



4/17/2012

**RELIABILITY MONITOR REPORT
FOR**

MFN 0.8 μ m Silicon Gate CMOS (B8)

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 Process Reliability Monitor. The specific products in this process monitor are:

| | | | | |
|--------------|--------------|--------------|--------------|--------------|
| MAX13485EESA | MAX1818EUT25 | MAX1832EUT#T | MAX44269EWL | MAX4845DEYT |
| MAX6414UK46+ | MAX6418UK46+ | MAX6421XS48+ | MAX6423XS29+ | MAX6753KA29+ |
| MAX6753KA30/ | MAX6753KA31+ | MAX8520ETP+ | MAX8880EUT+ | |

The calculated failure rate for devices using this process is:

FAILURE RATE: MTTF (YRS): 60986 QUANTITY: 430 FAILS: 0 FITS: 1.9

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 4/1/2011 and 3/31/2012 .

Process Information:

Process Description: MFN 0.8µm Silicon Gate CMOS (B8)

OPERATING LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | LOT NO. |
|-------------------|-----------|------------------|-----------|-----------|----------|----------|-------------|
| HIGH TEMP OP LIFE | 1122 | MAX44269EWL+T | 135C | 192 HRS | 48 | 0 | J2MSAQ001BQ |
| HIGH TEMP OP LIFE | 1127 | MAX1818EUT25#G16 | 135C | 1000 HRS | 50 | 0 | JOLAG3044Q1 |
| HIGH TEMP OP LIFE | 1127 | MAX1818EUT25#G16 | 135C | 1000 HRS | 50 | 0 | JOLAG3044Q2 |
| HIGH TEMP OP LIFE | 1127 | MAX1818EUT25#G16 | 135C | 1000 HRS | 50 | 0 | JOLAG3044Q3 |
| HIGH TEMP OP LIFE | 1133 | MAX8520ETP+ | 135C | 1000 HRS | 48 | 0 | JMX0FA040Q1 |
| HIGH TEMP OP LIFE | 1133 | MAX8520ETP+ | 135C | 1000 HRS | 48 | 0 | JMX0FA040Q2 |
| HIGH TEMP OP LIFE | 1133 | MAX8520ETP+ | 135C | 1000 HRS | 48 | 0 | JMX0FA040Q3 |
| HIGH TEMP OP LIFE | 1151 | MAX4845DEYT+T | 135C | 500 HRS | 44 | 0 | JYW7BA033Q1 |
| HIGH TEMP OP LIFE | 1151 | MAX4845DEYT+T | 135C | 500 HRS | 44 | 0 | JYW7BA033Q2 |
| Total: | | | | | | 0 | |

STORAGE LIFE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | LOT NO. |
|--------------|-----------|-----------------|-----------|-----------|----------|-------|-------------|
| STORAGE LIFE | 1033 | MAX6423XS29+ | 150C | 500 HRS | 50 | 0 | J612EA005F# |
| STORAGE LIFE | 1101 | MAX1832EUT#TG16 | 150C | 1000 HRS | 78 | 0 | J0LAE3012Q2 |
| STORAGE LIFE | 1101 | MAX1832EUT#TG16 | 150C | 1000 HRS | 78 | 0 | J0LAE3012Q3 |
| STORAGE LIFE | 1113 | MAX6414UK46+ | 150C | 500 HRS | 50 | 0 | J8K2EA046C# |
| STORAGE LIFE | 1133 | MAX8520ETP+ | 150C | 1048 HRS | 30 | 0 | JMX0FA040Q1 |
| STORAGE LIFE | 1133 | MAX8520ETP+ | 150C | 1048 HRS | 30 | 0 | JMX0FA040Q2 |
| STORAGE LIFE | 1133 | MAX8520ETP+ | 150C | 1000 HRS | 30 | 0 | JMX0FA040Q3 |

| | | | | | | | | |
|---------------|------|----------------|------|------|-----|----|----------|-------------|
| STORAGE LIFE | 1133 | MAX6753KA30/V+ | 150C | 1000 | HRS | 49 | 0 | JLZ7D3038CX |
| STORAGE LIFE | 1136 | MAX13485EESA+ | 150C | 500 | HRS | 77 | 0 | JY32EA030Q1 |
| STORAGE LIFE | 1136 | MAX13485EESA+ | 150C | 1000 | HRS | 77 | 0 | JY32EA030Q1 |
| STORAGE LIFE | 1136 | MAX13485EESA+ | 150C | 500 | HRS | 77 | 0 | JY32EA030Q2 |
| STORAGE LIFE | 1136 | MAX13485EESA+ | 150C | 1000 | HRS | 77 | 0 | JY32EA030Q2 |
| STORAGE LIFE | 1147 | MAX6753KA30/V+ | 150C | 1000 | HRS | 50 | 0 | JLZ7DA046AA |
| STORAGE LIFE | 1148 | MAX6421XS48+T | 150C | 500 | HRS | 50 | 0 | J610EA015G# |
| STORAGE LIFE | 1201 | MAX8880EUT+ | 150C | 500 | HRS | 50 | 0 | J7GAIA075DA |
| Total: | | | | | | | 0 | |

