
SN	Initial	100K
21	3.663	3.619
1	3.269	3.384
3	3.355	3.486
4	3.407	3.541
5	3.262	3.375
min	3.262	3.375
max	3.407	3.541
stdev	0.070	0.081
average	3.323	3.447
+3S	3.534	3.689
-3S	3.112	3.205

Supply Current (mA)

-Ibias Vs=5V

T# 3	+Ib @ Vs=5v	uA
SN	Initial	100K
21	3.464	3.423
1	3.531	3.611
3	3.309	3.439
4	3.609	3.724
5	3.239	3.338
min	3.239	3.338
max	3.609	3.724
stdev	0.176	0.172
average	3.422	3.528
+3S	3.951	4.045
-3S	2.893	3.011

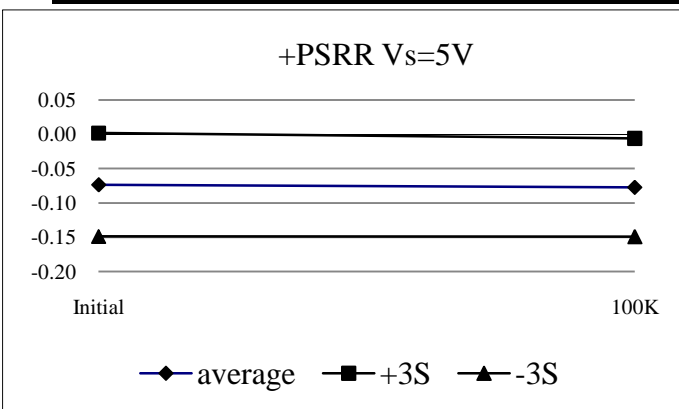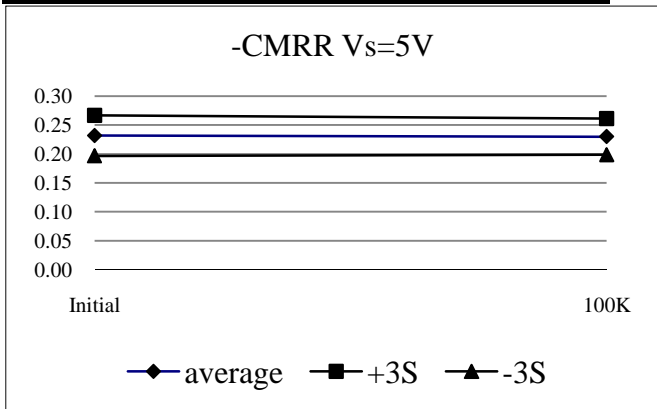| T# 4	RTO Vos cm @ Vs=5v	mV
SN	Initial	100K
21	0.422	0.134
1	0.100	-0.437
3	-0.273	-0.578
4	0.629	0.470
5	0.047	-0.195
min	-0.273	-0.578
max	0.629	0.470
stdev	0.374	0.464
average	0.125	-0.185
+3S	1.247	1.208
-3S	-0.996	-1.578

+Ibias Vs=5V

Offset Voltage Vs=5V RTO

T# 5	RTI Vos dm @ Vs=5v	mV
SN	Initial	100K
21	0.406	0.372
1	-0.412	-0.478
3	-1.109	-1.201
4	-0.754	-0.789
5	0.348	0.218
min	-1.109	-1.201
max	0.348	0.218
stdev	0.622	0.599
average	-0.482	-0.563
+3S	1.385	1.234
-3S	-2.348	-2.360

