

# ESA-QCA0045T-C

FILE: OH87705G.WQ1	FACILITY: Lockheed Missles and Space	MASK: 4007Z-6A3
PROD: OP-97	SOURCE: AECL Gamma Cell 220	I/D: ERZAA
DATE: 11/09/90	FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)	d/c: 9040
	FLUX: 25 Rad(Si)/Sec	

TEST RESULTS VOS (uV)  
Rs=50 OHMS

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	12.900	14.079	12.840	12.765	12.724	3.004	11.430	10.240
Control	11.686	14.121	14.079	12.814	12.711	12.707	12.689	10.181
839	13.061	39.576	-38.001	-85.400	-175.336	-254.166	-533.359	-619.516
840	15.383	-11.356	-34.387	-23.578	-84.268	-165.604	-387.676	-598.873
842	10.592	-23.470	-86.572	-171.606	-265.129	-388.929	-651.090	-812.434
843	12.969	-35.634	-82.972	-169.180	-242.010	-280.885	-484.773	-544.403
844	12.996	-10.139	-38.107	-98.825	-146.225	-195.997	-363.444	-302.800
845	22.673	1.959	-35.666	-61.240	-101.265	-101.291	-327.089	-181.481
846	14.154	-22.286	-65.957	-160.733	-210.486	-261.461	-492.057	-595.344
847	22.604	-28.345	-82.962	-194.705	-268.798	-359.779	-666.781	-910.825
848	1.993	-11.394	-45.391	-24.856	-77.012	-98.869	-409.558	-509.123
849	-5.338	-47.790	-120.628	-169.243	-255.415	-360.966	-653.544	-836.743
850	12.992	-29.514	-82.969	-157.131	-268.722	-401.034	-723.843	-1068.561
851	14.129	-24.731	-95.122	-181.370	-294.285	-425.299	-703.215	-873.160
852	-0.459	-34.420	-96.349	-169.256	-276.018	-375.540	-636.499	-902.233
853	37.201	-10.135	-56.274	-109.808	-205.666	-302.748	-581.924	-801.550
854	12.897	-34.411	-89.031	-112.226	-169.216	-289.457	-479.973	-654.709
855	10.590	-11.380	-55.049	-49.121	-129.266	-193.532	-399.847	-631.708
856	3.227	-22.286	-59.954	-84.223	-186.224	-278.505	-569.787	-814.940
857	9.268	-23.583	-78.107	-97.623	-219.063	-399.854	-740.894	-1019.966
858	11.699	-23.551	-72.100	-60.037	-154.676	-271.222	-627.959	-931.434
859	15.349	-42.955	-97.552	-231.166	-341.665	-492.037	-813.687	-1030.957
860	-0.423	-34.398	-83.023	-144.992	-240.901	-387.709	-659.551	-903.552
861	11.626	-23.562	-70.877	-109.799	-158.351	-268.814	-557.658	-642.596
MEAN	11.7810	-21.0820	-71.2295	-121.1872	-203.1817	-297.8954	-566.5549	-735.7685
SIGMA	8.9868	18.0385	23.5223	57.4811	71.3558	104.1390	134.7221	229.8790
MIN	-5.338	-47.790	-120.628	-231.166	-341.665	-492.037	-813.687	-1068.561
MAX	37.201	39.576	-34.387	-23.578	-77.012	-98.869	-327.089	-181.481

FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

TEST RESULTS IOS (nA)  
 Vcm=0V

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	0.027	0.017	0.015	0.015	0.017	0.012	0.012	0.014
Control	0.013	0.000	0.002	0.002	0.002	0.003	0.003	0.004
839	0.016	0.042	0.027	0.161	0.128	0.157	0.126	0.148
840	0.011	0.067	0.075	0.089	0.253	0.280	0.581	0.233
842	0.001	0.006	0.018	0.032	0.100	0.227	0.231	0.165
843	0.018	0.032	0.141	0.080	0.131	0.262	0.298	0.696
844	0.013	0.039	0.059	0.022	0.115	0.135	0.177	0.198
845	0.023	0.026	0.135	0.011	0.039	0.141	0.133	0.507
846	0.040	0.054	0.102	0.080	0.167	0.282	0.205	0.177
847	0.018	0.000	0.032	0.034	0.040	0.048	0.137	0.084
848	0.022	0.010	0.054	0.053	0.026	0.213	0.011	0.014
849	0.003	0.018	0.098	0.140	0.176	0.157	0.589	0.150
850	0.030	0.081	0.155	0.152	0.201	0.275	0.113	0.123
851	0.019	0.078	0.169	0.213	0.248	0.340	0.423	0.417
852	0.000	0.033	0.133	0.082	0.133	0.199	0.139	0.195
853	0.008	0.095	0.109	0.112	0.108	0.241	0.170	0.182
854	0.018	0.105	0.129	0.280	0.430	0.465	0.485	0.529
855	0.048	0.092	0.106	0.308	0.345	0.304	0.473	0.644
856	0.002	0.018	0.026	0.099	0.182	0.188	0.111	0.114
857	0.037	0.103	0.158	0.265	0.402	0.371	0.574	0.207
858	0.031	0.078	0.114	0.349	0.495	0.562	0.551	0.495
859	0.023	0.078	0.086	0.107	0.224	0.262	0.193	0.490
860	0.009	0.042	0.131	0.219	0.214	0.245	0.552	0.093
861	0.019	0.006	0.103	0.148	0.183	0.198	0.124	0.149
MEAN	0.0186	0.0501	0.0982	0.1380	0.1973	0.2524	0.2907	0.2732
SIGMA	0.0129	0.0343	0.0458	0.0969	0.1257	0.1126	0.1945	0.1988
MIN	0.000	0.000	0.018	0.011	0.026	0.048	0.011	0.014
MAX	0.048	0.105	0.169	0.349	0.495	0.562	0.589	0.696

