

RELIABILITY REPORT



RELIABILITY DATA
LTC4312/ LTC4313 / LTC4314 / LTC4315
5/4/2020

• OPERATING LIFE TEST					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS AT +125°C ⁽¹⁾	NUMBER OF FAILURES ⁽²⁾
SSOP/TSSOP	238	0927	1341	238	0
SOIC/SOT/MSOP	77	1117	1117	77	0
Total	315			315	0
• HIGHLY ACCELERATED STRESS TEST AT +130°C / 85%RH ^(4,5)					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	Equivalent K DEVICE HOURS AT +85°C	NUMBER OF FAILURES
SSOP/TSSOP	4895	0831	1709	11927.04	0
DFN/QFN	30	1533	1533	57.60	0
SOIC/SOT/MSOP	884	1431	1635	3135.36	0
Total	5809			15120.00	0
• PRESSURE COOKER TEST AT 15PSIG, +121°C ⁽⁵⁾					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS	NUMBER OF FAILURES
SSOP/TSSOP	118500	0816	1715	3846.11	0
DFN/QFN	424	1228	1708	34.20	0
SOIC/SOT/MSOP	2468	1235	1711	335.36	0
Total	121392			4215.67	0
• TEMPERATURE CYCLE TEST AT -65°C to +150°C ⁽⁵⁾					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
SSOP/TSSOP	114242	0904	1711	14983.80	0
DFN/QFN	467	1228	1708	191.10	0
SOIC/SOT/MSOP	2678	1235	1711	1565.90	0
Total	117387			16740.80	0
• THERMAL SHOCK TEST AT -65°C to +150°C ⁽⁵⁾					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
SSOP/TSSOP	115812	0904	1715	13832.84	0
DFN/QFN	467	1228	1708	116.00	0
SOIC/SOT/MSOP	2372	1235	1711	1128.70	0
Total	118651			15077.54	0
• HIGH TEMPERATURE STORAGE LIFE TEST AT +175°C ⁽⁵⁾					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS	NUMBER OF FAILURES
SSOP/TSSOP	1915	0904	1639	1619.58	0
DFN/QFN	77	1235	1235	77.00	0
SOIC/SOT/MSOP	204	1235	1638	179.73	0
Total	2196			1876.31	0
• HIGH TEMPERATURE STORAGE LIFE TEST AT +150°C ⁽⁵⁾					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS	NUMBER OF FAILURES
SSOP/TSSOP	677	0904	1537	429.70	0
DFN/QFN	50	1533	1533	50.00	0
SOIC/SOT/MSOP	248	1440	1635	248.00	0
Total	975			727.70	0

(1) Sample size too small for meaningful FIT calculations.

(2) Failure Rate Equivalent to +55C, Assuming 60% Confidence Level & Activation Energy of 0.7eV = 36.4 FIT

(3) Mean Time Between Failures (MTBF) = 3054yr

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

(5) Environmental stress data given by Process Technology similarity

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