GQ SQ - Micron Product Reliability Testing Supplier Reference

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1.0 Product Reliability Testing

Micron's product reliability qualification testing can take up to three months to complete for all tests, and customer system qualification testing (if necessary) can take up to 6 months. Please take this into account when submitting change requests.

1.1.1 Testing will be performed on select representative product, refer to the tables below for the required product reliability tests.

Table 1. Baseline Reliability Testing - Materials for Components

Stress Test Conditions	Requirement
Precondition with Moisture soak and 3x260C reflow	All parts
High Temperature Storage 150°C	1000 hrs
Temperature Cycle TC-B, -55/125°C, 2 cycles/hr Or TC-C, -65/150°C, 2 cycles/hr	750 cycles or 500 cycles
Temperature Humidity Bias HAST, 130°C/85%R.H., alt V bias Or HAST, 110°C/85% R.H., alt V bias Or THB, 85°C/85% R.H., alt V bias	96 hrs, Or 264 hrs, Or 1000 hrs

Table 2. Baseline Reliability Testing – Materials/Components on Board Level Products

Stress Test Conditions	Requirements
Vibration temperature cycling (HALT/HASS) TC-J 0/100°C 2cycles/hr, with 12 G_{rms}, 2 – 12K Hz	24 cycles
3-pt Bend (+) and (-) 2% bow or 0.91N/mm held 1 minute	5 cycles
Torsion 5cyc ± 1.9°/in or 1.236 N-m, held 1 minute	5 cycles
Mechanical Shock 30g/25ms trapezoid pulse, 10 per axis plus 500g/1.0ms, half sine pulse, 10 per axis for module Or 1500g/0.5ms, half since plus, 10 per axis for SSD	60 drops for module Or 30 drops for SSD
Random Vibration 3.10 G_{rms}, (5 to 800)Hz, 30 min per axis for Module Or 20 G_{rms}, (5 to 3000)Hz, 30 min per axis for SSD	30 minutes per axis
Temperature Cycle TC-N, -40/85°C, 2 cycles/hr for SSD Or TC-K, 0/125°C, 2 cycles/hr for Module	1000 cycles for SSD Or 750 cycles for Module
HAST, 110°C/85%R.H., alt V bias Or THB, 85°C/85%R.H., alt V bias	264 hrs Or 504 hrs

1.2 Automotive Grade Requirements

1.2.1 Automotive grade parts must have an operating temperature range of -40 C to +125 C.