

Product Change Notice

Issue Date: 20-January-2022

Change Description:

New dice replacement for PCB base Seven Segment Display and Custom Module

Parts Affected:

| | | | | |
|-----------|-----------|-----------|-----------|-----------|
| HDSP-301E | HDSP-313Y | HDSP-521G | HDSP-701E | HDSP-816G |
| HDSP-301G | HDSP-332E | HDSP-521Y | HDSP-701G | HDSP-A22G |
| HDSP-301Y | HDSP-333E | HDSP-523E | HDSP-703E | HDSP-A27G |
| HDSP-303E | HDSP-333G | HDSP-523G | HDSP-703G | HDSP-G01E |
| HDSP-303G | HDSP-511E | HDSP-523Y | HDSP-711E | HDSP-G01G |
| HDSP-303Y | HDSP-511G | HDSP-561E | HDSP-711G | HDSP-G01Y |
| HDSP-311E | HDSP-511Y | HDSP-561G | HDSP-713E | HDSP-G03E |
| HDSP-311G | HDSP-513E | HDSP-561Y | HDSP-713G | HDSP-G03G |
| HDSP-311Y | HDSP-513G | HDSP-563E | HDSP-815E | HDSP-G03Y |
| HDSP-313E | HDSP-513Y | HDSP-563G | HDSP-815G | QDSP-526G |
| HDSP-313G | HDSP-521E | HDSP-563Y | HDSP-816E | QDSM-723C |

Description and Extent of Change:

The new dice (AllnGaP) shall be replacing current dice for part numbers above.

Reasons for Change:

Supply of assurance.

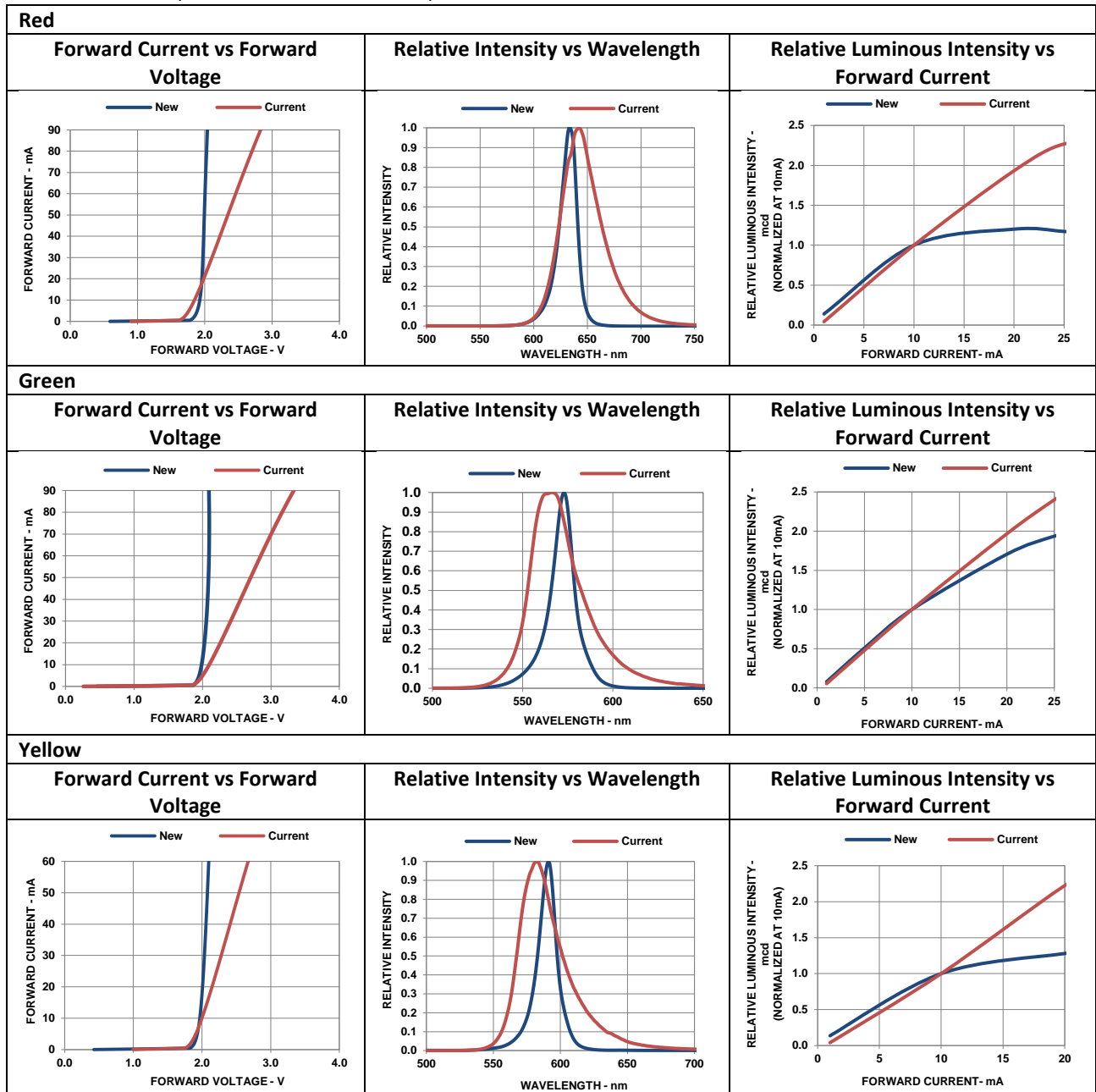
Effect of Change on Fit, Form, Function, Quality, or Reliability:

