



5/9/2009

RELIABILITY MONITOR REPORT
FOR

SOT Package

MAXIM Integrated Products

120 San Gabriel Dr.
Sunnyvale, CA 94086

This Report was prepared by
Maxim Reliability Engineering

Summary:

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The specific assemblies included in this package monitor are:

| ASSY SITE | PINS | PACKAGE | | |
|------------------|------|------------------|-----------------|--------------------|
| ASAT-DongGuan (C | 6 | TSOT23 (Pb-Free) | ATP (Amkor, PI) | 6 TSOT23 (Pb-Free) |
| Carsem-M | 6 | SOT23 | Carsem-M | 6 SOT23 (Pb-Free) |
| Cirtek | 3 | SOT23 (Pb-Free) | ISPL (ATEC, PI) | 5 SOT23 |
| ISPL (ATEC, PI) | 6 | SOT23 | ISPL (ATEC, PI) | 5 SOT23 (Pb-Free) |
| ISPL (ATEC, PI) | 6 | SOT23 (Pb-Free) | ISPL (ATEC, PI) | 6 TSOT23 (Pb-Free) |
| UTL (NSEB) UTAC | 3 | SOT23 (Pb-Free) | UTL (NSEB) UTAC | 5 SOT23 (Pb-Free) |

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 156770 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. A the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 1/1/2008 and 12/31/2008

Assembly Information:

Package Type: SOT23
 Date Code Range: 074 to 0739

OPERATING LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|-------------------|-----------|--------------|-----------|-----------|----------|----------|-------|
| HIGH TEMP OP LIFE | 0712 | LMX331AUK+ | 135C | 1000 HRS | 80 | 0 | |
| HIGH TEMP OP LIFE | 0724 | MAX2680EUT+ | 135C | 1000 HRS | 79 | 0 | |
| Total: | | | | | | 0 | |

STORAGE LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|---------------|-----------|--------------|-----------|-----------|----------|----------|-------|
| STORAGE LIFE | 0739 | MAX2680EUT+T | 150C | 1000 HRS | 45 | 0 | |
| Total: | | | | | | 0 | |

TEMPERATURE CYCLE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|--------------------------------|-----------|--------------------|--------------|-----------|----------|----------|-------|
| TEMP CYCLE, 5' RAMP, 10' DWELL | 074 | MAX2606EUT+ | -65C TO 150C | 1000 CYS | 80 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0724 | MAX2680EUT+(AUT +) | -65C TO 150C | 1000 CYS | 79 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0735 | MAX2607EUT+ | -65C TO 150C | 500 CYS | 77 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0739 | MAX2680EUT+T | -65C TO 150C | 1000 CYS | 80 | 0 | |
| Total: | | | | | | 0 | |

Assembly Information:

Package Type: SOT23 (Pb-Free)

Date Code Range: 074 to 0827

OPERATING LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|-------------------|-----------|---------------|-----------|---------------|----------|----------|-------|
| HIGH TEMP OP LIFE | 0723 | MAX2680EUT+T | 135C | 1000 HRS | 77 | 0 | |
| HIGH TEMP OP LIFE | 0724 | MAX2680EUT+ | 135C | 1000 HRS | 79 | 0 | |
| HIGH TEMP OP LIFE | 0813 | MAX8863TEUK+T | 135C | 1000 HRS | 48 | 0 | |
| HIGH TEMP OP LIFE | 0813 | MAX8863TEUK+T | 135C | 1000 HRS | 48 | 0 | |
| HIGH TEMP OP LIFE | 0813 | MAX8863TEUK+T | 135C | 1000 HRS | 48 | 0 | |
| | | | | Total: | | 0 | |

STORAGE LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|--------------|-----------|---------------|-----------|---------------|----------|----------|-------|
| STORAGE LIFE | 0726 | MAX834EUK+ | 150C | 1000 HRS | 45 | 0 | |
| STORAGE LIFE | 0739 | MAX2680EUT+T | 150C | 1000 HRS | 45 | 0 | |
| STORAGE LIFE | 0744 | DS1818 | 150C | 1000 HRS | 77 | 0 | |
| STORAGE LIFE | 0810 | DS1814 | 150C | 1000 HRS | 75 | 0 | |
| STORAGE LIFE | 0810 | DS1814 | 150C | 1000 HRS | 72 | 0 | |
| STORAGE LIFE | 0813 | MAX8863TEUK+T | 150C | 1000 HRS | 80 | 0 | |
| STORAGE LIFE | 0813 | MAX8863TEUK+T | 150C | 1000 HRS | 80 | 0 | |
| STORAGE LIFE | 0813 | MAX8863TEUK+T | 150C | 1000 HRS | 80 | 0 | |
| STORAGE LIFE | 0827 | DS2502 | 150C | 1000 HRS | 77 | 0 | |
| STORAGE LIFE | 0827 | DS2502 | 150C | 1000 HRS | 77 | 0 | |
| STORAGE LIFE | 0827 | DS2502 | 150C | 1000 HRS | 77 | 0 | |
| | | | | Total: | | 0 | |