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TEST RESULTS +IB (nA)  
 Vcm=0V

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	-0.013	-0.018	-0.022	-0.024	-0.015	-0.019	-0.019	-0.019
Control	-0.018	-0.029	-0.028	-0.027	-0.024	-0.030	-0.028	-0.032
839	-0.017	-0.113	-0.334	-0.496	-0.753	-0.869	-0.950	-1.505
840	-0.032	-0.201	-0.392	-0.683	-1.007	-1.498	-1.980	-2.514
842	-0.048	-0.250	-0.416	-0.676	-0.842	-1.192	-2.415	-1.957
843	-0.032	-0.179	-0.305	-0.498	-0.766	-1.017	-1.394	-1.668
844	-0.030	-0.179	-0.281	-0.496	-0.691	-0.997	-1.061	-1.305
845	-0.027	-0.174	-0.301	-0.586	-0.925	-1.335	-2.422	-2.512
846	-0.005	-0.148	-0.271	-0.433	-0.582	-0.769	-1.113	-1.592
847	-0.017	-0.091	-0.240	-0.494	-0.737	-1.096	-1.651	-1.160
848	-0.035	-0.186	-0.334	-0.587	-0.948	-1.261	-1.963	-4.342
849	-0.024	-0.212	-0.285	-0.493	-0.800	-1.241	-2.487	-1.806
850	-0.010	-0.114	-0.248	-0.564	-1.032	-1.587	-2.526	-4.628
851	-0.022	-0.189	-0.389	-0.654	-0.977	-1.370	-1.848	-2.460
852	-0.031	-0.203	-0.298	-0.489	-0.778	-1.202	-2.481	-2.230
853	-0.026	-0.215	-0.332	-0.574	-0.965	-1.370	-2.346	-1.933
854	0.010	-0.084	-0.175	-0.279	-0.609	-0.977	-2.636	-3.302
855	-0.003	-0.161	-0.373	-0.524	-0.866	-1.375	-2.075	-4.076
856	-0.035	-0.191	-0.352	-0.517	-0.767	-1.147	-2.411	-1.776
857	0.011	-0.049	-0.195	-0.339	-0.523	-0.898	-2.063	-2.543
858	-0.002	-0.125	-0.271	-0.473	-0.864	-1.377	-2.379	-4.784
859	-0.023	-0.158	-0.265	-0.475	-0.879	-1.421	-2.344	-3.876
860	-0.023	-0.174	-0.245	-0.442	-0.777	-1.172	-2.221	-1.693
861	-0.006	-0.236	-0.452	-0.856	-1.449	-2.314	-2.964	-3.432
MEAN	-0.0194	-0.1651	-0.3070	-0.5285	-0.8426	-1.2493	-2.0786	-2.5952
SIGMA	0.0152	0.0510	0.0699	0.1208	0.1918	0.3195	0.5428	1.1320
MIN	-0.048	-0.250	-0.452	-0.856	-1.449	-2.314	-2.964	-4.784
MAX	0.011	-0.049	-0.175	-0.279	-0.523	-0.769	-0.950	-1.160

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 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

