

1/24/2019



**RELIABILITY MONITOR REPORT
FOR**

Fab 101 S18

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:

MAX14778ETP+	MAX16936RATE	MAX17502GAT	MAX77651AEW	MAX77714EWC
MAX77825AEW	MAX86915EFD+	MAX86915EFD+	MAX86917EFD+	MAX86917EFD+
MAX98357BEW	MAX98730EWJ+			

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 140659 QUANTITY: 945 FAILS: 0 FITS: 0.8

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: Fab 101 S18

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1735	MAX77825AEWP+T	135°C	192 HRS	48	0	VBSQ9A062G\$
HIGH TEMP OP LIFE	1740	MAX77651AEWV+	135°C	1000 HRS	72	0	VBRN2Q002A
HIGH TEMP OP LIFE	1743	MAX77714EWC+	125°C	192 HRS	32	0	VBUF8Q001D\$
HIGH TEMP OP LIFE	1747	MAX17502GATB+T	135°C	192 HRS	80	0	VBTO0Q001C
HIGH TEMP OP LIFE	1750	MAX98357BEWL+TG7	125°C	500 HRS	48	0	VBUG4Q001B
HIGH TEMP OP LIFE	1750	MAX98357BEWL+TG7	125°C	1000 HRS	48	0	VBUG4Q001B
HIGH TEMP OP LIFE	1750	MAX98357BEWL+TG7	125°C	192 HRS	32	0	VBUG4Q001B
HIGH TEMP OP LIFE	1750	MAX98357BEWL+TG7	125°C	1000 HRS	32	0	VBUG4Q001B
HIGH TEMP OP LIFE	1803	MAX98730EWJ+TCGT	125°C	500 HRS	80	0	VASU5A301AD
HIGH TEMP OP LIFE	1810	MAX86917EFD+T	135°C	1000 HRS	79	0	VBTU1A040BA
HIGH TEMP OP LIFE	1810	MAX86917EFD+T	125°C	1000 HRS	80	0	VBTU1A040BC
HIGH TEMP OP LIFE	1811	MAX16936RATEA/V+	135°C	1000 HRS	79	0	VBSW4A007C
HIGH TEMP OP LIFE	1812	MAX17502GATB+T	125°C	1000 HRS	75	0	VBTO0A004B
HIGH TEMP OP LIFE	1812	MAX14778ETP+	135°C	1000 HRS	80	0	VBTN9A004B
HIGH TEMP OP LIFE	1812	MAX16936RATEA/V+	135°C	1000 HRS	80	0	VBSW4A008C
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1807	MAX86915EFD+	150°C	1000 HRS	80	0	VBTU1A018AF
STORAGE LIFE	1807	MAX86915EFD+	150°C	1000 HRS	80	0	VBTU1A018AC

