

Automotive Qualification Report
MAX6316 _____ -

| | | | □ | □ | ✓ | ✓ | ✓ | |
|--|-------------------------|-----------------------------|----------------------|--------------------------|----------------------|----------------------|----------------------|--|
| | | | Lot # 1 (SQLAHA013C) | Lot # 2 (S57FDA010A) | Lot # 3 (S4BAJ1001D) | Lot # 4 (SHLCV1001B) | Lot # 5 (SM2BFA055Q) | |
| µP Supervisory Circuit with Watchdog and Manual Reset | Maxim Part Number | MAX6316MUK47BY | | | | | | |
| | Description (Note 1) | AEC-Q100 (Note 4) | | | | | | |
| | Operating Temperature | -40°C to +85°C | | | | | | |
| | Temperature Grade | 3 | | | | | | |
| | Fab Location | Maxim, San Jose | | | | | | |
| | Fab Process | B12 (8", 1.2 um MOS) | | | | | | |
| | Die | MS13X | | | | | | |
| | Assembly Location | Hana-AYT, Thailand | | | | | | |
| | Die Size (mils) | 43x38 | | | | | | |
| | Package | 5 SOT23-5 | | | | | | |
| | Wire Bond Material | Au .001" | | | | | | |
| | Mold Compound | MP8000AN | | | | | | |
| | Die Attach | 84-1LMISR4 | | | | | | |
| | Lead Frame | Copper | | | | | | |
| | Lead Finish | 85/15 Sn/Pb | | | | | | |
| Reliability Lot Number | A050033, DC 0520 | | | | | | | |
| | | | Failures/Sample Size | | | | | |
| AEC-Q100 Rev. F Tests | | | # | Conditions | +25C | +85C | -40C | |
| MSL 1 - Preconditioning (PC) | | | A1 | 240C (Sn/Pb) | 0/211 | | | |
| | | | | 260C (100% Sn) | | | | |
| =>CSAM | | | | J-STD-020C (1 lot) | 0/22 | | | |
| Temperature Humidity-Bias (THB) | | | A2 | 85C/85%RH 1000 Hours | | | 0/465 | |
| Biased HAST (HAST) | | | A2 | 130C/85%RH 96 Hours | 0/50 | | 0/135 | |
| Autoclave (AC) | | | A3 | 121C/85%RH 168 Hours | | | 0/240 | |
| Unbiased HAST (UHAST) | | | A3 | 130C/85%RH 96 Hours | 0/48 | | | |
| Temperature Cycle (TC) | | | A4 | -65 to +150C 1000 Cycles | 0/80 | | 0/240 | |
| =>Wirebond Pull (WBP) | | | | >3 grams | 0/50 | | | |
| High Temperature Storage (HTSL) | | | A6 | +150C 1000 Hours | 0/79 | | 0/231 | |
| High Temperature Op Life (HTOL) | | | B1 | +135C 1000 Hours | Pending /77 | | | |
| Early Life Failure Rate (ELFR) | | | B2 | +135C 48 Hours | | | | |
| Maxim Infant Mortality (IME) | | | | +135C 12 Hours | | 0/4994 | | |
| Wire Bond Shear (WBS) | | | C1 | | (Note 3) | | (Note 3) | |
| Wire Bond Pull (WBP) | | | C2 | | (Note 3) | | (Note 3) | |
| Solderability (SD) | | | C3 | | 0/15 | | 0/45 | |
| Physical Dimensions (PD) | | | C4 | | 0/10 | | 0/45 | |
| Lead Integrity (LI) | | | C6 | | 0/5 | | 0/45 | |
| (EM, TDDb, HCI) | | | D1-3 | | | | | |
| Pre- and Post-Stress Electrical (TEST) | | | E1 | | All | | All | |
| Human Body Model ESD (HBM) | | | E2 | JESD22/A114 | 2000V | | | |
| Machine Model ESD (MM) | | | E2 | JESD22/A115 | | | | |
| Charged Device Model ESD (CDM) | | | E3 | AEC-Q100-011 | 1000V | | | |
| Latch-Up (LU) | | | E4 | JESD78, Class II | Pending | | | |

(Note 1) AEC-Q100 test performed per Rev. F guidelines. Maxim tests performed to internal specification 10-3006.

(Note 2) Tests performed on three assembly lots.

(Note 3) Monitor data from assembly subcontractor.

(Note 4) Pre- and post-stress testing performed at 25°C only.

(Note 5) Tin whisker inspection data available upon request.

✓ = Complete

□ = Open