

RELIABILITY DATA

LTC3634

11/8/2011

• OPERATING LIFE TEST

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS ⁽¹⁾ AT +125°C	NUMBER OF ⁽²⁾ FAILURES
QFN/DFN	1,924	0446	0924	1,761.93	0
SOIC/SOT/MSOP	767	0309	0801	767.00	0
LQFP	231	0713	0746	231.00	0
	2,922			2,759.93	0

• PRESSURE COOKER TEST AT 15 PSIG, +121°C⁽⁶⁾

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS	NUMBER OF FAILURES
QFN/DFN	8,859	0401	1023	1,765.78	0
SOIC/SOT/MSOP	1,912	0308	1013	203.05	0
LQFP	1,432	0652	1022	402.58	0
	12,203			2,371.41	0

• TEMP CYCLE FROM -65°C to +150°C⁽⁶⁾

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
QFN/DFN	10,083	0401	1020	5,645.81	0
SOIC/SOT/MSOP	835	0308	1013	441.43	0
LQFP	1,432	0652	1022	1,271.50	0
	12,350			7,358.74	0

• THERMAL SHOCK FROM -65°C to +150°C⁽⁶⁾

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
QFN/DFN	7,435	0407	1041	3,993.00	0
SOIC/SOT/MSOP	757	0308	1013	392.90	0
LQFP	1,411	0652	1022	1,042.00	0
	9,603			5,427.90	0

(1) Sample size too small for meaningful FIT calculations

(2) FIT by Process technology below, refer to LTC Reliability Data Pack:

http://www.linear.com/designtools/quality/Rel_Data_Pack.pdf

(3) Assumes Activation Energy = 0.7 Electron Volts

(4) Failure Rate Equivalent to +55°C, 60% Confidence Level = 24.04 FITS

(5) Mean Time Between Failures in Years = 4,748

(6) Environmental data presented for same Process and Package Technology. Mechanical tests preceded by J-STD-020 Preconditioning.

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