TEST RESULTS -IB (nA)  
 Vcm=0V

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	-0.037	-0.034	-0.035	-0.036	-0.033	-0.036	-0.032	-0.034
Control	-0.030	-0.027	-0.028	-0.030	-0.030	-0.025	-0.028	-0.026
839	-0.001	-0.155	-0.361	-0.657	-0.871	-1.027	-1.076	-1.626
840	-0.042	-0.264	-0.469	-0.770	-1.261	-1.842	-2.386	-2.865
842	-0.048	-0.234	-0.440	-0.687	-0.940	-1.416	-2.613	-2.344
843	-0.050	-0.222	-0.441	-0.576	-0.907	-1.259	-1.668	-1.469
844	-0.045	-0.230	-0.341	-0.523	-0.868	-1.138	-1.217	-1.468
845	-0.059	-0.204	-0.429	-0.597	-0.980	-1.451	-2.508	-2.059
846	-0.046	-0.205	-0.358	-0.506	-0.755	-1.056	-1.305	-1.755
847	-0.038	-0.098	-0.288	-0.454	-0.761	-1.138	-1.759	-1.513
848	-0.013	-0.217	-0.386	-0.642	-0.950	-1.461	-2.147	-4.244
849	-0.020	-0.229	-0.395	-0.631	-0.960	-1.370	-2.746	-2.230
850	-0.041	-0.196	-0.397	-0.728	-1.224	-1.857	-2.781	-4.842
851	-0.041	-0.264	-0.545	-0.864	-1.217	-1.681	-2.232	-2.095
852	-0.034	-0.233	-0.427	-0.576	-0.914	-1.362	-2.591	-2.785
853	-0.036	-0.298	-0.450	-0.691	-1.064	-1.599	-2.515	-2.552
854	-0.010	-0.182	-0.300	-0.551	-1.029	-1.436	-2.328	-3.971
855	-0.050	-0.244	-0.474	-0.830	-1.204	-1.683	-2.845	-4.751
856	-0.037	-0.169	-0.333	-0.610	-0.928	-1.325	-2.512	-2.742
857	-0.025	-0.160	-0.341	-0.594	-0.886	-1.263	-2.360	-2.721
858	-0.031	-0.196	-0.388	-0.823	-1.348	-1.922	-3.040	-5.240
859	-0.044	-0.230	-0.366	-0.576	-1.116	-1.671	-2.675	-4.325
860	-0.030	-0.221	-0.363	-0.660	-0.970	-1.407	-2.532	-2.076
861	-0.019	-0.226	-0.550	-0.995	-1.612	-2.505	-3.459	-3.895
MEAN	-0.0345	-0.2126	-0.4019	-0.6610	-1.0348	-1.4940	-2.3316	-2.8895
SIGMA	0.0147	0.0428	0.0694	0.1305	0.2057	0.3398	0.5976	1.2068
MIN	-0.059	-0.298	-0.550	-0.995	-1.612	-2.505	-3.459	-5.240
MAX	-0.001	-0.098	-0.288	-0.454	-0.755	-1.027	-1.076	-1.468

FILE:	OH87705G.WQ1	FACILITY:	Lockheed Missles and Space	MASK:	4007Z-6A3
PROD:	OP-97	SOURCE:	AECL Gamma Cell 220	I/D:	ERZAA
DATE:	11/09/90	FLUENCE:	0,10,20,30,40,50,75,100 KRad(Si)	d/c:	9040
		FLUX:	25 Rad(Si)/Sec		

TEST RESULTS AVO (V/mV) \*  
Vo=+/-10V, Rl=2K

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	864.7	857.4	827.2	785.3	825.7			
Control	832.3	863.2	806.5	864.0	781.2			
839	967.8	723.9	199.5	92.8	5.0			
840	1017.2	445.9	216.7	107.8	51.0			
842	1662.9	458.3	189.5	88.4	45.5			
843	1493.9	558.1	265.2	139.3	68.2			
844	700.4	389.5	201.5	114.5	58.7			
845	2145.8	6691.5	687.5	293.5	125.8			
846	1367.2	471.8	222.4	111.9	60.7			
847	2171.7	479.8	201.3	92.5	2.5			
848	773.6	393.8	177.2	94.0				
849	748.6	337.4	157.9	80.9				
850	1123.6	327.1	137.4	64.2				
851	1414.6	381.5	154.3	73.1	3.4			
852	1157.5	392.4	175.9	90.2	47.3			
853	1465.3	454.9	192.6	92.6	47.1			
854	1377.2	466.8	231.5	123.7	70.9			
855	2173.3	538.7	244.3	131.4	68.7			
856	1651.8	484.9	199.6	94.2	49.1			
857	951.5	360.5	157.4	74.9	36.4			
858	1241.3	400.0	182.6	91.1	47.6			
859	1580.8	360.3	164.2	67.9				
860	1259.8	392.4	179.2	82.7	42.9			
861	912.6	319.1	154.3	75.6				
MEAN	1334.47	719.48	213.27	103.51	48.87			
SIGMA	441.51	1336.98	110.57	46.88	29.33			
MIN	700.4	319.1	137.4	64.2	2.5			
MAX	2173.3	6691.5	687.5	293.5	125.8			

\* Values omitted where oscillation or overrange errors occurred.

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DATE:	11/09/90	FLUENCE:	0,10,20,30,40,50,75,100 KRad(Si)	d/c:	9040
		FLUX:	25 Rad(Si)/Sec		

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TEST RESULTS AVO (V/mV)  
Vo=+/-5V, R1=2K

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control						1679.9	1560.7	2033.6
Control						1734.6	1542.0	2120.6
839						44.9	24.5	16.1
840						49.2	20.0	12.3
842						41.9	17.9	11.0
843						66.9	27.1	19.7
844						55.3	25.6	18.6
845						132.8	37.7	21.4
846						57.9	26.5	17.9
847						42.9	18.0	11.3
848						43.8	16.0	8.7
849						38.9	16.2	10.1
850						29.4	12.9	6.7
851						35.2	15.5	10.4
852						43.6	18.5	10.2
853						42.3	18.4	11.8
854						68.7	27.1	14.4
855						69.3	25.4	13.2
856						43.2	18.0	10.5
857						36.1	15.4	9.3
858						43.9	17.2	9.2
859						31.1	13.4	8.6
860						37.9	16.6	10.0
861						37.9	16.4	11.4
MEAN						49.69	20.20	12.40
SIGMA						21.74	5.98	3.96
MIN						29.4	12.9	6.7
MAX						132.8	37.7	21.4

