

4/17/2013



**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:

MAX11014BGT	MAX1441GUP/V	MAX1454AUE/V	MAX5952AUAX	MAX8798ETX+
MAX9679ETG+	MAX9684ETN+			

The calculated failure rate for devices using this process is:

**FAILURE RATE:    MTTF (YRS): 21156    QUANTITY: 478    FAILS: 2    FITS: 5.4**

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 4/1/2012 and 3/31/2013 .

**Process Information:**

Process Description:            HYBRID

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1118	MAX9679ETG+	135°C	500 HRS	77	1	NHLTAAACK
HIGH TEMP OP LIFE	1212	MAX1441GUP/V+	135°C	500 HRS	48	0	NFTUBAME
HIGH TEMP OP LIFE	1222	MAX9684ETN+	135°C	1000 HRS	45	1	BHHTABQ7A
HIGH TEMP OP LIFE	1222	MAX9684ETN+	135°C	1000 HRS	45	0	BHHTABQ8A
HIGH TEMP OP LIFE	1222	MAX9684ETN+	135°C	1000 HRS	45	0	BHHTABQ9A
HIGH TEMP OP LIFE	1225	MAX5952AUAX+	135°C	1000 HRS	48	0	MDYAAQ1
HIGH TEMP OP LIFE	1225	MAX5952AUAX+	135°C	1000 HRS	45	0	MDYAAQ2
HIGH TEMP OP LIFE	1225	MAX5952AUAX+	135°C	1000 HRS	45	0	MDYAAQ3
HIGH TEMP OP LIFE	1228	MAX1454AUE/V+	135°C	1000 HRS	80	0	N8ZZAAKA
<b>Total:</b>						<b>2</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1207	MAX9684ETN+	150°C	1000 HRS	77	0	NHHTAAQ4
STORAGE LIFE	1207	MAX9684ETN+	150°C	1000 HRS	77	0	NHHTAAQ5
STORAGE LIFE	1207	MAX9684ETN+	150°C	1000 HRS	77	0	NHHTAAQ6
STORAGE LIFE	1212	MAX1441GUP/V+	150°C	500 HRS	50	0	NFTUBAME
STORAGE LIFE	1222	MAX9684ETN+	150°C	1000 HRS	80	0	BHHTABQ7
STORAGE LIFE	1222	MAX9684ETN+	150°C	1000 HRS	80	0	BHHTABQ8
STORAGE LIFE	1222	MAX9684ETN+	150°C	1000 HRS	80	0	BHHTABQ9
STORAGE LIFE	1225	MAX5952AUAX+	150°C	1000 HRS	80	0	MDYAAQ1

STORAGE LIFE	1225	MAX5952AUAX+	150°C	1000	HRS	80	0	MDYAAQ2
STORAGE LIFE	1225	MAX5952AUAX+	150°C	1000	HRS	80	0	MDYAAQ3
STORAGE LIFE	1228	MAX1454AUE/V+	150°C	1000	HRS	50	0	N8ZZAAKA
<b>Total:</b>							<b>0</b>	

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### TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
TEMP CYCLE, 5' RAMP, 10' DWELL	1207	MAX9684ETN+	-65C TO 150C	1000	CYS	77	0	NHHTAAQ4
TEMP CYCLE, 5' RAMP, 10' DWELL	1207	MAX9684ETN+	-65C TO 150C	500	CYS	77	0	NHHTAAQ5
TEMP CYCLE, 5' RAMP, 10' DWELL	1207	MAX9684ETN+	-65C TO 150C	1000	CYS	77	0	NHHTAAQ6
TEMP CYCLE, 5' RAMP, 10' DWELL	1212	MAX1441GUP/V+	-65C TO 150C	500	CYS	80	0	NFTUBAME
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX9684ETN+	-65C TO 150C	1000	CYS	80	0	BHHTABQ7
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX9684ETN+	-65C TO 150C	1000	CYS	80	0	BHHTABQ8
TEMP CYCLE, 5' RAMP, 10' DWELL	1222	MAX9684ETN+	-65C TO 150C	1000	CYS	80	0	BHHTABQ9
TEMP CYCLE, 5' RAMP, 10' DWELL	1225	MAX5952AUAX+	-65C TO 150C	1000	CYS	80	0	MDYAAQ1
TEMP CYCLE, 5' RAMP, 10' DWELL	1225	MAX5952AUAX+	-65C TO 150C	1000	CYS	80	0	MDYAAQ2
TEMP CYCLE, 5' RAMP, 10' DWELL	1225	MAX5952AUAX+	-65C TO 150C	1000	CYS	80	0	MDYAAQ3
TEMP CYCLE, 5' RAMP, 10' DWELL	1228	MAX1454AUE/V+	-65C TO 150C	500	CYS	80	0	N8ZZAAKA
<b>Total:</b>							<b>0</b>	

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### TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
BIASED MOISTURE	1207	MAX9684ETN+	130C, 85% R.H.	100	HRS	45	0	NHHTAAQ4
BIASED MOISTURE	1207	MAX9684ETN+	130C, 85% R.H.	100	HRS	45	0	NHHTAAQ6
BIASED MOISTURE	1222	MAX9684ETN+	130C, 85% R.H.	100	HRS	35	0	BHHTABQ7
BIASED MOISTURE	1222	MAX9684ETN+	130C, 85% R.H.	100	HRS	45	0	BHHTABQ8
BIASED MOISTURE	1222	MAX9684ETN+	130C, 85% R.H.	100	HRS	45	0	BHHTABQ9
BIASED MOISTURE	1225	MAX5952AUAX+	130C, 85% R.H.	100	HRS	35	0	MDYAAQ1
BIASED MOISTURE	1225	MAX5952AUAX+	130C, 85% R.H.	100	HRS	45	0	MDYAAQ2
BIASED MOISTURE	1225	MAX5952AUAX+	130C, 85% R.H.	100	HRS	45	0	MDYAAQ3

**Total: 0**

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**UNBIASED MOISTURE RESISTANCE**

<b>DESCRIPTION</b>	<b>DATE CODE</b>	<b>TEST VEHICLE</b>	<b>CONDITION</b>	<b>READPOINT</b>	<b>QUANTITY</b>	<b>FAILS</b>	<b>LOT NO.</b>
MOISTURE SOAK	1105	MAX8798ETX+	85 C/85% R.H.	1000 HRS	45	0	BFRTBJQ1
MOISTURE SOAK	1110	MAX11014BGTM+	85 C/85% R.H.	1000 HRS	29	0	BDWTAGQ3
MOISTURE SOAK	1225	MAX5952AUAX+	130C, 85% R.H.	100 HRS	80	0	MDYAAQ1
MOISTURE SOAK	1225	MAX5952AUAX+	130C, 85% R.H.	100 HRS	80	0	MDYAAQ2
MOISTURE SOAK	1225	MAX5952AUAX+	130C, 85% R.H.	100 HRS	80	0	MDYAAQ3

**Total: 0**

**FAILURE RATE: MTTF (YRS): 21156 QUANTITY: 478 FAILS: 2 FITS: 5.4**