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AT-27C2048 CMOS EPROM RELIABILITY DATA

- 150°C RETENTION BAKE (PLASTIC)
- EXTENDED THERMAL SHOCK
- EXTENDED TEMPERATURE CYCLE
- 85°C/85% RETENTION HUMIDITY OPERATING LIFE TEST
- 15 PSIG PRESSURE POT

* This report was generated from AT-27C2048 reliability testing. This data is applicable to the following device types due to same technology grouping as defined in MIL-M-38535 Appendix A:

JANUARY 2005

2325 Orchard Parkway San Jose CA. 95131

AT-27C2048

PLASTIC PACKAGE

150°C RETENTION BAKE

<u>LOT NUMBER</u>	<u>DATE CODE</u>	<u>SAMPLE SIZE</u>	<u>HOURS TO FAILURES</u>			
			<u>24</u>	<u>168</u>	<u>500</u>	<u>1000</u>
6B1924	6B9633	250	0	0	0	0
7A0378-2	7A9819	100	0	0	0	0
7A0378-4	7A9821	100	0	0	0	0
7A0256-1	7A9827	99	0	0	0	0
9C4099-1	9C9953	250	0	0	0	0
1A3390	1A0126	250	0	0	0	0
2G1017	2G0212	250	0	0	0	0
4G4921-1	4G0431	500	0	0	0	0

FAILURE RATETOTAL DEVICE HOURS

1,699,000 DEVICE HOURS

BEST ESTIMATE λ = 0.04% PER 1000 HOURS50°C AMBIENTEXTRAPOLATION TO 50°C VIA
ARRHENNIUS EQUATION AND ACTIVATION
ENERGY OF 0.5eV λ = 0.0006% PER 1,000 HOURS (6 FITS)CONFIDENCE ESTIMATE
 λ 60 = 0.0008% PER 1000 HOURS
60% CONFIDENCE (8 FITS)
 λ 90 = 0.002% PER 1000 HOURS
90% CONFIDENCE (19 FITS)

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PLASTIC PACKAGE

EXTENDED TEMPERATURE CYCLE

-65°C to +150°C PLCC/TSOP/SOIC/PDIP
-55°C to +125°C CBGA

<u>DATE</u> <u>CODE</u>	<u>PACKAGE</u> <u>TYPE</u>	<u>SAMPLE</u> <u>SIZE</u>	<u>NUMBER</u> <u>OF CYCLE</u>	<u>NUMBER</u> <u>OF FAILURES</u>
6B9633	44 PLCC	100	1000	0
7D9803	44 PLCC	50	1000	0
7A9815	40 PDIP	50	1000	0
7A9827	44 PLCC	50	1000	0
7A9819	44 PLCC	100	1000	0
7A9819	40 VSOP	50	1000	0
7A9820	40 VSOP	50	1000	0
9C9953	40 PDIP	100	1000	0
1A0126	44 PLCC	100	1000	0
2G0229	44 PLCC	100	1000	0

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PLASTIC PACKAGE

EXTENDED THERMAL SHOCK

-55°C TO +125°C

<u>DATE</u> <u>CODE</u>	<u>PKG</u> <u>TYPE</u>	<u>SAMPLE</u> <u>SIZE</u>	<u>NUMBER</u> <u>OF CYCLES</u>	<u>NUMBER</u> <u>OF FAILURES</u>
6B9633	44 PLCC	100	1000	0

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PLASTIC PACKAGE

85°C/85% RELATIVE HUMIDITY OPERATING LIFE TEST

<u>LOT</u> <u>NUMBER</u>	<u>DATE</u> <u>CODE</u>	<u>PKG</u> <u>TYPE</u>	<u>SAMPLE</u> <u>SIZE</u>	NUMBER OF FAILURES AT INDICATED HOURS		
				(168)	(500)	(1000)
6B1924	6B9633	44 PLCC	54	0	0	0

AT-27C2048
 PLASTIC PACKAGE
PRESSURE POT TEST

<u>DATE CODE</u>	<u>PKG TYPE</u>	<u>SAMPLE SIZE</u>	<u>HOURS TO FAILURES</u>			
			(24)	(48)	(72)	(96)
6D9803	44 PLCC	50	0	0	0	0
7A9815	40 PDIP	50	0	0	0	0
7A9819	40 VSOP	50	0	0	0	0
7A9827	44 PLCC	50	0	0	0	0
7A9819	44 PLCC	100	0	0	0	0
9C9953	40 PDIP	98	0	0	0	0
1A0126	44 PLCC	100	0	0	0	0
2G1017	44 PLCC	100	0	0	0	0
4G0431	40 VSOP	100	0	0	0	0