Offset Voltage Vs=5V RTI

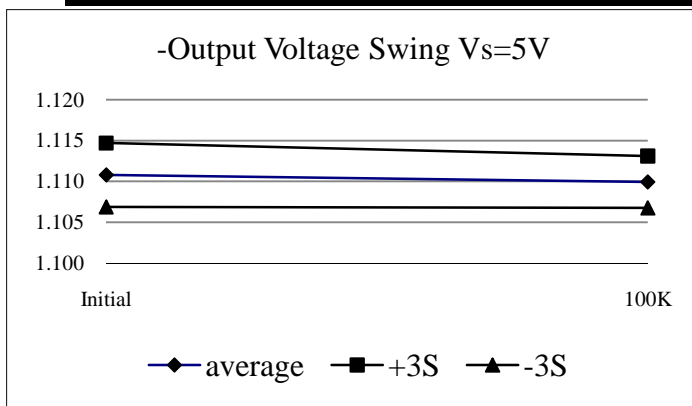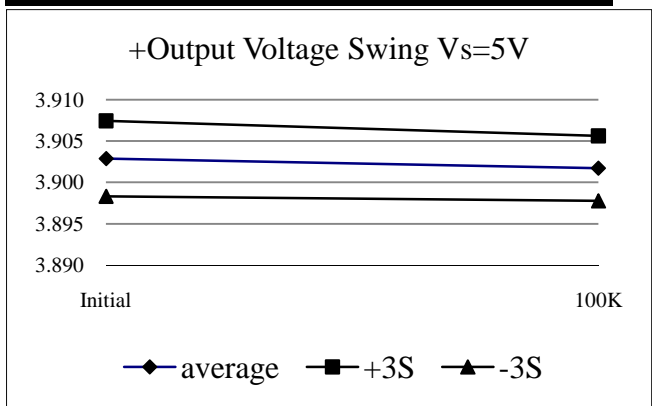| T# 6	+CMRR dm @ Vs=5v	mV/V
SN	Initial	100K
21	-0.225	-0.229
1	-0.220	-0.220
3	-0.219	-0.206
4	-0.224	-0.217
5	-0.233	-0.232
min	-0.233	-0.232
max	-0.219	-0.206
stdev	0.006	0.011
average	-0.224	-0.219
+3S	-0.205	-0.186
-3S	-0.243	-0.251

+CMRR Vs=5V

T# 7	-CMRR dm @ Vs=5v	mV/V
SN	Initial	100K
21	0.235	0.223
1	0.238	0.220
3	0.223	0.226
4	0.221	0.229
5	0.245	0.245
min	0.221	0.220
max	0.245	0.245
stdev	0.012	0.010
average	0.232	0.230
+3S	0.267	0.261
-3S	0.197	0.199

-CMRR Vs=5V

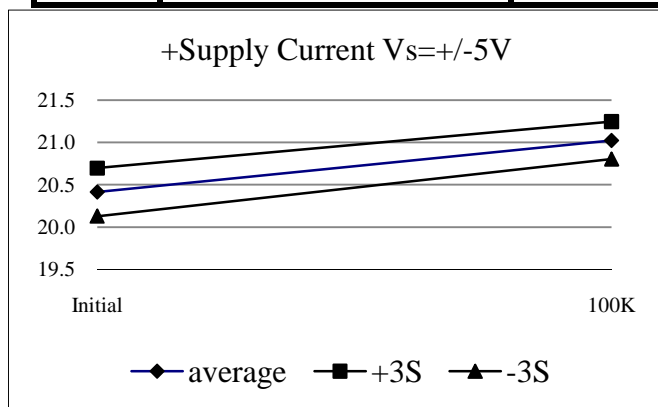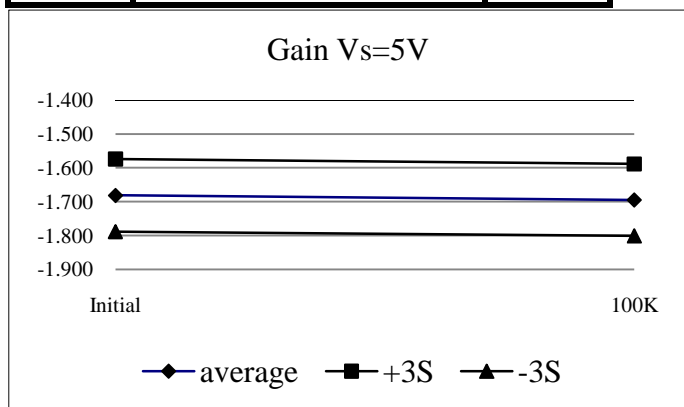| T# 8	+PSRR dm @ Vs=5v	mV/V
SN	Initial	100K
21	-0.054	-0.053
1	-0.039	-0.042
3	-0.095	-0.093
4	-0.088	-0.092
5	-0.072	-0.083
min	-0.095	-0.093
max	-0.039	-0.042
stdev	0.025	0.024
average	-0.074	-0.078
+3S	0.002	-0.006
-3S	-0.149	-0.149

+PSRR Vs=5V

T# 9	+Out Swing Vout @ Vs=5v	V
SN	Initial	100K
21	3.906	3.905
1	3.905	3.903
3	3.901	3.900
4	3.902	3.901
5	3.904	3.902
min	3.901	3.900
max	3.905	3.903
stdev	0.002	0.001
average	3.903	3.902
+3S	3.907	3.906
-3S	3.898	3.898

