

1/24/2019



**RELIABILITY MONITOR REPORT  
FOR**

**Epson S4**

**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:

MAX1358BETL+	MAX15038ETG+	MAX32660GTG+	MAX8556ETE+	MAX8904ETN+
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The calculated failure rate for devices using this process is:

**FAILURE RATE:    MTTF (YRS): 64987    QUANTITY: 400    FAILS: 0    FITS: 1.8**

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 10/1/2018 and 12/31/2018.

**Process Information:**

Process Description:            Epson S4

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE		MAX32660GTG+	135°C	192 HRS	80	0	EX183877AH-ENG
HIGH TEMP OP LIFE	1734	MAX15038ETG+	135°C	1000 HRS	32	0	EBKL4A016AX
HIGH TEMP OP LIFE	1744	MAX8556ETE+	135°C	1000 HRS	80	0	EBLZ8A017AX
HIGH TEMP OP LIFE	1808	MAX8904ETN+GC5	135°C	1000 HRS	80	0	EBOQ5A030AA
HIGH TEMP OP LIFE	1822	MAX15038ETG+	125°C	1000 HRS	48	0	EBKL4A043EX
HIGH TEMP OP LIFE	1827	MAX1358BETL+	125°C	1000 HRS	80	0	EMJZEA134CX
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE		MAX8904ETN+GC5	150°C	1000 HRS	80	0	EBOQ5A030AA
STORAGE LIFE	1744	MAX8556ETE+	150°C	1000 HRS	80	0	EBLZ8A017AX
STORAGE LIFE	1822	MAX15038ETG+	150°C	1000 HRS	80	0	EBKL4A043EX
STORAGE LIFE	1827	MAX1358BETL+	150°C	1000 HRS	80	0	EMJZEA134CX
<b>Total:</b>						<b>0</b>	

**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX8904ETN+GC5	-65C TO +150C (Condition C)	1000 CYS	80	0	EBOQ5A030AA
TEMP CYCLE, 5' RAMP, 10' DWELL	1744	MAX8556ETE+	-65C TO +150C (Condition C)	1000 CYS	80	0	EBLZ8A017AX

TEMP CYCLE, 5' RAMP, 10' DWELL	1822	MAX15038ETG+	-65C TO +150C (Condition C)	1000	CYS	80	0	EBKL4A043EX
TEMP CYCLE, 5' RAMP, 10' DWELL	1827	MAX1358BETL+	-65C TO +150C (Condition C)	1000	CYS	80	0	EMJZEA134CX

**Total: 0**

**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
BIASED MOISTURE		MAX8904ETN+GC5	130C, 85% R.H.	HRS	24	0	EBOQ5A030AA
BIASED MOISTURE	1744	MAX8556ETE+	85 C/85% R.H.	96 HRS	80	0	EBLZ8A017AX
BIASED MOISTURE	1808	MAX8904ETN+GC5	130C, 85% R.H.	HRS	24	0	EBOQ5A030AA
BIASED MOISTURE	1808	MAX8904ETN+GC5	130C, 85% R.H.	HRS	20	0	EBOQ5A030AA

**Total: 0**

**FAILURE RATE: MTTF (YRS): 64987      QUANTITY: 400      FAILS: 0      FITS: 1.8**