STORAGE LIFE	1807	MAX86915EFD+	150°C	1000	HRS	80	0	VBTU1A018AD
STORAGE LIFE	1810	MAX86917EFD+T	150°C	1000	HRS	79	0	VBTU1A040BA
STORAGE LIFE	1810	MAX86917EFD+T	150°C	1000	HRS	80	0	VBTU1A040BB
STORAGE LIFE	1810	MAX86917EFD+T	150°C	1000	HRS	80	0	VBTU1A040BC
STORAGE LIFE	1811	MAX16936RATEA/V+	150°C	1000	HRS	79	0	VBSW4A007C
STORAGE LIFE	1812	MAX17502GATB+T	150°C	500	HRS	80	0	VBTO0A004B
STORAGE LIFE	1812	MAX14778ETP+	150°C	1000	HRS	80	0	VBTN9A004B
STORAGE LIFE	1812	MAX16936RATEA/V+	150°C	1000	HRS	80	0	VBSW4A008C
Total:							0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	1734	MAX86915EFD+	-65C TO +150C (Condition C)	1000	CYS	77	0 VBTH1Q001Q4
TEMP CYCLE, 5' RAMP, 10' DWELL	1803	MAX98730EWJ+TCGT	-65C TO +150C (Condition C)		CYS	80	0 VASU5A301AD
TEMP CYCLE, 5' RAMP, 10' DWELL	1805	MAX86917EFD+		96	CYS	50	0 VBTY1A040B#
TEMP CYCLE, 5' RAMP, 10' DWELL	1805	MAX86917EFD+		240	CYS	50	0 VBTY1A040B#
TEMP CYCLE, 5' RAMP, 10' DWELL	1807	MAX86915EFD+	-65C TO +150C (Condition C)	1000	CYS	80	0 VBTU1A018AX
TEMP CYCLE, 5' RAMP, 10' DWELL	1807	MAX86915EFD+	-65C TO +150C (Condition C)	1000	CYS	80	0 VBTU1A018BQ
TEMP CYCLE, 5' RAMP, 10' DWELL	1807	MAX86915EFD+	-65C TO +150C (Condition C)	1000	CYS	80	0 VBTU1A018CQ
TEMP CYCLE, 5' RAMP, 10' DWELL	1807	MAX86915EFD+	-65C TO +150C (Condition C)	240	CYS	50	0 VBTU1A018AQ
TEMP CYCLE, 5' RAMP, 10' DWELL	1810	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	80	0 VBTU1A040BA
TEMP CYCLE, 5' RAMP, 10' DWELL	1810	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	78	0 VBTU1A040BB
TEMP CYCLE, 5' RAMP, 10' DWELL	1810	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	79	0 VBTU1A040BC
TEMP CYCLE, 5' RAMP, 10' DWELL	1811	MAX16936RATEA/V+	-65C TO +150C (Condition C)	1000	CYS	80	0 VBSW4A007C
TEMP CYCLE, 5' RAMP, 10' DWELL	1812	MAX17502GATB+T	-65C TO +150C (Condition C)	500	CYS	110	0 VBTO0A004B

TEMP CYCLE, 5' RAMP, 10' DWELL	1812	MAX14778ETP+	-65C TO +150C (Condition C)	1000	CYS	80	0	VBTN9A004B
TEMP CYCLE, 5' RAMP, 10' DWELL	1812	MAX16936RATEA/V+	-65C TO +150C (Condition C)	500	CYS	110	0	VBSW4A008C
TEMP CYCLE, 5' RAMP, 10' DWELL	1825	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	80	0	VBTU1A044CD
TEMP CYCLE, 5' RAMP, 10' DWELL	1825	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	80	0	VBTU1A044CE
TEMP CYCLE, 5' RAMP, 10' DWELL	1825	MAX86917EFD+T	-40C TO +125C (Condition G)	1000	CYS	80	0	VBTU1A044CF
TEMP CYCLE, 5' RAMP, 10' DWELL	1825	MAX86917EFD+T	-65C TO +150C (Condition C)	96	CYS	50	0	VBTU1A044CD
TEMP CYCLE, 5' RAMP, 10' DWELL	1825	MAX86917EFD+T	-40C TO +125C (Condition G)		CYS	50	0	VBTU1A044CD
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
BIASED MOISTURE		MAX86915EFD+	85 C/85% R.H.	1000	HRS	20	0	VBTH1Q001Q2
BIASED MOISTURE		MAX86915EFD+	85 C/85% R.H.	1000	HRS	20	0	VBTH1Q001Q2
BIASED MOISTURE	1734	MAX86915EFD+	85 C/85% R.H.	240	HRS	77	0	VBTH1Q001Q4
BIASED MOISTURE	1807	MAX86915EFD+	85 C/85% R.H.	450	HRS	50	0	VBTU1A018AQ
BIASED MOISTURE	1811	MAX16936RATEA/V+	130C, 85% R.H.	96	HRS	80	0	VBSW4A007C
BIASED MOISTURE	1812	MAX17502GATB+T	130C, 85% R.H.	96	HRS	58	0	VBTO0A004B
BIASED MOISTURE	1812	MAX14778ETP+	130C, 85% R.H.	96	HRS	25	0	VBTN9A004B
BIASED MOISTURE	1812	MAX14778ETP+	130C, 85% R.H.	96	HRS	26	0	VBTN9A004B
BIASED MOISTURE	1812	MAX14778ETP+	130C, 85% R.H.	96	HRS	25	0	VBTN9A004B
BIASED MOISTURE	1812	MAX14778ETP+	130C, 85% R.H.	96	HRS	10	0	VBTN9A004B
BIASED MOISTURE	1812	MAX16936RATEA/V+	130C, 85% R.H.	96	HRS	80	0	VBSW4A008C
BIASED MOISTURE	1825	MAX86917EFD+T	130C, 85% R.H.		HRS	1	0	VBTU1A044CF
BIASED MOISTURE	1825	MAX86917EFD+T	85 C/85% R.H.	96	HRS	50	0	VBTU1A044CD
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
MOISTURE SOAK	1805	MAX86917EFD+	130C, 85% R.H.	96	HRS	49	0	VBTY1A040B#
MOISTURE SOAK	1805	MAX86917EFD+	85C, 85% R.H.	120	HRS	48	0	VBTY1A040B#
MOISTURE SOAK	1807	MAX86915EFD+	130C, 85% R.H.	96	HRS	80	0	VBTU1A018AX
MOISTURE SOAK	1807	MAX86915EFD+	85C, 85% R.H.	1000	HRS	76	0	VBTU1A018AX