+Output Voltage Swing Vs=5V

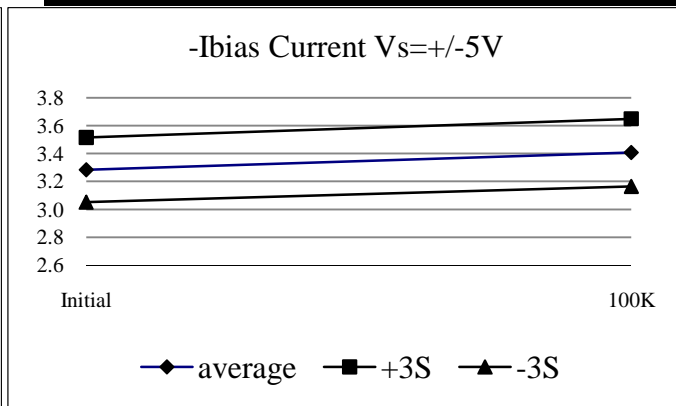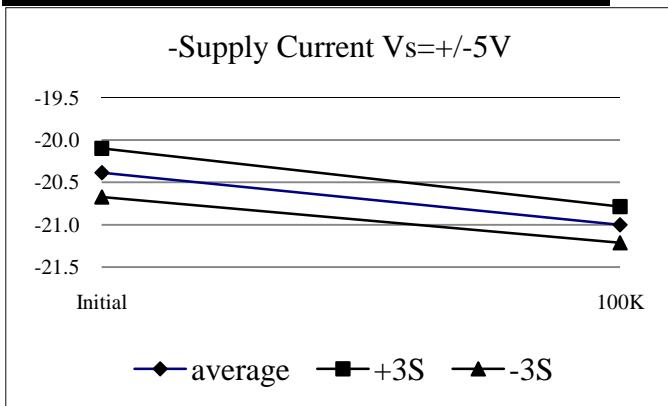| T# 10	-Out Swing Vout @ Vs=5v	V
SN	Initial	100K
21	1.112	1.111
1	1.113	1.111
3	1.111	1.110
4	1.110	1.110
5	1.110	1.109
min	1.110	1.109
max	1.113	1.111
stdev	0.001	0.001
average	1.111	1.110
+3S	1.115	1.113
-3S	1.107	1.107

-Output Voltage Swing Vs=5V

T# 11	Gain	mV/V
SN	Initial	100K
21	-1.712	-1.710
1	-1.679	-1.698
3	-1.725	-1.737
4	-1.638	-1.650
5	-1.682	-1.693
min	-1.725	-1.737
max	-1.638	-1.650
stdev	0.036	0.035
average	-1.681	-1.695
+3S	-1.574	-1.589
-3S	-1.788	-1.801

Gain Vs=5V

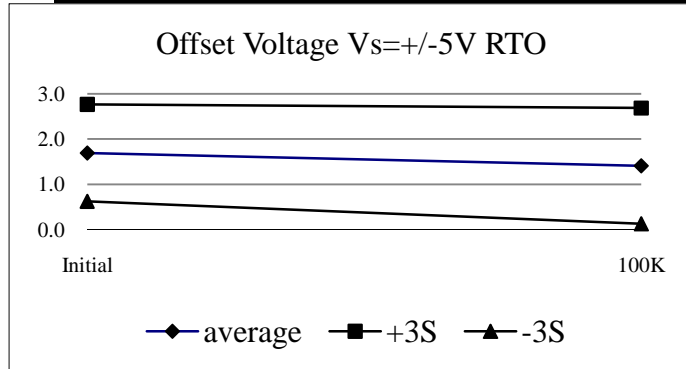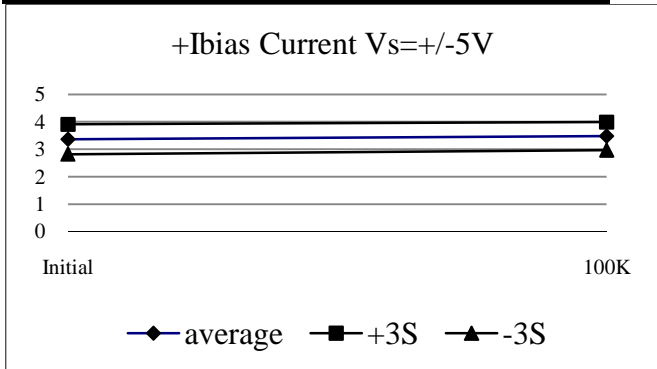| T# 12	+Is @ Vs=+/-5v	mA
SN	Initial	100K
21	20.376	20.486
1	20.340	21.071
3	20.450	21.075
4	20.530	21.035
5	20.333	20.918
min	20.333	20.918
max	20.530	21.075
stdev	0.095	0.074
average	20.413	21.025
+3S	20.697	21.245
-3S	20.129	20.804