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 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

TEST RESULTS CMRR (dB)  
 Vcm=+/-13.5V

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	149.9	141.3	139.5	145.5	147.1	147.8	140.0	141.9
Control	135.4	137.5	133.4	137.7	138.8	135.2	136.1	135.4
839	143.4	123.7	117.5	110.4	104.4	99.4	93.9	89.7
840	159.8	127.1	119.1	112.9	105.6	100.3	92.5	88.6
842	144.1	124.7	118.3	111.0	103.9	98.5	90.8	86.5
843	131.7	122.4	117.3	110.8	105.2	100.8	93.4	90.2
844	149.7	126.5	120.8	113.2	106.8	101.4	94.2	90.8
845	141.9	129.1	122.9	116.1	110.4	105.5	96.5	91.6
846	134.2	123.8	118.7	112.1	106.6	101.4	94.7	90.9
847	132.2	121.7	116.1	109.9	103.6	98.6	91.3	87.2
848	137.9	123.2	117.3	112.3	106.4	101.1	92.6	87.0
849	128.5	121.2	115.1	108.8	103.0	97.6	90.2	86.1
850	148.4	125.9	116.9	108.6	101.4	95.8	88.5	82.5
851	137.1	123.2	116.1	108.7	101.7	96.7	89.4	85.7
852	136.6	126.5	119.7	112.0	105.1	99.7	91.4	85.8
853	141.5	124.9	118.3	111.2	104.3	99.0	91.2	87.1
854	136.5	124.2	120.3	114.6	108.7	103.1	94.7	88.6
855	131.1	123.7	119.2	114.0	108.5	103.2	94.9	89.1
856	153.0	127.9	120.9	113.4	105.7	99.7	91.1	86.3
857	139.1	123.4	116.7	109.8	102.4	97.1	89.1	84.4
858	141.5	124.8	117.9	111.5	104.3	98.6	90.0	84.3
859	132.4	120.5	114.1	106.6	99.9	94.8	87.5	84.0
860	141.2	125.0	117.4	110.0	103.0	97.2	89.8	85.2
861	133.9	120.9	115.6	109.4	103.3	98.2	90.9	87.4
MEAN	139.80	124.29	118.01	111.24	104.74	99.44	91.75	87.23
SIGMA	7.78	2.26	2.10	2.26	2.53	2.56	2.37	2.47
MIN	128.5	120.5	114.1	106.6	99.9	94.8	87.5	82.5
MAX	159.8	129.1	122.9	116.1	110.4	105.5	96.5	91.6

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 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

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TEST RESULTS PSRR (uV/V)  
 Vs=+/-2V to +/-20V

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	0.666	0.644	0.650	0.668	0.663	0.623	0.690	0.645
Control	0.645	0.655	0.640	0.565	0.649	0.609	0.623	0.653
839	0.550	0.072	0.048	0.269	1.813	4.112	9.108	14.161
840	0.602	0.464	0.037	0.184	0.973	3.349	10.199	15.749
842	0.400	0.477	0.391	0.914	2.492	5.241	12.749	19.709
843	0.402	0.334	0.122	0.196	1.425	3.136	9.185	11.856
844	0.883	0.674	0.572	0.465	1.830	4.147	9.616	11.847
845	0.115	0.190	0.334	0.901	0.210	0.687	7.326	11.922
846	0.376	0.361	0.212	0.490	1.540	3.457	8.727	12.464
847	0.220	0.228	0.024	0.253	1.495	4.232	11.333	17.630
848	0.536	0.301	0.182	1.123	0.316	1.582	8.306	14.310
849	0.668	0.702	0.634	0.922	2.353	5.498	14.138	21.937
850	0.537	0.662	0.722	1.463	3.492	6.928	15.895	30.402
851	0.437	0.448	0.580	0.975	3.005	5.943	14.239	20.219
852	0.522	0.726	0.783	1.326	2.847	5.215	12.476	21.521
853	0.399	0.388	0.157	0.479	2.119	4.517	12.424	18.498
854	0.501	0.582	0.671	0.819	1.515	3.067	8.896	16.935
855	0.553	0.563	0.399	0.091	0.892	2.239	8.485	16.647
856	0.525	0.555	0.623	0.886	2.306	5.068	13.003	20.654
857	0.489	0.487	0.495	0.899	2.893	5.906	14.178	22.959
858	0.541	0.580	0.520	0.772	2.405	5.010	14.603	27.359
859	0.378	0.536	0.335	1.531	3.796	6.967	16.003	24.651
860	0.491	0.552	0.355	0.902	2.643	5.956	14.207	22.936
861	0.500	0.586	0.192	0.363	1.559	3.944	10.897	14.499
MEAN	0.4830	0.4758	0.3813	0.7374	1.9963	4.3728	11.6360	18.5848
SIGMA	0.1513	0.1724	0.2367	0.4196	0.9422	1.6270	2.6842	5.1736
MIN	0.115	0.072	0.024	0.091	0.210	0.687	7.326	11.847
MAX	0.883	0.726	0.783	1.531	3.796	6.967	16.003	30.402



FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missiles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

TEST RESULTS +VO (V)  
 R1=10K

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	13.972	13.970	13.970	13.973	13.973	13.972	13.972	13.972
Control	13.962	13.959	13.959	13.963	13.963	13.962	13.964	13.962
839	13.964	13.970	13.959	13.963	13.963	13.952	13.952	13.942
840	13.972	13.970	13.961	13.963	13.959	13.952	13.952	13.948
842	13.970	13.959	13.959	13.963	13.953	13.952	13.941	13.938
843	13.970	13.966	13.959	13.963	13.955	13.960	13.952	13.950
844	13.962	13.959	13.959	13.957	13.953	13.941	13.941	13.942
845	13.970	13.959	13.959	13.963	13.955	13.952	13.941	13.940
846	13.966	13.961	13.959	13.959	13.953	13.952	13.943	13.942
847	13.962	13.949	13.949	13.953	13.943	13.939	13.931	13.930
848	13.952	13.949	13.939	13.943	13.937	13.931	13.927	13.921
849	13.972	13.959	13.959	13.961	13.955	13.952	13.941	13.942
850	13.972	13.970	13.959	13.961	13.953	13.952	13.947	13.938
851	13.972	13.959	13.959	13.963	13.953	13.952	13.941	13.942
852	13.966	13.959	13.959	13.955	13.953	13.945	13.941	13.934
853	13.972	13.966	13.959	13.963	13.959	13.952	13.947	13.942
854	13.970	13.961	13.959	13.959	13.953	13.952	13.952	13.942
855	13.962	13.959	13.951	13.953	13.953	13.943	13.941	13.932
856	13.958	13.947	13.947	13.945	13.943	13.931	13.925	13.921
857	13.962	13.959	13.949	13.947	13.943	13.941	13.931	13.930
858	13.972	13.970	13.970	13.963	13.955	13.952	13.947	13.940
859	13.972	13.959	13.959	13.961	13.953	13.952	13.941	13.942
860	13.972	13.970	13.961	13.963	13.963	13.952	13.952	13.942
861	13.954	13.949	13.947	13.943	13.943	13.941	13.931	13.930
MEAN	13.9665	13.9604	13.9564	13.9575	13.9523	13.9476	13.9417	13.9377
SIGMA	0.0062	0.0073	0.0067	0.0071	0.0067	0.0075	0.0083	0.0076
MIN	13.952	13.947	13.939	13.943	13.937	13.931	13.925	13.921
MAX	13.972	13.970	13.970	13.963	13.963	13.960	13.952	13.950



FILE:	OH87705G.WQ1	FACILITY:	Lockheed Missiles and Space	MASK:	4007Z-6A3
PROD:	OP-97	SOURCE:	AECL Gamma Cell 220	I/D:	ERZAA
DATE:	11/09/90	FLUENCE:	0,10,20,30,40,50,75,100 KRad(Si)	d/c:	9040
		FLUX:	25 Rad(Si)/Sec		

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TEST RESULTS +SR (V/uS)  
R1=2K

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	0.285	0.285	0.285	0.284	0.285	0.285	0.284	0.287
Control	0.283	0.284	0.283	0.284	0.283	0.283	0.282	0.283
839	0.275	0.262	0.241	0.226	0.224	0.214	0.203	0.191
840	0.280	0.262	0.245	0.225	0.226	0.216	0.199	0.190
842	0.278	0.261	0.242	0.227	0.223	0.215	0.199	0.185
843	0.289	0.271	0.254	0.239	0.224	0.225	0.204	0.198
844	0.283	0.266	0.251	0.239	0.231	0.221	0.205	0.198
845	0.246	0.248	0.238	0.226	0.210	0.202	0.182	0.171
846	0.282	0.265	0.250	0.234	0.231	0.221	0.208	0.201
847	0.276	0.257	0.241	0.223	0.220	0.210	0.195	0.186
848	0.267	0.255	0.244	0.234	0.222	0.212	0.196	0.183
849	0.276	0.258	0.240	0.226	0.224	0.212	0.194	0.185
850	0.280	0.262	0.239	0.229	0.218	0.208	0.189	0.175
851	0.280	0.260	0.240	0.225	0.220	0.213	0.197	0.189
852	0.276	0.259	0.246	0.226	0.221	0.216	0.196	0.181
853	0.277	0.259	0.241	0.229	0.221	0.214	0.193	0.183
854	0.279	0.263	0.252	0.235	0.219	0.219	0.201	0.184
855	0.245	0.235	0.227	0.212	0.208	0.203	0.181	0.169
856	0.277	0.260	0.246	0.230	0.223	0.213	0.196	0.184
857	0.282	0.264	0.244	0.223	0.220	0.212	0.195	0.184
858	0.275	0.259	0.246	0.226	0.218	0.210	0.188	0.174
859	0.285	0.274	0.255	0.234	0.226	0.215	0.198	0.190
860	0.281	0.263	0.245	0.228	0.225	0.212	0.198	0.183
861	0.275	0.259	0.242	0.232	0.222	0.212	0.196	0.188
MEAN	0.2756	0.2601	0.2440	0.2285	0.2216	0.2134	0.1960	0.1851
SIGMA	0.0107	0.0077	0.0062	0.0060	0.0054	0.0054	0.0067	0.0082
MIN	0.245	0.235	0.227	0.212	0.208	0.202	0.181	0.169
MAX	0.289	0.274	0.255	0.239	0.231	0.225	0.208	0.201

