

HSM8-C380/V380, HSM9-C380/V380

Top/Reverse Mount Infrared Emitter

Description

The following cumulative test results have been obtained from testing performed at Broadcom® in accordance with the latest revisions of the JEDEC standard. Broadcom tests parts at the absolute maximum rated conditions recommended for the device. The actual performance you obtain from Broadcom parts depends on the electrical and environmental characteristics of your application but will probably be better than the performance outlined in [Table 1](#).

Table 1: Life Tests

| Test Name | Reference | Test Conditions | Units Tested | Units Failed |
|---------------------------------|----------------------|---|--------------|--------------|
| High Temperature Operating Life | JESD22A-108 | $T_A = 55^{\circ}\text{C}$ for 1000 hours, $I_F = 45\text{ mA}$ | 112 | 0 |
| Temperature Humidity Bias | Broadcom Requirement | $T_A = 60^{\circ}\text{C}$, RH = 90% for 500 hours, $I_F = 40\text{ mA}$ | 112 | 0 |
| Low Temperature Operating Life | JESD22A-108 | $T_A = -40^{\circ}\text{C}$ for 1000 hours, $I_F = 70\text{ mA}$ | 112 | 0 |

Table 2: Environmental and Other Tests

| Test Name | Reference | Test Conditions | Units Tested | Units Failed |
|-----------------------------------|-------------------------|---|--------------|--------------|
| Temperature Cycling | Broadcom Requirement | $-40^{\circ}\text{C}/100^{\circ}\text{C}$ 15 minutes dwell, 5 minutes transfer, 100 cycles | 1120 | 0 |
| Temperature Humidity Storage Life | Broadcom Requirement | $T_A = 60^{\circ}\text{C}$, RH = 90% for 1000 hours | 56 | 0 |
| Low Temperature Storage | JESD22-A119 | $T_A = -40^{\circ}\text{C}$ for 1000 hours | 56 | 0 |
| High Temperature Storage Life | JESD22A-103 | $T_A = 100^{\circ}\text{C}$ for 1000 hours | 56 | 0 |
| Pulse Test | Broadcom Requirement | $T_A = 25^{\circ}\text{C}$, $I_{\text{peak}} = 350\text{ mA}$, Duty factor = 1%, Frequency = 100 Hz for 500 hours | 112 | 0 |
| Solderability | EIA/IPC/JEDEC J-STD-002 | 245°C for 5 seconds | 30 | 0 |
| Mechanical Shock | JESD 22-B104 | 1500G, 0.5 ms, 5 shocks in each orientation (X1, X2, Y1, Y2, Z1, Z2) | 28 | 0 |
| Vibration | JESD 22-B103 | 4 cycles, 4 minutes each X, Y, X axis, Frequency = 20 Hz to 2000 Hz Peak acceleration = 20G | 28 | 0 |

NOTE: A failure is any LED that is open, shorted, or failed to emit light (except the solderability test).

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