

9/8/2020



**RELIABILITY MONITOR REPORT
FOR**

TJT 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:

MAX14689EWL	MAX16956AUB	MAX16956AUB	MAX16961RATE	MAX16961SAUE
MAX16962SATE	MAX16990ATC	MAX20021ATIA/	MAX20030BAT	MAX20418ATG
MAX25105EQP/	MAX25205EQP/	MAX40100ANT+	MAX44284FAZT	MAX44284FAZT
MAX44284HAN	MAX44290ANT+	MAX77596ETBC	MAX77843EWV	MAX8902BATA/
MAX8986EWG+	MAX98726BENJ			

The calculated failure rate for devices using this process is:

FAILURE RATE: **MTTF (YRS): 174322** **QUANTITY: 1225** **FAILS: 0** **FITS: 0.7**

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 4/1/2020 and 9/8/2020 .

Process Information:

Process Description: TJT S18

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE		MAX25105EQP/V+	125°C	192 HRS	80	0	TCUN7Q001EB
HIGH TEMP OP LIFE	1851	MAX20030BATMK/V+	125°C	1000 HRS	78	0	TBSH7A028HA
HIGH TEMP OP LIFE	1907	MAX14689EWL+T	125°C	1000 HRS	80	0	TAYA9A023BC
HIGH TEMP OP LIFE	1908	MAX20021ATIA/V+	125°C	1000 HRS	80	0	TAKR5A179C
HIGH TEMP OP LIFE	1908	MAX40100ANT+TG7	125°C	1000 HRS	80	0	TBHH4A068AF
HIGH TEMP OP LIFE	1909	MAX77596ETBC+TCMR	125°C	1000 HRS	80	0	TAQJ2A189A
HIGH TEMP OP LIFE	1919	MAX20418ATGB/V+	125°C	192 HRS	98	0	TCBZ3A032C
HIGH TEMP OP LIFE	1935	MAX16961RATEA/V+	125°C	1000 HRS	30	0	TBAN0A069AX
HIGH TEMP OP LIFE	1942	MAX98726BENJ+TCNF	125°C	1000 HRS	80	0	TBGY1A723AE
HIGH TEMP OP LIFE	1942	MAX16956AUBC/V+	125°C	1000 HRS	79	0	TAQJ2A216CX
HIGH TEMP OP LIFE	1948	MAX98726BENJ+TCNF	125°C	1000 HRS	40	0	TBGY1A723B
HIGH TEMP OP LIFE	1948	MAX98726BENJ+TCNF	125°C	192 HRS	40	0	TBGY1A723B
HIGH TEMP OP LIFE	1948	MAX44290ANT+	125°C	1000 HRS	80	0	TBFD4Q001KM
HIGH TEMP OP LIFE	1949	MAX98726BENJ+TCNF	125°C	1000 HRS	40	0	TBGY1A723C
HIGH TEMP OP LIFE	1949	MAX98726BENJ+TCNF	125°C	192 HRS	40	0	TBGY1A723C
HIGH TEMP OP LIFE	1950	MAX16962SATEA/V+	125°C	1000 HRS	30	0	TBAN0A073BX
HIGH TEMP OP LIFE	2004	MAX77843EWV+T	125°C	500 HRS	40	0	TATR3A5D0A
HIGH TEMP OP LIFE	2004	MAX77843EWV+T	125°C	192 HRS	40	0	TATR3A5D0A