FILE:	OH87705G.WQ1	FACILITY:	Lockheed Missles and Space	MASK:	4007Z-6A3
PROD:	OP-97	SOURCE:	AECL Gamma Cell 220	I/D:	ERZAA
DATE:	11/09/90	FLUENCE:	0,10,20,30,40,50,75,100 KRad(Si)	d/c:	9040
		FLUX:	25 Rad(Si)/Sec		

TEST RESULTS -SR (V/uS)  
R1=2K

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	0.895	0.900	0.894	0.905	0.907	0.902	0.896	0.926
Control	0.882	0.911	0.883	0.906	0.895	0.908	0.914	0.892
839	0.848	0.863	0.722	0.561	0.195	0.196	0.195	0.195
840	0.878	0.858	0.740	0.604	0.195	0.196	0.195	0.195
842	0.859	0.864	0.734	0.616	0.195	0.195	0.195	0.195
843	0.890	0.875	0.774	0.697	0.547	0.196	0.196	0.195
844	0.881	0.880	0.764	0.680	0.195	0.196	0.195	0.195
845	0.801	0.777	0.765	0.665	0.586	0.195	0.195	0.196
846	0.882	0.872	0.762	0.667	0.196	0.195	0.195	0.195
847	0.861	0.834	0.717	0.554	0.195	0.196	0.196	0.195
848	0.875	0.777	0.678	0.196	0.195	0.196	0.196	0.195
849	0.875	0.823	0.721	0.539	0.196	0.195	0.196	0.195
850	0.877	0.824	0.703	0.196	0.196	0.195	0.195	0.196
851	0.867	0.862	0.726	0.543	0.196	0.196	0.195	0.195
852	0.884	0.854	0.741	0.629	0.196	0.196	0.195	0.196
853	0.884	0.859	0.736	0.622	0.195	0.195	0.195	0.195
854	0.887	0.850	0.772	0.688	0.583	0.195	0.196	0.195
855	0.810	0.786	0.702	0.610	0.196	0.195	0.195	0.195
856	0.898	0.834	0.754	0.654	0.195	0.195	0.196	0.196
857	0.908	0.867	0.729	0.576	0.196	0.195	0.196	0.195
858	0.879	0.842	0.757	0.639	0.195	0.195	0.195	0.195
859	0.945	0.862	0.749	0.515	0.195	0.196	0.195	0.195
860	0.885	0.872	0.740	0.628	0.195	0.195	0.195	0.195
861	0.869	0.796	0.696	0.195	0.196	0.195	0.195	0.196
MEAN	0.8747	0.8423	0.7355	0.5579	0.2468	0.1954	0.1953	0.1952
SIGMA	0.0295	0.0323	0.0260	0.1557	0.1324	0.0005	0.0005	0.0004
MIN	0.801	0.777	0.678	0.195	0.195	0.195	0.195	0.195
MAX	0.945	0.880	0.774	0.697	0.586	0.196	0.196	0.196

FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missiles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

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TEST RESULTS +ISC (mA)

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.1
Control	11.1	11.0	11.1	11.0	11.0	11.0	10.9	11.1
839	11.6	11.2	11.1	10.9	10.8	10.7	10.4	10.6
840	11.2	11.0	10.8	10.7	10.7	10.6	10.3	10.0
842	11.3	11.1	11.0	10.8	10.7	10.6	10.2	9.8
843	11.3	11.1	11.0	10.9	10.9	10.7	10.5	10.4
844	11.0	10.9	10.7	10.5	10.5	10.4	10.1	10.1
845	11.0	10.9	10.8	10.6	10.4	10.3	9.8	9.4
846	11.3	11.1	11.0	10.8	10.7	10.6	10.2	10.2
847	10.7	10.5	10.5	10.3	10.2	10.1	9.7	9.6
848	10.4	10.2	10.0	10.0	9.9	9.8	9.4	9.2
849	11.1	11.2	10.9	10.7	10.6	10.5	10.2	9.7
850	11.2	10.9	10.9	10.8	10.6	10.5	10.0	9.6
851	11.3	11.2	11.0	10.8	10.7	10.5	10.3	10.1
852	10.7	10.7	10.5	10.5	10.4	10.2	10.0	9.8
853	11.3	11.2	11.1	11.0	10.9	10.6	10.3	9.9
854	11.1	11.1	10.8	10.8	10.7	10.7	10.3	10.1
855	10.6	10.3	10.3	10.2	10.1	10.0	9.8	9.5
856	10.1	10.2	10.0	9.9	9.8	9.8	9.6	9.4
857	10.7	10.6	10.6	10.5	10.4	10.1	10.0	9.7
858	11.2	11.1	10.9	10.9	10.8	10.7	10.3	9.9
859	11.0	11.0	10.8	10.7	10.6	10.6	10.2	10.0
860	11.3	11.1	11.1	10.9	10.7	10.6	10.2	9.9
861	10.6	10.5	10.3	10.3	10.2	10.0	9.8	9.7
MEAN	11.00	10.87	10.73	10.61	10.51	10.39	10.07	9.85
SIGMA	0.37	0.34	0.34	0.31	0.31	0.30	0.28	0.34
MIN	10.1	10.2	10.0	9.9	9.8	9.8	9.4	9.2
MAX	11.6	11.2	11.1	11.0	10.9	10.7	10.5	10.6

FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missiles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

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## TEST RESULTS -ISC (mA)

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	-12.4	-12.3	-12.3	-12.3	-12.3	-12.3	-12.4	-12.2
Control	-11.9	-11.9	-12.0	-11.9	-12.0	-12.0	-11.9	-12.0
839	-12.5	-11.7	-10.9	-9.7	-8.5	-7.5	-6.6	-5.7
840	-12.1	-11.5	-10.8	-9.9	-8.7	-7.7	-6.0	-5.1
842	-12.2	-11.6	-10.9	-10.0	-8.9	-7.9	-6.2	-5.2
843	-12.4	-11.8	-11.3	-10.6	-9.9	-8.9	-7.3	-6.7
844	-12.1	-11.5	-10.9	-10.2	-9.3	-8.4	-7.0	-6.2
845	-12.2	-11.8	-11.5	-11.0	-10.5	-10.1	-8.4	-7.0
846	-12.1	-11.5	-11.0	-10.2	-9.1	-8.2	-6.7	-6.0
847	-11.6	-11.0	-10.3	-9.3	-8.2	-7.2	-5.8	-4.9
848	-11.2	-10.5	-9.6	-8.3	-7.0	-6.1	-4.8	-4.0
849	-12.2	-11.7	-10.9	-9.8	-8.5	-7.4	-5.9	-4.9
850	-12.1	-11.3	-10.5	-9.2	-7.8	-6.9	-5.3	-4.2
851	-12.2	-11.6	-10.8	-9.7	-8.4	-7.4	-5.9	-5.1
852	-11.7	-11.3	-10.7	-10.1	-9.1	-8.1	-6.3	-5.1
853	-12.3	-11.8	-11.0	-10.1	-9.0	-8.0	-6.4	-5.5
854	-12.1	-11.6	-11.1	-10.6	-10.0	-9.1	-7.3	-6.1
855	-11.6	-11.1	-10.7	-10.2	-9.6	-8.7	-6.9	-5.4
856	-11.2	-11.0	-10.4	-9.8	-9.2	-8.4	-6.5	-5.4
857	-11.6	-11.0	-10.4	-9.5	-8.4	-7.4	-5.9	-4.9
858	-12.1	-11.7	-11.0	-10.4	-9.5	-8.6	-6.8	-5.5
859	-11.8	-11.2	-10.4	-9.2	-8.0	-7.1	-5.6	-4.8
860	-12.4	-11.8	-11.1	-10.1	-8.8	-7.9	-6.2	-5.2
861	-11.5	-10.9	-10.0	-8.8	-7.5	-6.7	-5.5	-4.8
MEAN	-11.96	-11.40	-10.74	-9.85	-8.81	-7.90	-6.33	-5.35
SIGMA	0.38	0.36	0.43	0.62	0.84	0.89	0.79	0.72
MIN	-12.5	-11.8	-11.5	-11.0	-10.5	-10.1	-8.4	-7.0
MAX	-11.2	-10.5	-9.6	-8.3	-7.0	-6.1	-4.8	-4.0

FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missiles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0,10,20,30,40,50,75,100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

:::

TEST RESULTS +ISY (mA)

