

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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