+Supply Current Vs=+/-5V

T# 13	-Is @ Vs=+/-5v	mA
SN	Initial	100K
21	-20.347	-20.457
1	-20.310	-21.047
3	-20.420	-21.047
4	-20.504	-21.007
5	-20.306	-20.897
min	-20.504	-21.047
max	-20.306	-20.897
stdev	0.095	0.071
average	-20.385	-21.000
+3S	-20.099	-20.786
-3S	-20.671	-21.213

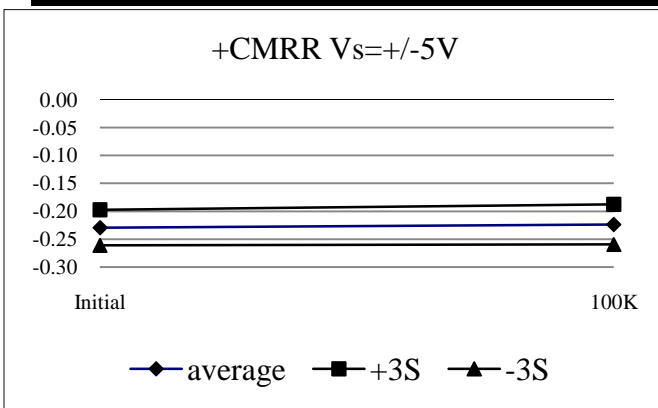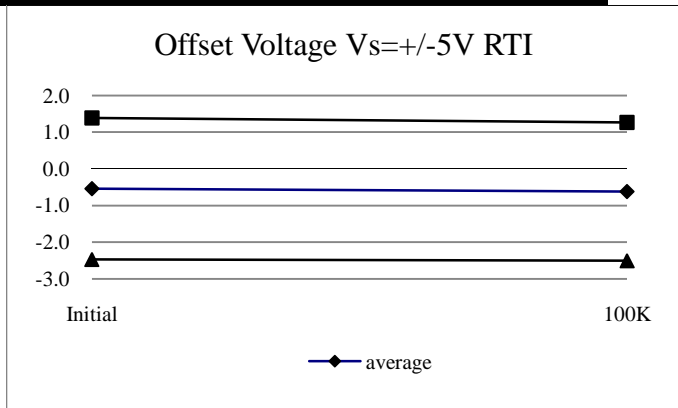| T# 14	-Ib @ Vs=+/-5v	uA
SN	Initial	100K
21	3.559	3.523
1	3.235	3.359
3	3.296	3.421
4	3.388	3.514
5	3.217	3.332
min	3.217	3.332
max	3.388	3.514
stdev	0.077	0.081
average	3.284	3.407
+3S	3.516	3.649
-3S	3.052	3.165

-Supply Current Vs=+/-5V

-Ibias Current Vs=+/-5V

T# 15	+Ib @ Vs=+/-5v	uA
SN	Initial	100K
21	3.385	3.342
1	3.464	3.554
3	3.238	3.381
4	3.566	3.675
5	3.186	3.295
min	3.186	3.295
max	3.566	3.675
stdev	0.181	0.171
average	3.363	3.476
+3S	3.906	3.988
-3S	2.820	2.964