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	0.377	0.375	0.377	0.377	0.376	0.377	0.376	0.378
Control	0.372	0.373	0.373	0.375	0.375	0.375	0.375	0.377
839	0.370	0.366	0.362	0.362	0.359	0.356	0.356	0.353
840	0.367	0.363	0.359	0.358	0.356	0.352	0.346	0.342
842	0.371	0.368	0.363	0.362	0.360	0.358	0.351	0.349
843	0.379	0.374	0.370	0.369	0.366	0.363	0.360	0.359
844	0.373	0.367	0.367	0.366	0.363	0.362	0.356	0.356
845	0.352	0.347	0.343	0.341	0.336	0.334	0.328	0.323
846	0.376	0.371	0.368	0.367	0.364	0.362	0.361	0.360
847	0.371	0.366	0.362	0.363	0.360	0.357	0.351	0.350
848	0.362	0.360	0.355	0.353	0.352	0.351	0.344	0.339
849	0.371	0.366	0.363	0.361	0.359	0.356	0.350	0.345
850	0.366	0.364	0.362	0.358	0.357	0.352	0.345	0.335
851	0.371	0.366	0.364	0.363	0.360	0.356	0.353	0.351
852	0.363	0.360	0.358	0.354	0.352	0.351	0.344	0.337
853	0.370	0.365	0.364	0.362	0.358	0.356	0.350	0.348
854	0.369	0.364	0.360	0.359	0.356	0.354	0.348	0.342
855	0.345	0.343	0.342	0.339	0.335	0.335	0.327	0.319
856	0.369	0.365	0.362	0.360	0.359	0.356	0.348	0.344
857	0.374	0.370	0.367	0.364	0.364	0.360	0.356	0.351
858	0.371	0.368	0.364	0.362	0.360	0.356	0.347	0.340
859	0.382	0.378	0.376	0.374	0.373	0.367	0.361	0.351
860	0.374	0.371	0.368	0.367	0.364	0.362	0.354	0.349
861	0.369	0.369	0.365	0.363	0.361	0.359	0.355	0.354
MEAN	0.3689	0.3650	0.3620	0.3603	0.3579	0.3552	0.3496	0.3453
SIGMA	0.0081	0.0077	0.0077	0.0081	0.0086	0.0079	0.0088	0.0104
MIN	0.345	0.343	0.342	0.339	0.335	0.334	0.327	0.319
MAX	0.382	0.378	0.376	0.374	0.373	0.367	0.361	0.360

FILE: OH87705G.WQ1  
 PROD: OP-97  
 DATE: 11/09/90

FACILITY: Lockheed Missles and Space  
 SOURCE: AECL Gamma Cell 220  
 FLUENCE: 0, 10, 20, 30, 40, 50, 75, 100 KRad(Si)  
 FLUX: 25 Rad(Si)/Sec

MASK: 4007Z-6A3  
 I/D: ERZAA  
 d/c: 9040

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## TEST RESULTS -ISY (mA)

Device	0 KRad	10 KRad	20 KRad	30 KRad	40 KRad	50 KRad	75 KRad	100 KRad
Control	-0.378	-0.376	-0.377	-0.377	-0.376	-0.376	-0.376	-0.377
Control	-0.375	-0.375	-0.375	-0.377	-0.374	-0.377	-0.374	-0.376
839	-0.373	-0.366	-0.365	-0.363	-0.358	-0.357	-0.357	-0.352
840	-0.366	-0.365	-0.358	-0.356	-0.356	-0.351	-0.345	-0.342
842	-0.372	-0.366	-0.366	-0.362	-0.358	-0.359	-0.351	-0.347
843	-0.378	-0.375	-0.370	-0.370	-0.366	-0.364	-0.359	-0.358
844	-0.374	-0.369	-0.369	-0.366	-0.363	-0.361	-0.357	-0.357
845	-0.354	-0.347	-0.342	-0.339	-0.337	-0.334	-0.327	-0.323
846	-0.376	-0.374	-0.369	-0.368	-0.365	-0.363	-0.359	-0.358
847	-0.370	-0.366	-0.364	-0.362	-0.360	-0.358	-0.350	-0.349
848	-0.363	-0.357	-0.357	-0.354	-0.350	-0.351	-0.341	-0.336
849	-0.372	-0.365	-0.365	-0.360	-0.358	-0.357	-0.348	-0.344
850	-0.368	-0.363	-0.362	-0.361	-0.355	-0.353	-0.343	-0.338
851	-0.372	-0.368	-0.363	-0.362	-0.360	-0.357	-0.353	-0.351
852	-0.365	-0.359	-0.358	-0.355	-0.351	-0.350	-0.343	-0.338
853	-0.368	-0.364	-0.364	-0.363	-0.359	-0.356	-0.350	-0.349
854	-0.368	-0.364	-0.362	-0.358	-0.354	-0.355	-0.348	-0.339
855	-0.346	-0.342	-0.342	-0.341	-0.335	-0.333	-0.324	-0.318
856	-0.369	-0.366	-0.362	-0.361	-0.357	-0.356	-0.349	-0.346
857	-0.374	-0.372	-0.369	-0.366	-0.361	-0.360	-0.357	-0.350
858	-0.370	-0.367	-0.364	-0.361	-0.359	-0.355	-0.346	-0.339
859	-0.383	-0.379	-0.377	-0.373	-0.372	-0.369	-0.360	-0.354
860	-0.376	-0.372	-0.368	-0.366	-0.365	-0.360	-0.356	-0.350
861	-0.371	-0.366	-0.365	-0.364	-0.360	-0.359	-0.353	-0.355
MEAN	-0.3695	-0.3651	-0.3628	-0.3605	-0.3572	-0.3554	-0.3489	-0.3451
SIGMA	0.0078	0.0084	0.0081	0.0081	0.0085	0.0084	0.0094	0.0105
MIN	-0.383	-0.379	-0.377	-0.373	-0.372	-0.369	-0.360	-0.358
MAX	-0.346	-0.342	-0.342	-0.339	-0.335	-0.333	-0.324	-0.318