TEMPERATURE CYCLE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|--------------------------------|-----------|--------------------|--------------|-----------|----------|-------|-------|
| TEMP CYCLE, 5' RAMP, 10' DWELL | 074 | MAX2606EUT+ | -65C TO 150C | 1000 CYS | 80 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0606 | MAX834EUK+ | -65C TO 150C | 1000 CYS | 79 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0619 | MAX834EUK+ | -65C TO 150C | 1000 CYS | 30 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0724 | MAX2680EUT+(AUT +) | -65C TO 150C | 1000 CYS | 79 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0726 | MAX834EUK+ | -65C TO 150C | 1000 CYS | 80 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0735 | MAX2607EUT+ | -65C TO 150C | 500 CYS | 77 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0739 | MAX2680EUT+T | -65C TO 150C | 1000 CYS | 80 | 0 | |

| | | | | | | | |
|--------------------------------|------|---------------|--------------|------|-----|----|----------|
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0744 | DS1818 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0810 | DS1814 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0810 | DS1814 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0813 | MAX8863TEUK+T | -65C TO 150C | 1000 | CYS | 80 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0813 | MAX8863TEUK+T | -65C TO 150C | 500 | CYS | 80 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0813 | MAX8863TEUK+T | -65C TO 150C | 500 | CYS | 80 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0813 | MAX8863TEUK+T | -65C TO 150C | 500 | CYS | 80 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0827 | DS2502 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0827 | DS2502 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0827 | DS2502 | -55C TO 125C | 1000 | CYS | 77 | 0 |
| Total: | | | | | | | 0 |

TEMPERATURE HUMIDITY BIAS

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|---------------|-----------|--------------|--------------------|-----------|----------|-------|----------|
| HAST | 0810 | DS1814 | 130C, 85%R.H.,5.0V | 100 | HRS | 79 | 0 |
| HAST | 0810 | DS1814 | 130C, 85%R.H.,5.0V | 100 | HRS | 79 | 0 |
| HAST | 0827 | DS2502 | 130C, 85%R.H.,5.5V | 96 | HRS | 81 | 0 |
| HAST | 0827 | DS2502 | 130C, 85%R.H.,5.5V | 96 | HRS | 79 | 0 |
| HAST | 0827 | DS2502 | 130C, 85%R.H.,5.5V | 96 | HRS | 80 | 0 |
| Total: | | | | | | | 0 |

UNBIASED MOISTURE RESISTANCE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|---------------|-----------|--------------|----------------|-----------|----------|-------|----------|
| HAST, NO BIAS | 0810 | DS1814 | 130C, 85% R.H. | 100 | HRS | 77 | 0 |
| HAST, NO BIAS | 0810 | DS1814 | 130C, 85% R.H. | 100 | HRS | 77 | 0 |
| HAST, NO BIAS | 0827 | DS2502 | 130C, 85% R.H. | 100 | HRS | 72 | 0 |
| HAST, NO BIAS | 0827 | DS2502 | 130C, 85% R.H. | 100 | HRS | 77 | 0 |
| HAST, NO BIAS | 0827 | DS2502 | 130C, 85% R.H. | 100 | HRS | 77 | 0 |
| Total: | | | | | | | 0 |

Assembly Information:

Package Type: TSOT23 (Pb-Free)

Date Code Range: 0802 to 0818

OPERATING LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|-------------------|-----------|-----------------|-----------|-----------|----------|-------|-------|
| HIGH TEMP OP LIFE | 0802 | MAX1589ETZ250+T | 135C | 1000 | HRS | 79 | 0 |
| HIGH TEMP OP LIFE | 0806 | MAX1589EZT250+T | 135C | 1000 | HRS | 79 | 0 |

| | | | | | | |
|-------------------|------|--------------|------|----------|----|----------|
| HIGH TEMP OP LIFE | 0816 | MAX5383EZT+ | 135C | 1000 HRS | 50 | 0 |
| HIGH TEMP OP LIFE | 0816 | MAX5383EZT+ | 135C | 1000 HRS | 50 | 0 |
| HIGH TEMP OP LIFE | 0816 | MAX5383EZT+ | 135C | 1000 HRS | 50 | 0 |
| HIGH TEMP OP LIFE | 0818 | MAX5383EZT+T | 135C | 1000 HRS | 50 | 0 |
| HIGH TEMP OP LIFE | 0818 | MAX5383EZT+T | 135C | 1000 HRS | 49 | 0 |
| HIGH TEMP OP LIFE | 0818 | MAX5383EZT+T | 135C | 1000 HRS | 50 | 0 |
| Total: | | | | | | 0 |

TEMPERATURE CYCLE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | FA NO |
|--------------------------------|-----------|--------------|--------------|-----------|----------|----------|-------|
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0818 | MAX5383EZT+T | -65C TO 150C | 1000 CYS | 12 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0818 | MAX5383EZT+T | -65C TO 150C | 1000 CYS | 79 | 0 | |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 0818 | MAX5383EZT+T | -65C TO 150C | 1000 CYS | 80 | 0 | |
| Total: | | | | | | 0 | |

FAILURE RATE: MTTF (YRS): 156770 FITS: 0.7