MOISTURE SOAK	1807	MAX86915EFD+	130C, 85% R.H.	96	HRS	80	0	VBTU1A018BQ
MOISTURE SOAK	1807	MAX86915EFD+	85C, 85% R.H.	1000	HRS	73	0	VBTU1A018BQ
MOISTURE SOAK	1807	MAX86915EFD+	130C, 85% R.H.	96	HRS	50	0	VBTU1A018AQ
MOISTURE SOAK	1810	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A040BA
MOISTURE SOAK	1810	MAX86917EFD+T	130C, 85% R.H.	96	HRS	25	0	VBTU1A040BA
MOISTURE SOAK	1810	MAX86917EFD+T	85C, 85% R.H.	1000	HRS	80	0	VBTU1A040BA
MOISTURE SOAK	1810	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A040BB
MOISTURE SOAK	1810	MAX86917EFD+T	130C, 85% R.H.	96	HRS	25	0	VBTU1A040BB
MOISTURE SOAK	1810	MAX86917EFD+T	85C, 85% R.H.	1000	HRS	80	0	VBTU1A040BB
MOISTURE SOAK	1810	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A040BC
MOISTURE SOAK	1810	MAX86917EFD+T	85C, 85% R.H.	1000	HRS	74	0	VBTU1A040BC
MOISTURE SOAK	1811	MAX16936RATEA/V+	130C, 85% R.H.	96	HRS	80	0	VBSW4A007C
MOISTURE SOAK	1812	MAX17502GATB+T	130C, 85% R.H.	96	HRS	80	0	VBTO0A004B
MOISTURE SOAK	1812	MAX14778ETP+	130C, 85% R.H.	96	HRS	80	0	VBTN9A004B
MOISTURE SOAK	1812	MAX16936RATEA/V+	130C, 85% R.H.	96	HRS	80	0	VBSW4A008C
MOISTURE SOAK	1825	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A044CD
MOISTURE SOAK	1825	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A044CE
MOISTURE SOAK	1825	MAX86917EFD+T	130C, 85% R.H.	96	HRS	80	0	VBTU1A044CF
MOISTURE SOAK	1825	MAX86917EFD+T	130C, 85% R.H.	96	HRS	50	0	VBTU1A044CD

Total: 0

FAILURE RATE: MTTF (YRS): 140659 QUANTITY: 945 FAILS: 0 FITS: 0.8