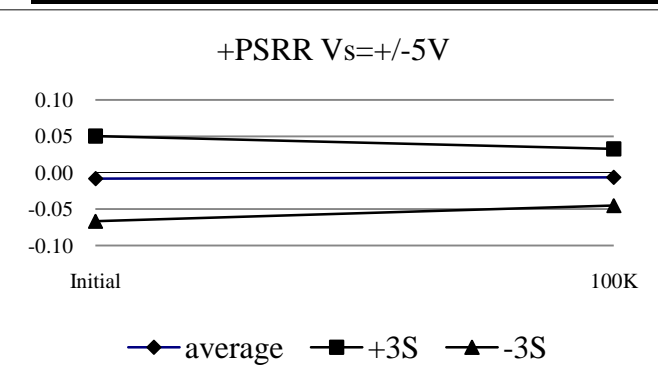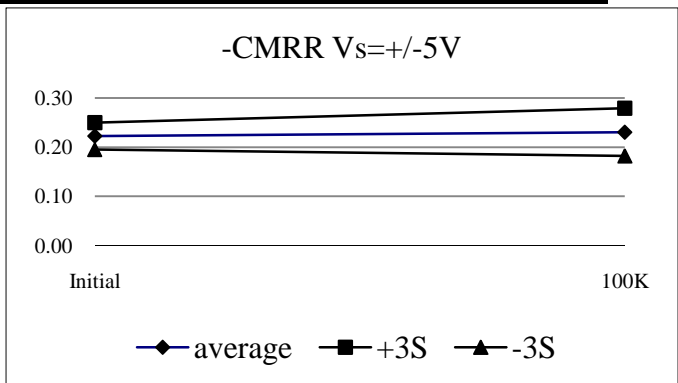| T# 16	RTO Vos cm @ Vs=+/-5v	mV
SN	Initial	100K
21	1.824	1.700
1	1.614	1.143
3	1.308	1.039
4	2.171	1.987
5	1.679	1.454
min	1.308	1.039
max	2.171	1.987
stdev	0.357	0.426
average	1.693	1.406
+3S	2.765	2.684
-3S	0.621	0.127

+Ibias Current Vs=+/-5V

Offset Voltage Vs=+/-5V RTO

T# 17	RTI Vos dm @ Vs=+/-5v	mV
SN	Initial	100K
21	0.390	0.370
1	-0.458	-0.537
3	-1.219	-1.307
4	-0.798	-0.837
5	0.302	0.193
min	-1.219	-1.307
max	0.302	0.193
stdev	0.644	0.629
average	-0.543	-0.622
+3S	1.388	1.266
-3S	-2.474	-2.509

T# 18	+CMRR dm @ Vs=+/-5v	mV/V
SN	Initial	100K
21	-0.228	-0.223
1	-0.221	-0.241
3	-0.228	-0.217
4	-0.224	-0.218
5	-0.245	-0.217
min	-0.245	-0.241
max	-0.221	-0.217
stdev	0.011	0.012
average	-0.229	-0.224
+3S	-0.197	-0.188
-3S	-0.261	-0.259

Offset Voltage Vs=+/-5V RTI

+CMRR Vs=+/-5V

T# 19	-CMRR dm @ Vs=+/-5v	mV/V
SN	Initial	100K
21	0.218	0.218
1	0.225	0.216
3	0.211	0.222
4	0.221	0.231
5	0.233	0.253
min	0.211	0.216
max	0.233	0.253
stdev	0.009	0.016
average	0.222	0.230
+3S	0.250	0.279
-3S	0.195	0.182

T# 20	+PSRR dm @ Vs=+/-5v	mV/V
SN	Initial	100K
21	-0.006	-0.003
1	0.020	0.013
3	-0.022	-0.013
4	-0.012	-0.016
5	-0.019	-0.008
min	-0.022	-0.016
max	0.020	0.013
stdev	0.019	0.013
average	-0.008	-0.006
+3S	0.050	0.033
-3S	-0.067	-0.045

-CMRR Vs=+/-5V

+PSRR Vs=+/-5V

T# 21	-PSRR dm @ Vs=+/-5v	mV/V
SN	Initial	100K
21	0.000	0.002
1	0.032	0.007
3	0.008	0.003
4	-0.014	-0.017
5	-0.026	-0.014
min	-0.026	-0.017
max	0.032	0.007
stdev	0.026	0.012
average	0.000	-0.005
+3S	0.077	0.032
-3S	-0.077	-0.042

T# 23	Gain Vs=+/-5V	mV/V
SN	Initial	100K
21	-2.851	-2.860
1	-2.788	-2.839
3	-2.858	-2.886
4	-2.687	-2.711
5	-2.790	-2.814
min	-2.858	-2.886
max	-2.687	-2.711
stdev	0.070	0.074
average	-2.781	-2.813
+3S	-2.570	-2.591
-3S	-2.992	-3.034

-PSRR Vs=+/-5V

Gain Vs=+/-5V