

4/17/2013



RELIABILITY MONITOR REPORT
FOR

DFN Package

MAXIM INTEGRATED

160 RIO ROBLES
SAN JOSE, CA 95134

This Report was prepared by
MAXIM INTEGRATED Reliability Engineering

Summary:

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The specific assemblies included in this package monitor are:

ASSY SITE	PINS	PACKAGE		
ASE Chung-Li	6	OTDFN (Pb-Free)	ASE Chung-Li	6 TDFN (Pb-Free)
ASE Chung-Li	8	TDFN (Pb-Free)	ASE Chung-Li	12 TDFN (Pb-Free)
ASE Chung-Li	14	TDFN (Pb-Free)	ASE Chung-Li	6 uDFN (Pb-Free)
ASE Chung-Li	8	uDFN (Pb-Free)	HANA-AYT	6 OTDFN (Pb-Free)
HANA-AYT	6	uDFN (Pb-Free)	SIGURD	6 OTDFN (Pb-Free)
SIGURD	14	OTDFN (Pb-Free)	UTL Thailand	8 TDFN (Pb-Free)
UTL Thailand	10	TDFN (Pb-Free)	UTL Thailand	14 TDFN (Pb-Free)
UTL Thailand	6	uDFN (Pb-Free)		

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 126839 FITS: 0.9

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 Tu: 25 °C

The reliability data follows. At the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 4/1/2012 and 3/31/2013.

Assembly Information:

Package Type: OTDFN (Pb-Free)

Date Code Range: 1208 to 1249

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1208	MAX44005EDT+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1209	MAX44008EDT+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1210	MAX9635EDT+T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1210	MAX9635EDT+	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1210	MAX9635EDT+T	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1213	MAX88260EDT+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1220	MAX44005EDT+	135°C	500 HRS	79	1	
HIGH TEMP OP LIFE	1246	MAX44009EDT+T	135°C	500 HRS	80	0	
HIGH TEMP OP LIFE	1246	MAX44009EDT+T	135°C	500 HRS	45	0	
HIGH TEMP OP LIFE	1246	MAX44009EDT+T	135°C	500 HRS	78	0	
HIGH TEMP OP LIFE	1249	MAX44005EDT+T	135°C	500 HRS	45	0	
HIGH TEMP OP LIFE	1249	MAX44005EDT+T	135°C	500 HRS	44	0	
Total:						1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
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STORAGE LIFE	1208	MAX44005EDT+	150°C	1000 HRS	80	0
STORAGE LIFE	1210	MAX9635EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1210	MAX9635EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1210	MAX9635EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1220	MAX44005EDT+	150°C	1000 HRS	80	0
STORAGE LIFE	1234	MAX44005EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1236	MAX88005EDD+T	150°C	1000 HRS	80	0
STORAGE LIFE	1236	MAX88005EDD+T	150°C	1000 HRS	80	0
STORAGE LIFE	1236	MAX88005EDD+T	150°C	1000 HRS	80	0
STORAGE LIFE	1241	MAX4409EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1246	MAX44009EDT+T	150°C	1000 HRS	80	0
STORAGE LIFE	1246	MAX44009EDT+	150°C	1000 HRS	80	0
STORAGE LIFE	1246	MAX44009EDT+	150°C	1000 HRS	80	0
STORAGE LIFE	1249	MAX44005EDT+T	150°C	500 HRS	80	0
STORAGE LIFE	1249	MAX44005EDT+T	150°C	500 HRS	80	0
STORAGE LIFE	1249	MAX44005EDT+T	150°C	500 HRS	80	0
Total:					0	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1208	MAX44005EDT+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000 CYS	80	0	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000 CYS	80	0	
TEMP CYCLE, 15' RAMP, 15' DWELL	1210	MAX9635EDT+T	-40C TO +125C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1232	MAX88260EDT+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1232	MAX88260EDT+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1232	MAX88260EDT+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1234	MAX44005EDT+T	-65C TO 150C	1000 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1236	MAX88005EDD+T	-65C TO 150C	300 CYS	80	1	
TEMP CYCLE, 5' RAMP, 10' DWELL	1246	MAX44009EDT+T	-65C TO 150C	500 CYS	80	1	
TEMP CYCLE, 5' RAMP, 10' DWELL	1246	MAX44009EDT+	-65C TO 150C	1000 CYS	79	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1249	MAX44005EDT+T	-65C TO 150C	500 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1249	MAX44005EDT+T	-65C TO 150C	500 CYS	80	0	

TEMP CYCLE, 5' RAMP, 10' DWELL	1249	MAX44005EDT+T	-65C TO 150C	500	CYS	80	0
						Total:	2

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1208	MAX44005EDT+	85 C/85% R.H.	1000 HRS	79	1	
MOISTURE SOAK	1210	MAX9635EDT+T	85 C/85% R.H.	1000 HRS	44	0	
MOISTURE SOAK	1210	MAX9635EDT+T	85 C/85% R.H.	1000 HRS	80	1	
MOISTURE SOAK	1246	MAX44009EDT+T	85 C/85% R.H.	500 HRS	45	0	
MOISTURE SOAK	1246	MAX44009EDT+	85 C/85% R.H.	500 HRS	45	0	
MOISTURE SOAK	1246	MAX44009EDT+	85 C/85% R.H.	500 HRS	45	0	
						Total:	2

Assembly Information:

