

10/23/2014



**RELIABILITY MONITOR REPORT
FOR**

HYBRID

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 Process Reliability Monitor. The specific products in this process monitor are:

MAX11190ETE+	MAX1480AEPI+	MAX1480BEPI+	MAX14857GWE	MAX14858GWE
MAX14931EASE	MAX14932BASE	MAX14934EAW	MAX14936BAW	MAX14936EAW
MAX15303ETL+	MAX15304ETJ+	MAX17515ALI+	MAX24101ELU+	

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 120318 QUANTITY: 2032 FAILS: 1 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 and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 10/1/2013 and 9/30/2014 .

Process Information:

Process Description: HYBRID

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE		MAX1480AEPI+	135°C	500 HRS	198	0	8FDPBLIY
HIGH TEMP OP LIFE		MAX1480AEPI+	135°C	500 HRS	198	0	8FDPBKAY
HIGH TEMP OP LIFE		MAX1480AEPI+	135°C	500 HRS	200	0	8FDPBLUY
HIGH TEMP OP LIFE	1322	MAX1480AEPI+	135°C	1000 HRS	80	0	8EDPBKQ1
HIGH TEMP OP LIFE	1322	MAX1480AEPI+	135°C	1000 HRS	40	0	8EDPBKQ2
HIGH TEMP OP LIFE	1322	MAX1480AEPI+	135°C	1000 HRS	80	0	8EDPBKQ3
HIGH TEMP OP LIFE	1324	MAX24101ELU+	135°C	1000 HRS	80	0	KAKV1AQ1B
HIGH TEMP OP LIFE	1325	MAX24101ELU+	135°C	1000 HRS	79	0	KAKV1AQ2B
HIGH TEMP OP LIFE	1325	MAX24101ELU+	135°C	192 HRS	80	0	KAKV1AQ2
HIGH TEMP OP LIFE	1325	MAX24101ELU+	135°C	1000 HRS	79	0	KAKV1AQ3A
HIGH TEMP OP LIFE	1327	MAX15303ETL+	135°C	500 HRS	79	0	NACQ6AGDQ
HIGH TEMP OP LIFE	1343	MAX1480BEPI+	135°C	1000 HRS	40	0	8FEPBLH
HIGH TEMP OP LIFE	1343	MAX1480BEPI+	135°C	1000 HRS	40	0	8FEPBLHA
HIGH TEMP OP LIFE	1343	MAX1480BEPI+	135°C	1000 HRS	40	0	8FEPBLHB
HIGH TEMP OP LIFE	1419	MAX14936BAWE+	135°C	1000 HRS	80	0	BASJ9AAQ2
HIGH TEMP OP LIFE	1420	MAX14936EAW+	135°C	1000 HRS	80	0	BASJ5AAQ4
HIGH TEMP OP LIFE	1420	MAX14936BAWE+	135°C	1000 HRS	80	0	BASJ9ABQ6
HIGH TEMP OP LIFE	1420	MAX14932BASE+	135°C	500 HRS	79	0	BASJ9AAQA
HIGH TEMP OP LIFE	1420	MAX14932BASE+	135°C	500 HRS	80	0	BASJ9AAQB

HIGH TEMP OP LIFE	1420	MAX14932BASE+	135°C	500	HRS	80	0	BASJ9AAQC
HIGH TEMP OP LIFE	1420	MAX17515ALI+	135°C	500	HRS	80	1	BAMA8ABQ1
HIGH TEMP OP LIFE	1420	MAX17515ALI+	135°C	500	HRS	80	0	BAMA8ABQ2
HIGH TEMP OP LIFE	1420	MAX17515ALI+	135°C	500	HRS	80	0	BAMA8ABQ3
Total:							1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
STORAGE LIFE	1322	MAX1480AEPI+	150°C	1000 HRS	80	0	8EDPBKQ1	
STORAGE LIFE	1322	MAX1480AEPI+	150°C	1000 HRS	80	0	8EDPBKQ2	
STORAGE LIFE	1322	MAX1480AEPI+	150°C	1000 HRS	80	0	8EDPBKQ3	
STORAGE LIFE	1324	MAX24101ELU+	150°C	1000 HRS	80	0	KAKV1AQ1	
STORAGE LIFE	1325	MAX24101ELU+	150°C	1000 HRS	80	0	KAKV1AQ2	
STORAGE LIFE	1325	MAX24101ELU+	150°C	1000 HRS	80	0	KAKV1AQ3	
STORAGE LIFE	1329	MAX15304ETJ+	150°C	1000 HRS	80	0	BAE19ACQ1	
STORAGE LIFE	1351	MAX14858GWE+	150°C	500 HRS	80	0	BAOW0AK	
STORAGE LIFE	1351	MAX14857GWE+	150°C	500 HRS	80	0	BAOV9AI	
STORAGE LIFE	1419	MAX14936BAWE+	150°C	1000 HRS	80	0	BASJ9AAQ2	
STORAGE LIFE	1420	MAX14936BAWE+	150°C	1000 HRS	80	0	BASJ9ABQ6	
STORAGE LIFE	1420	MAX14936BAWE+	150°C	1000 HRS	80	0	BASJ9ABQ6	
STORAGE LIFE	1420	MAX14932BASE+	150°C	1000 HRS	80	0	BASJ9AAQA	
STORAGE LIFE	1420	MAX14932BASE+	150°C	1000 HRS	80	0	BASJ9AAQB	
STORAGE LIFE	1420	MAX14932BASE+	150°C	1000 HRS	80	0	BASJ9AAQC	
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX1480AEPI+	-65C TO +150C (Condition C)	100	CYS	100	1 8FDPBLIY
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX1480AEPI+	-65C TO +150C (Condition C)	100	CYS	100	0 8FDPBKAY
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX1480AEPI+	-65C TO +150C (Condition C)	100	CYS	100	0 8FDPBLUY
TEMP CYCLE, 5' RAMP, 10' DWELL	1324	MAX24101ELU+	-65C TO +150C (Condition C)	1000	CYS	80	0 KAKV1AQ1
TEMP CYCLE, 5' RAMP, 10' DWELL	1325	MAX24101ELU+	-65C TO +150C (Condition C)	1000	CYS	80	0 KAKV1AQ2
TEMP CYCLE, 5' RAMP, 10' DWELL	1325	MAX24101ELU+	-65C TO +150C (Condition C)	1000	CYS	80	0 KAKV1AQ3