HIGH TEMP OP LIFE	2004	MAX77843EWV+T	125°C	192	HRS	40	0	TATR3A5D0B
HIGH TEMP OP LIFE	2004	MAX77843EWV+T	125°C	192	HRS	40	0	TATR3A5D0C
HIGH TEMP OP LIFE	2004	MAX16962SATEA/V+	125°C	1000	HRS	30	0	TBAN0A073GX
Total:							0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE		MAX25105EQP/V+	150°C	1000 HRS	80	0	TCUN7Q001FA
STORAGE LIFE		MAX25105EQP/V+	150°C	1000 HRS	80	0	TCUN7Q001EB
STORAGE LIFE	1851	MAX20030BATMK/V+	150°C	1000 HRS	80	0	TBSH7A028HA
STORAGE LIFE	1851	MAX20030BATMK/V+	150°C	1000 HRS	80	0	TBSH7A028HB
STORAGE LIFE	1851	MAX20030BATMK/V+	150°C	1000 HRS	80	0	TBSH7A028HC
STORAGE LIFE	1908	MAX40100ANT+TG7	150°C	1000 HRS	80	0	TBHH4A068AF
STORAGE LIFE	1942	MAX98726BENJ+TCNF	150°C	1000 HRS	80	0	TBGY1A723AE
STORAGE LIFE	1942	MAX16956AUBC/V+	150°C	1000 HRS	80	0	TAQJ2A216CX
STORAGE LIFE	1948	MAX98726BENJ+TCNF	150°C	1000 HRS	80	0	TBGY1A723B
STORAGE LIFE	1948	MAX44290ANT+	150°C	1000 HRS	80	0	TBFD4Q001KM
STORAGE LIFE	1949	MAX98726BENJ+TCNF	150°C	1000 HRS	80	0	TBGY1A723C
STORAGE LIFE	2003	MAX16961SAUEA/V+	150°C	1000 HRS	30	0	TBAN0A073EA
STORAGE LIFE	2004	MAX77843EWV+T	150°C	500 HRS	80	0	TATR3A5D0A
STORAGE LIFE	2004	MAX77843EWV+T	150°C	500 HRS	80	0	TATR3A5D0B
STORAGE LIFE	2004	MAX77843EWV+T	150°C	500 HRS	80	0	TATR3A5D0C
STORAGE LIFE	2004	MAX77843EWV+T	150°C	500 HRS	80	0	TATR3A5D0D
STORAGE LIFE	2004	MAX77843EWV+T	150°C	500 HRS	80	0	TATR3A5D0E
STORAGE LIFE	2005	MAX16956AUBE/V+	150°C	1000 HRS	80	0	TAQJ2A229EX
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX25105EQP/V+	-65C TO +150C (Condition C)	1000 CYS	80	0	TCUN7Q001C
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX25105EQP/V+	-65C TO +150C (Condition C)	500 CYS	43669	0	TCUN7Q001FA
TEMP CYCLE, 5' RAMP, 10' DWELL		MAX25105EQP/V+	-65C TO +150C (Condition C)	1000 CYS	80	0	TCUN7Q001EB
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX77843EWV+T	-65C TO +150C (Condition C)	500 CYS	80	0	TATR3A4D9D
TEMP CYCLE, 15' RAMP, 15' DWELL		MAX77843EWV+T	-40C TO +125C (Condition G)	250 CYS	80	0	TATR3A4D9E