Package Type: TDFN (Pb-Free)
Date Code Range: 1141 to 1302

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1141	MAX6767TALD2+	135°C	240 HRS	35	0	
HIGH TEMP OP LIFE	1145	MAX6767TALD2+	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1146	MAX6767TALD2+	135°C	1000 HRS	78	0	
HIGH TEMP OP LIFE	1149	MAX14611EETD+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1152	MAX14626ETT+	135°C	192 HRS	48	0	
HIGH TEMP OP LIFE	1153	MAX14619ETT+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1201	MAX14627ETA+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1201	MAX14628ETA+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1218	MAX5395LATA+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1219	MAX17501FATB+T	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1220	MAX11167ETC+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1220	MAX14641ETA+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1225	MAX14575BETA+	135°C	192 HRS	80	0	
HIGH TEMP OP LIFE	1227	MAX31725	125C, 3.7V (PSA)	192 HRS	80	0	
HIGH TEMP OP LIFE	1230	MAX15492GTA+	135°C	216 HRS	80	0	
HIGH TEMP OP LIFE	1236	MAX16910CATA9/V+ T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1236	MAX16910CATA9/V+ T	135°C	1000 HRS	79	0	
HIGH TEMP OP LIFE	1238	MAX16910CATA9/V+ T	135°C	1000 HRS	80	0	
HIGH TEMP OP LIFE	1239	MAX17501HATB+	135°C	192 HRS	79	0	
HIGH TEMP OP LIFE	1250	MAX17502EATB+	135°C	800 HRS	70	0	

HIGH TEMP OP LIFE	1302	MAX17048	125C, 5.0 VOLTS	192	HRS	77	0
Total:							0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1223	MAX15026BETD+	150°C	500	HRS	50	0
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX15026BETD+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX15026BETD+	-65C TO 150C	500	CYS	80	0
TEMP CYCLE, 5' RAMP, 10' DWELL	1223	MAX15026BETD+	-65C TO 150C	500	CYS	80	0
Total:							0

Assembly Information:

Package Type: uDFN (Pb-Free)

Date Code Range: 1201 to 1240

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	1201	MAX2659ELT+G126	135°C	1000	HRS	29	0
HIGH TEMP OP LIFE	1201	MAX2659ELT+G126	135°C	1000	HRS	28	0
HIGH TEMP OP LIFE	1201	MAX2659ELT+G126	135°C	1000	HRS	29	0
HIGH TEMP OP LIFE	1207	MAX2659ELT+	135°C	500	HRS	48	0
HIGH TEMP OP LIFE	1233	MAX4166ELA+T	135°C	1000	HRS	45	0
HIGH TEMP OP LIFE	1233	MAX4166ELA+	135°C	1000	HRS	45	0
HIGH TEMP OP LIFE	1233	MAX4166ELA+T	135°C	1000	HRS	45	0
HIGH TEMP OP LIFE	1240	MAX2659ELT+T	135°C	500	HRS	80	0
Total:							0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	1201	MAX2659ELT+G126	150°C	1000	HRS	80	0
STORAGE LIFE	1201	MAX2659ELT+G126	150°C	1000	HRS	80	0
STORAGE LIFE	1201	MAX2659ELT+G126	150°C	1000	HRS	80	0
STORAGE LIFE	1222	MAX2659ELT+T	150°C	1000	HRS	80	0
STORAGE LIFE	1222	MAX2659ELT+T	150°C	1000	HRS	80	0
STORAGE LIFE	1222	MAX2659ELT+T	150°C	1000	HRS	80	0
STORAGE LIFE	1233	MAX4166ELA+	150°C	1000	HRS	79	0
STORAGE LIFE	1233	MAX4166ELA+	150°C	1000	HRS	80	0

STORAGE LIFE	1233	MAX4166ELA+	150°C	1000 HRS	80	0
STORAGE LIFE	1240	MAX2659ELT+T	150°C	1000 HRS	80	0
Total:					0	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE, 5' RAMP, 10' DWELL	1201	MAX2659ELT+G126	-65C TO 150C	1000 CYS	85	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1201	MAX2659ELT+G126	-65C TO 150C	1000 CYS	85	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1201	MAX2659ELT+G126	-65C TO 150C	1000 CYS	85	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX2659ELT+T	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX2659ELT+T	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX2659ELT+T	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1233	MAX4166ELA+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1233	MAX4166ELA+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1233	MAX4166ELA+	-65C TO 150C	1000 CYS	80	0	
TEMP CYCLE, 5' RAMP, 10' DWELL	1240	MAX2659ELT+T	-65C TO 150C	1000 CYS	80	0	
Total:					0	0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	1201	MAX2659ELT+G126	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	32	0	
BIASED MOISTURE	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1233	MAX4166ELA+	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1233	MAX4166ELA+	130C, 85% R.H.	100 HRS	80	0	
BIASED MOISTURE	1233	MAX4166ELA+	130C, 85% R.H.	100 HRS	80	0	
Total:					0	0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
MOISTURE SOAK	1201	MAX2659ELT+G126	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1201	MAX2659ELT+G126	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1201	MAX2659ELT+G126	130C, 85% R.H.	100 HRS	81	0	
MOISTURE SOAK	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	80	0	
MOISTURE SOAK	1222	MAX2659ELT+T	130C, 85% R.H.	100 HRS	80	0	

MOISTURE SOAK	1233	MAX4166ELA+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1233	MAX4166ELA+	130C, 85% R.H.	100	HRS	80	0
MOISTURE SOAK	1233	MAX4166ELA+	130C, 85% R.H.	100	HRS	80	0
					Total:		0

FAILURE RATE: MTTF (YRS): 126839 FITS: 0.9