

ASMG-ST00

3W Tri-Color High-Power LED

Description

The following cumulative test results have been obtained from testing performed at Broadcom® in accordance with the latest revisions of 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](#).

Definition of Terms

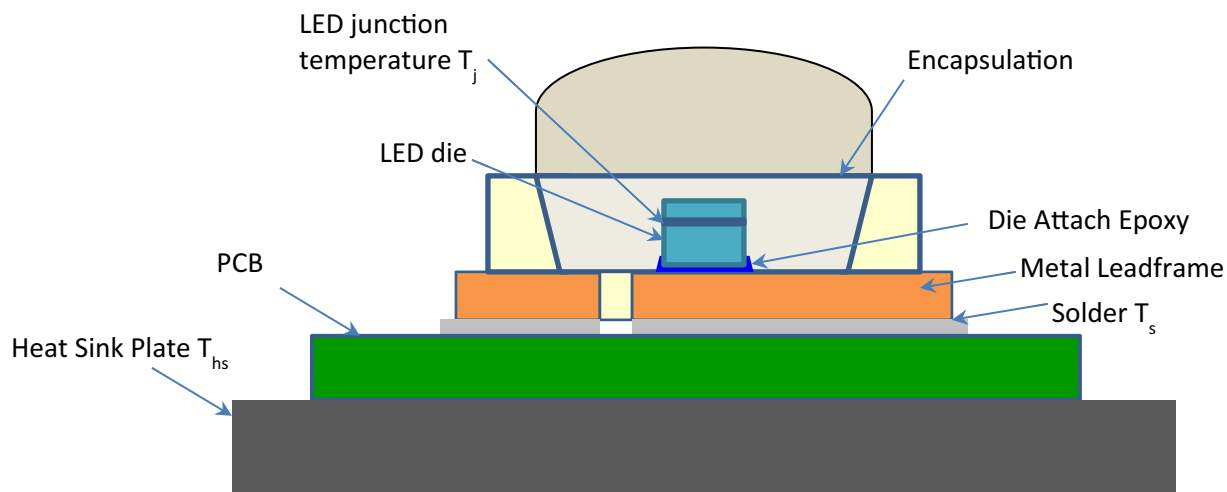


Table 1: Life Tests

Test Name	Reference	Test Conditions	Units Tested	Units Failed
High Temperature Operating Life	JESD22A-108	$T_{hs} = 95^{\circ}\text{C}$ for 1000 hours (3 Chips On), Red/Green/Blue: $I_F = 350\text{ mA}$	72	0
Temperature Humidity Bias	Broadcom Requirement	$T_A = 60^{\circ}\text{C}$, RH = 90% for 500 hours (3 Chips On), Red/Green/Blue: $I_F = 350\text{ mA}$	72	0
Low Temperature Operating Life	JESD22A-108	$T_{hs} = -40^{\circ}\text{C}$ for 1000 hours (3 Chips On), Red/Green/Blue: $I_F = 350\text{ mA}$	72	0

Table 2: Environmental and Other Tests

Test Name	Reference	Test Conditions	Units Tested	Units Failed
Temperature Cycling	Broadcom Requirement	–40°C/120°C, 30 minutes dwell, 5 minutes transfer, 100 cycles	420	0
Temperature Humidity Storage Life	Broadcom Requirement	T _A = 60°C, 90% RH, for 1000 hours	84	0
Low Temperature Storage	JESD22-A119	T _A = –40°C for 1000 hours	84	0
High Temperature Storage Life	JESD22A-103	T _A = 120°C for 1000 hours	84	0
Pulse Test	Broadcom Requirement	T _A = 25°C, I _{peak} = 500 mA(3 Chips On), Duty factor:10%, Frequency=1 kHz for 1000 hours	72	0
Solderability	EIA/IPC/JEDEC J-STD-002	245°C for 5 seconds	20	0
Mechanical Shock	JESD 22-B104	2900G, 0.3 ms, 5 shocks in in each of the 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 solderability test).

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