

HLMF-K200/K205/K300/K305/K400
HLMF-K405/K500/K505/KG02/KL05
HLMP-N205/N305/N405/N505/NG05
HLMP- NG07/NH04/NJ01/NL05/NL06



Auto Insertable T-1 (3-mm) GaP and AlInGaP Lamps

Reliability Data Sheet

Description

The following cumulative test results have been obtained from testing performed at Broadcom in accordance with JEDEC.

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 below tables.

Table 1 Environmental Tests

| Test Name | Reference | Test Conditions | Units Tested | Units Failed |
|-------------------------------------|----------------------|--|--------------|--------------|
| Temperature Cycle | JESDA104 | -40°C/85°C, 15 min dwell, 5 min transfer, 100 cycles | 612 | 0 |
| High Temperature Operating Life | JESDA108 | HER, Orange, Green: Ta = 55°C, If = 30 mA, 1000 hrs | 224 | 0 |
| | | Yellow: Ta = 55°C, If = 20 mA, 1000 hrs | 112 | 0 |
| | | Amber, Red Orange, Red: Ta = 55°C, If = 30 mA, 1000 hrs | 336 | 0 |
| Temperature Humidity Operating Life | Broadcom Requirement | Ta = 85°C, RH = 85%RH, If = 13 mA, 500 hrs | 896 | 0 |
| Temperature Humidity Storage Life | Broadcom Requirement | Ta = 85°C, RH = 85%RH, 1000 hrs | 560 | 0 |

Table 2 Other Tests

| Test Name | Reference | Test Conditions | Units Tested | Units Failed |
|---------------------------|-----------|---|--------------|--------------|
| Mechanical shock | JESDB104 | 5 shocks each X1, X2, Y1, Y2, Z1, Z2, 1500G, 0.5 ms pulse | 60 | 0 |
| Vibration | JESDB103 | 4 cycles, 4 mins each X, Y and Z at 0.06 inch at 20 Hz to 100 Hz, 50g @ 100 Hz to 2000 Hz | 60 | 0 |
| Resistance to Solder heat | JESDB106 | 260 ± 5°C, 10 ± 1 second | 100 | 0 |
| Solderability | JESDB102 | 8 hrs Steam Age, 245°C for 5 seconds | 100 | 0 |

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

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