TEMP CYCLE, 5' RAMP, 10' DWELL	1820	MAX16990ATCD/VY+	-65C TO +150C (Condition C)	1000	CYS	24	0	TAYF1A023E
TEMP CYCLE, 15' RAMP, 15' DWELL	1846	MAX44284HANT+TG7	-40C TO +125C (Condition G)	100	CYS	80	0	TBEO9A107AG
TEMP CYCLE, 15' RAMP, 15' DWELL	1848	MAX44284HANT+TG7	-40C TO +125C (Condition G)	100	CYS	80	0	TBEO9A110BE
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20030BATMK/V+	-65C TO +150C (Condition C)	1000	CYS	80	0	TBSH7A028HA
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20030BATMK/V+	-65C TO +150C (Condition C)	1000	CYS	89	0	TBSH7A028HB
TEMP CYCLE, 5' RAMP, 10' DWELL	1851	MAX20030BATMK/V+	-65C TO +150C (Condition C)	1000	CYS	89	0	TBSH7A028HC
TEMP CYCLE, 15' RAMP, 15' DWELL	1904	MAX44284FAZT+	-40C TO +125C (Condition G)	1000	CYS	80	0	TCAG0A131DM
TEMP CYCLE, 15' RAMP, 15' DWELL	1904	MAX44284FAZT+TG7	-65C TO +150C (Condition C)	1000	CYS	77	0	TCAG0A131EH
TEMP CYCLE, 15' RAMP, 15' DWELL	1904	MAX44284FAZT+TG7	-65C TO +150C (Condition C)	100	CYS	80	0	TCAG0A131DK
TEMP CYCLE, 15' RAMP, 15' DWELL	1907	MAX14689EWL+T	-65C TO +150C (Condition C)	1000	CYS	80	0	TAYA9A023BC
TEMP CYCLE, 5' RAMP, 10' DWELL	1908	MAX20021ATIA/V+	-65C TO +150C (Condition C)	1000	CYS	79	0	TAKR5A179C
TEMP CYCLE, 15' RAMP, 15' DWELL	1908	MAX40100ANT+TG7	-65C TO +150C (Condition C)	500	CYS	80	0	TBHH4A068AF
TEMP CYCLE, 15' RAMP, 15' DWELL	1920	MAX44284FAZT+TG7	-65C TO +150C (Condition C)	100	CYS	80	0	TCAG0A150AL
TEMP CYCLE, 5' RAMP, 10' DWELL	1921	MAX25205EQP/VY+	-65C TO +150C (Condition C)	1000	CYS	80	0	TCUN7Q002A
TEMP CYCLE, 5' RAMP, 10' DWELL	1921	MAX25205EQP/VY+	-65C TO +150C (Condition C)	1000	CYS	80	0	TCUN7Q003A
TEMP CYCLE, 5' RAMP, 10' DWELL	1923	MAX8902BATA/V+T	-65C TO +150C (Condition C)	500	CYS	80	0	THTYCA432EA
TEMP CYCLE, 15' RAMP, 15' DWELL	1926	MAX77843EWV+T	-40C TO +125C (Condition G)	500	CYS	80	0	TATR3A4D9G
TEMP CYCLE, 15' RAMP, 15' DWELL	1927	MAX77843EWV+T	-40C TO +125C (Condition G)	1000	CYS	78	0	TATR3A4D9J
TEMP CYCLE, 5' RAMP, 10' DWELL	1942	MAX16956AUBC/V+	-65C TO +150C (Condition C)	1000	CYS	80	0	TAQJ2A216CX

TEMP CYCLE, 0' RAMP, 10' DWELL	1948	MAX44290ANT+	-40C TO +125C (Condition B)	850	CYS	80	0	TBFD4Q001KM
TEMP CYCLE, 5' RAMP, 10' DWELL	2003	MAX16961SAUEA/V+	-65C TO +150C (Condition C)	1000	CYS	30	0	TBAN0A073EA
TEMP CYCLE, 0' RAMP, 10' DWELL	2004	MAX77843EWV+T	-40C TO +125C (Condition B)	500	CYS	80	0	TATR3A5D0A
TEMP CYCLE, 0' RAMP, 10' DWELL	2004	MAX77843EWV+T	-40C TO +125C (Condition B)	500	CYS	80	0	TATR3A5D0B
TEMP CYCLE, 0' RAMP, 10' DWELL	2004	MAX77843EWV+T	-40C TO +125C (Condition B)	500	CYS	80	0	TATR3A5D0C
TEMP CYCLE, 0' RAMP, 10' DWELL	2004	MAX77843EWV+T	-40C TO +125C (Condition B)	500	CYS	80	0	TATR3A5D0F
TEMP CYCLE, 0' RAMP, 10' DWELL	2004	MAX77843EWV+T	-40C TO +125C (Condition B)	500	CYS	80	0	TATR3A5D0D
TEMP CYCLE, 5' RAMP, 10' DWELL	2005	MAX16956AUBE/V+	-65C TO +150C (Condition C)	500	CYS	80	0	TAQJ2A229EX
Total:							0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
BIASED MOISTURE		MAX25105EQP/V+	130C, 85% R.H.	476	HRS	80	0	TCUN7Q001FA
BIASED MOISTURE		MAX25105EQP/V+	130C, 85% R.H.	476	HRS	80	0	TCUN7Q001EB
BIASED MOISTURE		MAX77843EWV+T	130C, 85% R.H.	264	HRS	48	0	TATR3A4D9E
BIASED MOISTURE	1851	MAX20030BATMK/V+	130C, 85% R.H.	96	HRS	80	0	TBSH7A028HC
BIASED MOISTURE	1907	MAX14689EWL+T	130C, 85% R.H.	96	HRS	80	0	TAYA9A023BC
BIASED MOISTURE	1908	MAX20021ATIA/V+	130C, 85% R.H.	96	HRS	40	0	TAKR5A179C
BIASED MOISTURE	1908	MAX40100ANT+TG7	130C, 85% R.H.	1000	HRS	80	0	TBHH4A068AF
BIASED MOISTURE	1921	MAX25205EQP/VY+	130C, 85% R.H.	500	HRS	80	0	TCUN7Q002A
BIASED MOISTURE	1923	MAX8902BATA/V+T	130C, 85% R.H.	96	HRS	80	0	THTYCA432EA
BIASED MOISTURE	1937	MAX44290ANT+	130C, 85% R.H.	264	HRS	80	0	TBFD4Q003EM
BIASED MOISTURE	1937	MAX44290ANT+	130C, 85% R.H.	264	HRS	80	0	TBFD4Q003EM
BIASED MOISTURE	1937	MAX44290ANT+	130C, 85% R.H.	264	HRS	80	0	TBFD4Q003EM
BIASED MOISTURE	1948	MAX98726BENJ+TCNF	130C, 85% R.H.	264	HRS	21	0	TBGY1A723B
BIASED MOISTURE	1948	MAX44290ANT+	130C, 85% R.H.	264	HRS	80	0	TBFD4Q001KM
BIASED MOISTURE	1949	MAX98726BENJ+TCNF	130C, 85% R.H.	264	HRS	80	0	TBGY1A723C
BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0A
BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0B
BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0C

BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0F
BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0D
BIASED MOISTURE	2004	MAX77843EWV+T	130C, 85% R.H.	264	HRS	80	0	TATR3A5D0E
Total:							0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
MOISTURE SOAK		MAX25105EQP/V+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q001C
MOISTURE SOAK		MAX25105EQP/V+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q001FA
MOISTURE SOAK		MAX25105EQP/V+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q001EB
MOISTURE SOAK	1846	MAX44284HANT+TG7	130C, 85% R.H.	96 HRS	80	0	TBEO9A107AG
MOISTURE SOAK	1848	MAX44284HANT+TG7	130C, 85% R.H.	96 HRS	80	0	TBEO9A110BE
MOISTURE SOAK	1920	MAX44284FAZT+TG7	130C, 85% R.H.	96 HRS	80	0	TCAG0A150AL
MOISTURE SOAK	1921	MAX25205EQP/VY+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q002A
MOISTURE SOAK	1921	MAX25205EQP/VY+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q002A
MOISTURE SOAK	1921	MAX25205EQP/VY+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q003A
MOISTURE SOAK	1921	MAX25205EQP/VY+	130C, 85% R.H.	96 HRS	80	0	TCUN7Q003A
MOISTURE SOAK	1942	MAX98726BENJ+TCNF	130C, 85% R.H.	96 HRS	80	0	TBGY1A723AE
MOISTURE SOAK	1942	MAX16956AUBC/V+	130C, 85% R.H.	96 HRS	80	0	TAQJ2A216CX
MOISTURE SOAK	1948	MAX44290ANT+	130C, 85% R.H.	96 HRS	80	0	TBFD4Q001KM
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0A
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0B
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0C
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0F
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0D
MOISTURE SOAK	2004	MAX77843EWV+T	130C, 85% R.H.	96 CYS	80	0	TATR3A5D0E
MOISTURE SOAK	2005	MAX16956AUBE/V+	130C, 85% R.H.	96 CYS	80	0	TAQJ2A229EX
MOISTURE SOAK	2008	MAX8986EWG+T	130C, 85% R.H.	96 CYS	80	0	TAEZ0A143M
MOISTURE SOAK	2008	MAX8986EWG+T	130C, 85% R.H.	96 CYS	80	0	TAEZ0A143N
MOISTURE SOAK	2008	MAX8986EWG+T	130C, 85% R.H.	96 CYS	80	0	TAEZ0Z001N
Total:						0	

FAILURE RATE: **MTTF (YRS): 174322** **QUANTITY: 1225** **FAILS: 0** **FITS: 0.7**

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