7/11/2018

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+	MAX16933CATI	MAX17840AGU	MAX17853GCB/
MAX32660GTG+	MAX8556ETE+	MAX8904ETN+		

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 69134 QUANTITY: 591 FAILS: 0 FITS: 1.7

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 4/1/2018 and 6/30/2018 .

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	1650	MAX15038ETG+	135°C	1000	HRS	32	0	EBKL4Q001CX
HIGH TEMP OP LIFE	1716	MAX1358BETL+	135°C	1000	HRS	79	0	EMJZEA133DA
HIGH TEMP OP LIFE	1734	MAX15038ETG+	135°C	1000	HRS	48	0	EBKL4A016AX
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	1819	MAX17853GCB/V+	135°C	192	HRS	80	0	EBZE8Q002F
HIGH TEMP OP LIFE	1819	MAX17853GCB/V+	135°C	192	HRS	80	0	EBZE8Q002G
					Total:		**0**	

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	1716	MAX1358BETL+	150°C	1000	HRS	80	0	EMJZEA133DA
STORAGE LIFE	1729	MAX17840AGUN/V+	150°C	500	HRS	50	0	EBRI9Q001FA
STORAGE LIFE	1734	MAX15038ETG+	150°C	1000	HRS	80	0	EBKL4A016AX
STORAGE LIFE	1744	MAX8556ETE+	150°C	1000	HRS	80	0	EBLZ8A017AX
STORAGE LIFE	1804	MAX16933CATIR/VY+	150°C	1000	HRS	24	0	EBRP6Q001GB
STORAGE LIFE	1819	MAX17853GCB/V+	150°C	500	HRS	80	0	EBZE8Q002F
STORAGE LIFE	1819	MAX17853GCB/V+	150°C	500	HRS	80	0	EBZE8Q002G

STORAGE LIFE	1819	MAX17853GCB/V+	150°C	500	HRS	80	0	EBZE8Q002H
					Total:		**0**	

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	1716	MAX1358BETL+	-65C TO +150C (Condition C)	1000	CYS	80	0	EMJZEA133DA
TEMP CYCLE, 5' RAMP, 10' DWELL	1729	MAX17840AGUN/V+	-65C TO +150C (Condition C)	500	CYS	50	0	EBRI9Q001FA
TEMP CYCLE, 5' RAMP, 10' DWELL	1734	MAX15038ETG+	-65C TO +150C (Condition C)	1000	CYS	80	0	EBKL4A016AX
TEMP CYCLE, 5' RAMP, 10' DWELL	1744	MAX8556ETE+	-65C TO +150C (Condition C)	1000	CYS	80	0	EBLZ8A017AX
TEMP CYCLE, 5' RAMP, 10' DWELL	1804	MAX16933CATIR/VY+	-65C TO +150C (Condition C)	500	CYS	24	0	EBRP6Q001GB
TEMP CYCLE, 5' RAMP, 10' DWELL	1819	MAX17853GCB/V+	-65C TO +150C (Condition C)	500	CYS	90	0	EBZE8Q002F
TEMP CYCLE, 5' RAMP, 10' DWELL	1819	MAX17853GCB/V+		500	CYS	90	0	EBZE8Q002G
TEMP CYCLE, 5' RAMP, 10' DWELL	1819	MAX17853GCB/V+		500	CYS	90	0	EBZE8Q002H
					Total:		**0**	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
BIASED MOISTURE	1716	MAX1358BETL+	130C, 85% R.H.	96	HRS	80	0	EMJZEA133DA
BIASED MOISTURE	1734	MAX15038ETG+	130C, 85% R.H.	96	HRS	80	0	EBKL4A016AX
BIASED MOISTURE	1744	MAX8556ETE+	85 C/85% R.H.	96	HRS	80	0	EBLZ8A017AX
BIASED MOISTURE	1804	MAX16933CATIR/VY+	130C, 85% R.H.	192	HRS	24	0	EBRP6Q001GB
BIASED MOISTURE	1819	MAX17853GCB/V+	130C, 85% R.H.	96	HRS	80	0	EBZE8Q002F
BIASED MOISTURE	1819	MAX17853GCB/V+	130C, 85% R.H.	96	HRS	79	0	EBZE8Q002G
					Total:		**0**	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT		QUANTITY	FAILS	LOT NO.
MOISTURE SOAK	1729	MAX17840AGUN/V+	130C, 85% R.H.	96	HRS	50	0	EBRI9Q001FA
MOISTURE SOAK	1804	MAX16933CATIR/VY+	130C, 85% R.H.	192	HRS	24	0	EBRP6Q001GB
MOISTURE SOAK	1819	MAX17853GCB/V+	130C, 85% R.H.		HRS	80	0	EBZE8Q002F
MOISTURE SOAK	1819	MAX17853GCB/V+	130C, 85% R.H.		HRS	80	0	EBZE8Q002G

MOISTURE SOAK	1819	MAX17853GCB/V+	130C, 85% R.H.	HRS	80	0	EBZE8Q002H
				Total:		**0**	

FAILURE RATE: **MTTF (YRS): 69134** **QUANTITY: 591** **FAILS: 0** **FITS: 1.7**