TEMP CYCLE, 5' RAMP, 10' DWELL	1326	MAX14931EASE+	-65C TO +150C (Condition C)	1000	CYS	200	0	BALY2PQ#	
TEMP CYCLE, 5' RAMP, 10' DWELL	1329	MAX15304ETJ+	-65C TO +150C (Condition C)	1000	CYS	80	0	BAE19ACQ1	
TEMP CYCLE, 5' RAMP, 10' DWELL	1330	MAX14931EASE+	-65C TO +150C (Condition C)	1000	CYS	199	0	BALYPBQA	
TEMP CYCLE, 5' RAMP, 10' DWELL	1343	MAX1480BEPI+	-65C TO +150C (Condition C)	1000	CYS	200	0	8FEPBLH	
TEMP CYCLE, 5' RAMP, 10' DWELL	1343	MAX1480BEPI+	-65C TO +150C (Condition C)	1000	CYS	200	0	8FEPBLHA	
TEMP CYCLE, 5' RAMP, 10' DWELL	1343	MAX1480BEPI+	-65C TO +150C (Condition C)	1000	CYS	200	0	8FEPBLHB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1351	MAX14858GWE+	-65C TO +150C (Condition C)	1000	CYS	300	0	BAOW0AK	
TEMP CYCLE, 5' RAMP, 10' DWELL	1351	MAX14857GWE+	-65C TO +150C (Condition C)	1000	CYS	300	0	BAOV9AI	
TEMP CYCLE, 5' RAMP, 10' DWELL	1419	MAX14936BAWE+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ9AAQ2	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14936EAW+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ5AAQ4	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14936BAWE+	-65C TO +150C (Condition C)	500	CYS	80	0	BASJ9ABQ6	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14936EAW+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ5ABQ6	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14932BASE+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ9AAQA	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14932BASE+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ9AAQB	
TEMP CYCLE, 5' RAMP, 10' DWELL	1420	MAX14932BASE+	-65C TO +150C (Condition C)	1000	CYS	80	0	BASJ9AAQC	
TEMP CYCLE, 5' RAMP, 10' DWELL	N/A	MAX14934EAW+	-65C TO +150C (Condition C)	1000	CYS	493	0	BAQU7AF#	
Total:							1		

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	1419	MAX14936BAWE+	130C, 85% R.H.	100 HRS	26	0	BASJ9AAQ2
BIASED MOISTURE	1420	MAX14936EAW+	130C, 85% R.H.	100 HRS	25	0	BASJ5AAQ4

BIASED MOISTURE	1420	MAX14936BAWE+	130C, 85% R.H.	100	HRS	54	0	BASJ9ABQ6
BIASED MOISTURE	1420	MAX14932BASE+	130C, 85% R.H.	100	HRS	80	0	BASJ9AAQA
BIASED MOISTURE	1420	MAX14932BASE+	130C, 85% R.H.	100	HRS	80	0	BASJ9AAQB
BIASED MOISTURE	1420	MAX14932BASE+	130C, 85% R.H.	100	HRS	80	0	BASJ9AAQC
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	1308	MAX11190ETE+	85 C/85% R.H.	500	HRS	47	0 BAGB8ADA
MOISTURE SOAK	1308	MAX11190ETE+	85 C/85% R.H.	1000	HRS	23	0 BAGB8ADB
MOISTURE SOAK	1308	MAX11190ETE+	85 C/85% R.H.	1000	HRS	24	0 BAGB8ADC
MOISTURE SOAK	1324	MAX24101ELU+	85 C/85% R.H.	1000	HRS	48	0 KAKV1AQ1
MOISTURE SOAK	1325	MAX24101ELU+	85 C/85% R.H.	1000	HRS	47	0 KAKV1AQ2
MOISTURE SOAK	1325	MAX24101ELU+	85 C/85% R.H.	1000	HRS	48	0 KAKV1AQ3
MOISTURE SOAK	1330	MAX14931EASE+	130C, 85% R.H.	100	HRS	200	0 BALYPBQA
MOISTURE SOAK	1419	MAX14936BAWE+	130C, 85% R.H.	100	HRS	80	0 BASJ9AAQ2
MOISTURE SOAK	1420	MAX14936EAW+	130C, 85% R.H.	100	HRS	80	0 BASJ5AAQ4
MOISTURE SOAK	1420	MAX14936EAW+	130C, 85% R.H.	100	HRS	80	0 BASJ9ABQ6
Total:							0

FAILURE RATE: MTTF (YRS): 120318 QUANTITY: 2032 FAILS: 1 FITS: 0.9