TEMPERATURE CYCLE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | LOT NO. | |
|--------------------------------|-----------|-----------------|--------------|-----------|----------|-------|----------|-------------|
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1013 | MAX6418UK46+ | -65C TO 150C | 500 | CYS | 80 | 0 | J8K6EA005E# |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1017 | MAX6753KA31+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7DA013A# |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1101 | MAX1832EUT#TG16 | -65C TO 150C | 1000 | CYS | 78 | 0 | J0LAE3012Q2 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1101 | MAX1832EUT#TG16 | -65C TO 150C | 1000 | CYS | 78 | 0 | J0LAE3012Q3 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1113 | MAX6414UK46+ | -65C TO 150C | 500 | CYS | 80 | 0 | J8K2EA046C# |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1133 | MAX8520ETP+ | -65C TO 150C | 1000 | CYS | 77 | 0 | JMX0FA040Q1 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1133 | MAX8520ETP+ | -65C TO 150C | 1000 | CYS | 77 | 0 | JMX0FA040Q2 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1133 | MAX8520ETP+ | -65C TO 150C | 1000 | CYS | 77 | 0 | JMX0FA040Q3 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1133 | MAX6753KA30/V+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7D3038CX |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1136 | MAX13485EESA+ | -65C TO 150C | 1000 | CYS | 77 | 0 | JY32EA030Q1 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1136 | MAX13485EESA+ | -65C TO 150C | 500 | CYS | 77 | 0 | JY32EA030Q2 |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1146 | MAX6753KA29+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7D3038F# |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1146 | MAX4845DEYT+T | -65C TO 150C | 1000 | CYS | 85 | 0 | JYW7BA032KA |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1147 | MAX6753KA30/V+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7DA046AA |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1147 | MAX6753KA30/V+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7DA046HA |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1147 | MAX6753KA30/V+ | -65C TO 150C | 500 | CYS | 80 | 0 | JLZ7DA046GA |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1201 | MAX8880EUT+ | -65C TO 150C | 500 | CYS | 80 | 0 | J7GAIA075DA |
| TEMP CYCLE, 5' RAMP, 10' DWELL | 1204 | MAX8880EUT+ | -65C TO 150C | 500 | CYS | 80 | 0 | J7GAIA079EA |
| Total: | | | | | | | 0 | |

TEMPERATURE HUMIDITY BIAS

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | LOT NO. | |
|-----------------|--------------|-----------------|-------------------|-----------|----------|-------|------------|-------------|
| BIASED MOISTURE | 1017 | MAX6753KA31+ | 130C, 85% R.H. | 100 | HRS | 47 | 0 | JLZ7DA013A# |
| BIASED MOISTURE | 1146 | MAX6753KA29+ | 130C, 85% R.H. | 100 | HRS | 47 | 0 | JLZ7D3038F# |
| BIASED MOISTURE | 1147 | MAX6753KA30/V+ | 130C, 85% R.H. | 96 | HRS | 37 | 0 | JLZ7DA046AA |
| BIASED MOISTURE | 1147 | MAX6753KA30/V+ | 130C, 85% R.H. | 96 | HRS | 32 | 0 | JLZ7DA046HA |
| Total: | | | | | | | 0 | |

UNBIASED MOISTURE RESISTANCE

| DESCRIPTION | DATE CODE | TEST VEHICLE | CONDITION | READPOINT | QUANTITY | FAILS | LOT NO. | |
|---------------|--------------|-----------------|-------------------|-----------|----------|-------|------------|-------------|
| MOISTURE SOAK | 1013 | MAX6418UK46+ | 130C, 85% R.H. | 100 | HRS | 80 | 0 | J8K6EA005E# |
| MOISTURE SOAK | 1017 | MAX6753KA31+ | 130C, 85% R.H. | 100 | HRS | 80 | 0 | JLZ7DA013A# |
| MOISTURE SOAK | 1113 | MAX6414UK46+ | 130C, 85% R.H. | 100 | HRS | 80 | 0 | J8K2EA046C# |
| MOISTURE SOAK | 1146 | MAX6753KA29+ | 130C, 85% R.H. | 100 | HRS | 80 | 0 | JLZ7D3038F# |
| MOISTURE SOAK | 1147 | MAX6753KA30/V+ | 130C, 85% R.H. | 96 | HRS | 80 | 0 | JLZ7DA046AA |
| MOISTURE SOAK | 1147 | MAX6753KA30/V+ | 130C, 85% R.H. | 96 | HRS | 80 | 0 | JLZ7DA046HA |
| MOISTURE SOAK | 1147 | MAX6753KA30/V+ | 130C, 85% R.H. | 96 | HRS | 80 | 0 | JLZ7DA046GA |
| Total: | | | | | | | 0 | |

FAILURE RATE: MTTF (YRS): 60986 QUANTITY: 430 FAILS: 0 FITS: 1.9