



PCN: V09-010-48475412-0A

Product Change Notice

Issue Date: 25 September 2009

Change Type:

MAJOR CHANGE

Please be advised that Avago Technologies is making the following product change on the effective date noted for the products listed below.

Fab Related Change: New die source

Parts Affected:

The list of part numbers affected by the change are:

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| HLMP-KA45-J0000 | HLMP-KB45-A0000 | HLMP-NS30-J0000 | HLMP-DM25-J0000 |
| QLMP-NW98-JP000 | HLMP-KB45-A0002 | HLMP-NS30-J00DD | HLMP-NM31-R0000 |
| QLMP-NW98-JP003 | HLMP-KB45-A00DD | HLMP-NS30-KM000 | QLMP-KB50-B0000 |
| QLMP-NW98-JP0CD | HLMP-NS30-KM0DD | HLMP-NS30-LN000 | |
| QLMP-NW98-JPK00 | HLMP-NS31-KM0DD | QLMP-NS33-J0000 | |
| QLMP-NW98-JPK02 | HLMP-NS30-LNG00 | HLMP-KA45-E00A1 | |
| QLMP-NW98-JPP00 | HLMP-NS31-LNG00 | HLMP-DS25-F00DD | |
| HLMP-DB25-B0000 | HLMP-DS25-F0000 | QLMP-DS49-E0000 | |
| HLMP-DB25-B0002 | HLMP-KA45-E0000 | HLMP-NS30-MN0DD | |
| HLMP-DB25-B00DD | HLMP-NS30-H0000 | QLMP-NS98-QT0DD | |

Description and Extent of Change:

The selected die shall be the new die source used in both InGaN Blue and Green LEDs above.

Reasons for Change:

This is to ensure consistency of supply for InGaN Blue and Green LEDs.

Effect of Change on Fit, Form, Function, Quality, or Reliability:

Qualification and characterization have been conducted using the new die to ensure similar performance as existing products. With the new die source there will be changes on below parameters.

1. V_F and V_R

| Parameter (Blue and Green) | Min. | Typ. | Max. |
|-------------------------------|----------------------------------|------|------|
| $V_F @ 20mA$ | 2.8V | 3.2V | 3.8V |
| V_R | Not recommended for reverse bias | | |

2. Luminous Intensity

Typical luminous intensity for products with new die source on the average will be one Iv bin higher.

Effective Date of Change:

The shipment of products with new die source will begin from 26th October 2009. From this date onwards, shipments may contain products with existing die or products with new die source. Products with new die source will be identified with a black triangle on the packaging label until Avago depletes the old inventory.

Products with new die source identification:

| | | |
|--|--|---|
| <p>(1P) Item: Part Number </p> | | <p>Avago TECHNOLOGIES STANDARD LABEL LS0002 RoHS Compliant e3 max temp 250C (Q) QTY: Quantity  CAT: Intensity Bin  BIN: Refer to below information</p> |
| <p>(1T) Lot: Lot Number </p> | | |
| <p>LPN: </p> | | |
| <p>(9D)MFG Date: Manufacturing Date </p> | | |
|  | | |
| <hr/> | | |
| <p>(P) Customer Item: </p> | | |
| <p>(V) Vendor ID: </p> | | <p>(9D) Date Code: Date Code </p> |
| <p>DeptID: </p> | | <p>Made In: Country of Origin </p> |

Qualification Data:

| Test | Sample Size (Units) | Result |
|--|--------------------------------|---------------|
| Temperature Cycling (-40/85°C 15/5/15min) | 468 | Pass 100cyc |
| High Humidity High Temperature Storage Life (85°C/85%RH) | 168 | Pass 500hrs |
| High Humidity High Temperature Operating Life (85°C/85%RH, 10mA) | 84 | Pass 500hrs |
| High Temperature Operating Life (55°C, 21mA) | 168 | Pass 500hrs |
| Low Temperature Operating Life (-40°C, 30mA) | 84 | Pass 500hrs |
| Solder Heat Resistance (260°C, 5sec) | 30 | Pass |

Summary: All the qualification vehicles submitted to reliability tests passed Avago's stringent reliability tests requirements. There were no functional defects observed in the tests run above.

Product technical datasheet and reliability datasheet will be updated by 26th October 2009.

These changes have been reviewed and approved by Avago Technologies engineers and managers per Avago Technologies procedure: Change Control and Customer Notification, A-5962-6052-80.

Please contact your Avago Technologies field sales engineer or Contact Center (<http://www.avagotech.com/contact/>) for any questions or support requirements. Please return any response as soon as possible, but not to exceed 30 days.