

RELIABILITY REPORT





Reliability Data Report Product Family R457

LTC3113 / LTC3370 / LTC3371 / LTC3411 /
LTC3412 / LTC3416 / LTC3417 / LTC3418 /
LTC3419 / LTC3520 / LTC3527 / LTC3528 /
LTC3539 / LTC3558 / LTC3562 / LTC3606 /
LTC3612 / LTC3614 / LTC3615 / LTC3616 /
LTC3617 / LTC3619 / LTC3635 / LTC3672 /
LTC3677 / LTC4040

Reliability Data Report

Report Number: R457

Report generated on: Mon Aug 10 14:13:12 PDT 2015

OPERATING LIFE TEST

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS (+125°C) ¹	No. of FAILURES _{2, 3}
QFN/DFN	2693	0635	1413	1508	0
SSOP/TSSOP	669	0238	1428	296	0
SOIC/MSOP	385	0215	1037	299	0
Totals	3,747	-	-	2,103	0

HIGHLY ACCELERATED STRESS TEST AT +130 DEG C / 85% RH

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS (+85°C) ⁴	No. of FAILURES
QFN/DFN	458	1052	1417	1231	0
SSOP/TSSOP	477	1035	1150	1088	0
Totals	935	-	-	2,319	0

PRESSURE COOKER TEST AT 15 PSIG , +121 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	11033	0342	1415	489	0
SSOP/TSSOP	18985	0225	1421	654	0
SOIC/MSOP	8446	0333	1348	354	0
Totals	38,464	-	-	1,497	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
QFN/DFN	10608	0441	1415	1712	0
SSOP/TSSOP	16965	0225	1421	2267	0
SOIC/MSOP	7894	0220	1348	1089	0
Totals	35,467	-	-	5,068	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
SSOP/TSSOP	50	0913	0913	5	0
Totals	50	-	-	5	0

(1) Assumes Activation Energy = 0.7 Electron Volts

(2) Failure Rate Equivalent to +55 °C, 60% Confidence Level =5.63 FITS

(3) Mean Time Between Failure in Years = 20260.55

(4) Assumes 20X Acceleration from 85 °C to +130 °C

Note 1: 1 FIT = 1 Failure in One Billion Hours.

Note 2: HAST, Temp Cycle & Thermal Shock are subjected to J-STD-020 MSL Preconditioning

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THERMAL SHOCK FROM -65 TO 150 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
QFN/DFN	11166	0441	1415	1746	0
SSOP/TSSOP	19134	0225	1421	2253	0
SOIC/MSOP	7961	0226	1348	916	0
Totals	38,261	-	-	4,915	0

HIGH TEMPERATURE BAKE AT 150 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	789	0825	1413	739	0
SSOP/TSSOP	231	1147	1150	231	0
SOIC/MSOP	231	1207	1211	231	0
Totals	1,251	-	-	1,201	0

HIGH TEMPERATURE BAKE AT 175 DEG C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	50	0828	0828	8	0
SSOP/TSSOP	329	1017	1150	304	0
SOIC/MSOP	231	1207	1211	231	0
Totals	610	-	-	543	0