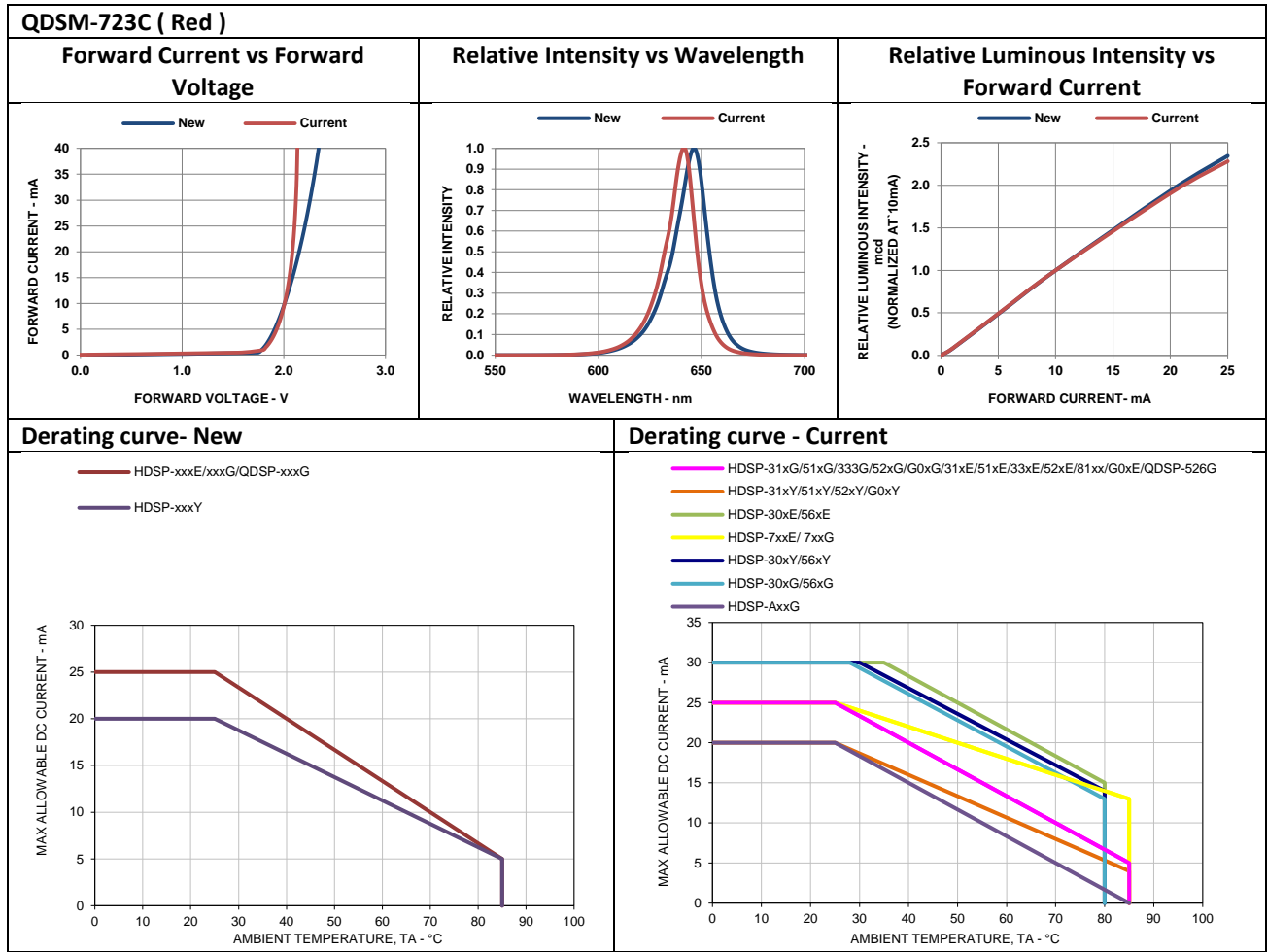
There is no change in fit and form of the product as per datasheet.

