Reliability Data Report
Product Family R597

LTM9001 / LTM9002 / LTM9003 /

LTM9004 / LTM9006 / LTM9007 /

LTM9008 / LTM9009 / LTM9010 /

LTM9011 / LTM9012 / LTM9013

Reliability Data Report
Report Number: R597

Report generated on: Mon Mar 25 08:27:01 PDT 2013

OPERATING LIFE TEST

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS (+125°C)[1]	No. of FAILURES[2,3]
LGA 11X11	154	0738	0738	154	0
LGA 11X15	154	0722	0919	154	0
Totals	308	-	-	308	0

TEMP CYCLE FROM -55 TO 125 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
LGA 11X11	469	0736	0901	572	0
Totals	469	-	-	572	0

TEMP CYCLE FROM -40 TO 125 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
BGA 09X11	308	1016	1111	545	0
BGA 11X15	77	1044	1044	76	0
LGA 11X11	461	0848	1128	405	0
LGA 11X15	1500	0841	1148	1498	0
LGA 15X15	149	0852	1003	222	0
Totals	2,495	-	-	2,746	0

TEMP CYCLE FROM -65 TO 150 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
LGA 11X11	303	0736	1022	411	0
LGA 11X15	1476	0819	1104	1033	0
LGA 15X15	303	0745	0749	129	0
Totals	2,082	-	-	1,573	0

THERMAL SHOCK FROM -40 TO 125 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
BGA 09X11	304	1016	1111	531	0
BGA 11X15	77	1044	1044	77	0
LGA 11X11	456	0824	1128	380	0
LGA 11X15	1188	0841	1127	1241	0
Totals	2,025	-	-	2,229	0

(1) Assumes Activation Energy = 1.0 Electron Volts
(2) Failure Rate Equivalent to +55 °C, 60% Confidence Level =5.95 FITS
(3) Mean Time Between Failure in Years = 19179.5
Note 1: 1 FIT = 1 Failure in One Billion Hours.
Note 2: HAST, Temp Cycle & Thermal Shock are subjected to J-STD-020 MSL 3/4 Preconditioning

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THERMAL SHOCK FROM -55 TO 125 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
LGA 11X11	371	0736	0912	478	0
Totals	371	-	-	478	0

THERMAL SHOCK FROM -65 TO 150 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
LGA 11X11	254	0736	1022	408	0
LGA 11X15	1300	0945	1104	870	0
Totals	1,554	-	-	1,278	0

HIGH TEMPERATURE BAKE AT 150 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
BGA 09X11	154	1048	1052	308	0
LGA 11X11	303	0736	1022	328	0
LGA 11X15	1204	0819	1127	1173	0
Totals	1,661	-	-	1,809	0

BOARD MOUNTED TEMP CYCLE FROM 0 TO 100 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES [4,5,6]	No. of FAILURES
Totals	0	-	-	0	0

MECHANICAL SHOCK (JESD22-B104 CONDITION B - PEAK = 1500G)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE		No. of FAILURES
BGA 09X11	43	1016	1052		0
LGA 11X11	29	0736	0736		0
Totals	72	-	-		0

VIBRATION VARIABLE FREQUENCY (JESD22-B103 CONDITION A - PEAK = 20G)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE		No. of FAILURES
BGA 09X11	43	1016	1052		0
LGA 11X11	29	0736	0736		0
Totals	72	-	-		0

(4) Board Mount Temp Cycle Meets IPC-9701 / JESD22-A104.
(5) Board Mount Temp Cycle Includes Full Electrical Characterization, XRAY & Cross-sections.
(6) Each Board Mounted Vehicle is Cycled up to 2000 Times or More.