Following are changes in product characteristic:

1. Forward Voltage vs Forward Current
2. Relative Intensity vs Wavelength
3. Relative Intensity vs Forward Current
4. Storage temperature & operating temperature range will be standardized to -40°C/85°C
5. Power dissipation
6. Peak forward current
7. DC forward current

Below are the comparison of the Electrical / Optical characteristic between the current & new dice:





| Part | New dice | | | | Current dice | | | |
|----------------------|-----------------------|--------------------------|------------------------|-----------------|---------------------------------------|--------------------------|------------------------|---------------|
| | Power dissipation, mW | Peak Forward current, mA | DC Forward Current, mA | Vf Max@20m A, V | Average Power/ Power dissipation , mW | Peak Forward current, mA | DC Forward Current, mA | Vf Max@20m, V |
| HDSP-30xx /56xx | 62.5 | 90 | 25 | 2.5 | 105 | 90 | 30 | 2.5 |
| HDSP-31xE/33xE | | | | | 65 | 100 | 25 | 2.4 |
| HDSP-51xE | | | | | 60 | 100 | 25 | 2.4 |
| HDSP-52xE | | | | | 62.5 | 90 | 25 | 2.6 |
| HDSP-70xE | | | | | 75 | 90 | 23 | 2.5 |
| HDSP-81xE | | | | | 62.5 | 100 | 25 | 3.0 |
| HDSP-G0xE | | | | | 65 | 100 | 25 | 2.4 |
| HDSP-31xG/333G/ 51xG | | | | | 65 | 100 | 25 | 2.6 |
| HDSP-52xG/QDSP-526G | | | | | 105 | 90 | 30 | 2.4 |
| HDSP-7xxG | | | | | 75 | 90 | 15 | 2.6 |
| HDSP-81xG | | | | | 65 | 90 | 25 | 2.6 |
| HDSP-G0xG | | | | | 65 | 100 | 25 | 2.6 |
| HDSP-A2XG | | | | | 52 | 100 | 20 | 2.6 |
| HDSP-52xY | | | | | 50 | 60 | 20 | 2.5 |
| HDSP-31xY/51xY/ G0xY | 52 | 80 | 20 | 2.6 | | | | |

*Pulsing condition (new dice): Duty factor = 10%, frequency = 1 kHz.
 * No change in Absolute Maximum Ratings for QDSM-723C

Effective Date of Change:

Shipment may contain product from current dice and new dice starting 21st April 2022 until the inventory of current dice is fully depleted. There will be no mixed dice within the same tube/ lot.

Part identification:

Label for current dice



Label for new dice



Prefix “D” will be added to the Lot number

Qualification Data:

Qualification Vehicle: HDSP-301E/ HDSP-301G/HDSP-301Y

| Reliability Test | Stress Condition | Result |
|-------------------------------------|----------------------------|------------------|
| Temperature Cycle | -40°C /85°C;15 5 15min | 100x (PASSED) |
| Temperature Humidity Operating Life | 85°C/85%RH; 5mA | 1000hrs (PASSED) |
| High Temperature Operating Life | 55°C; 15mA 55°C; 13mA | 1000hrs (PASSED) |
| Temperature Humidity Storage Life | 85°C/85%RH | 1000hrs (PASSED) |
| Low Temperature Operating Life | -40°C; 25mA -40°C; 20mA | 1000hrs (PASSED) |

Please contact your Broadcom field sales engineer or Contact Center for any questions or support requirements. Please acknowledge the receipt of the notice within 30 days of delivery. Lack of acknowledgement within 30 days constitutes acceptance of the change per JEDEC J-STD-046.