

Product Change Notice

Issue Date: 20-January-2022

Revised Date: 13-April-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 (AlInGaP) shall be replacing current dice for part numbers above.

Reasons for Change:

Supply of assurance.

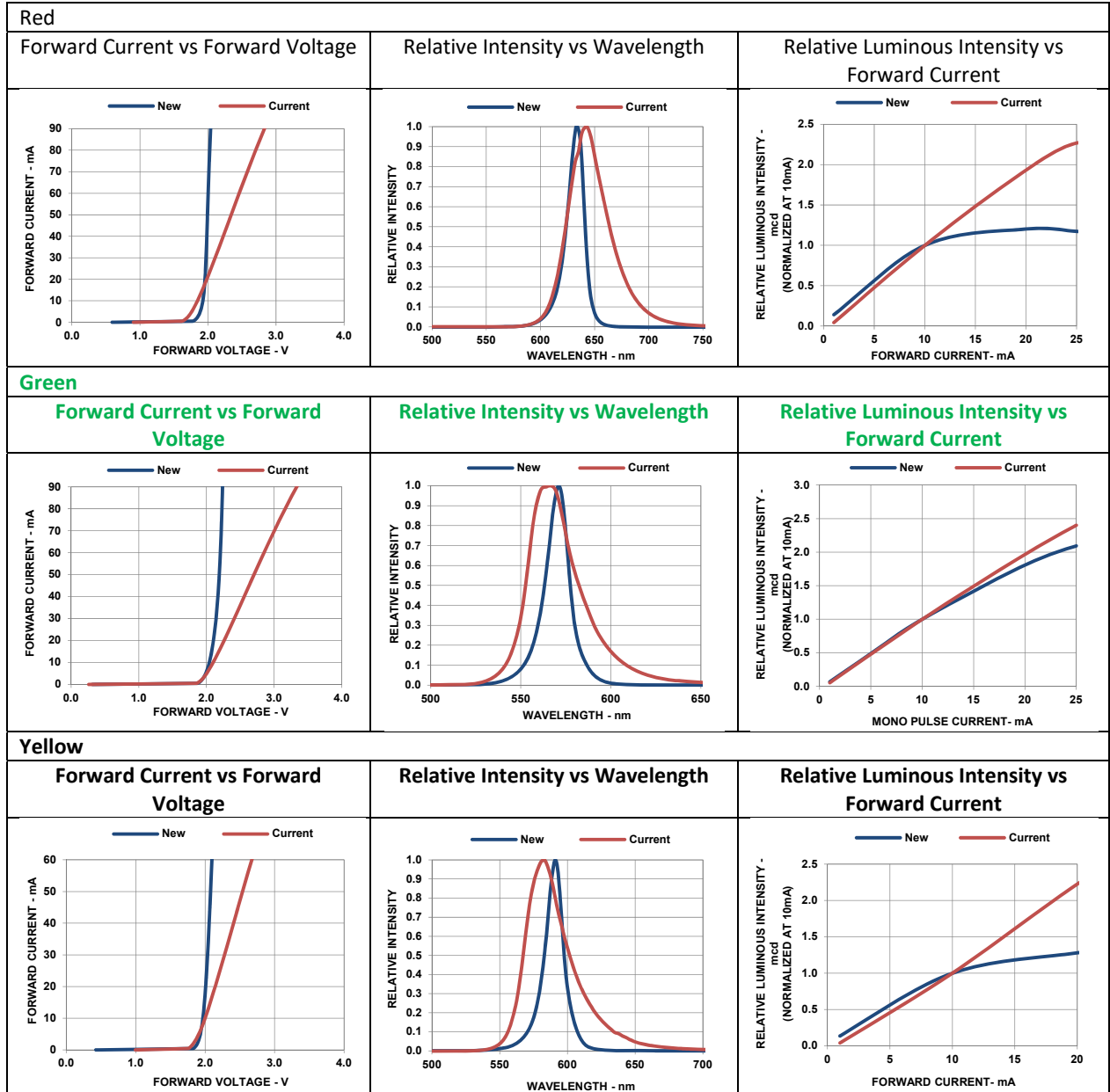
Effect of Change on Fit, Form, Function, Quality, or Reliability:

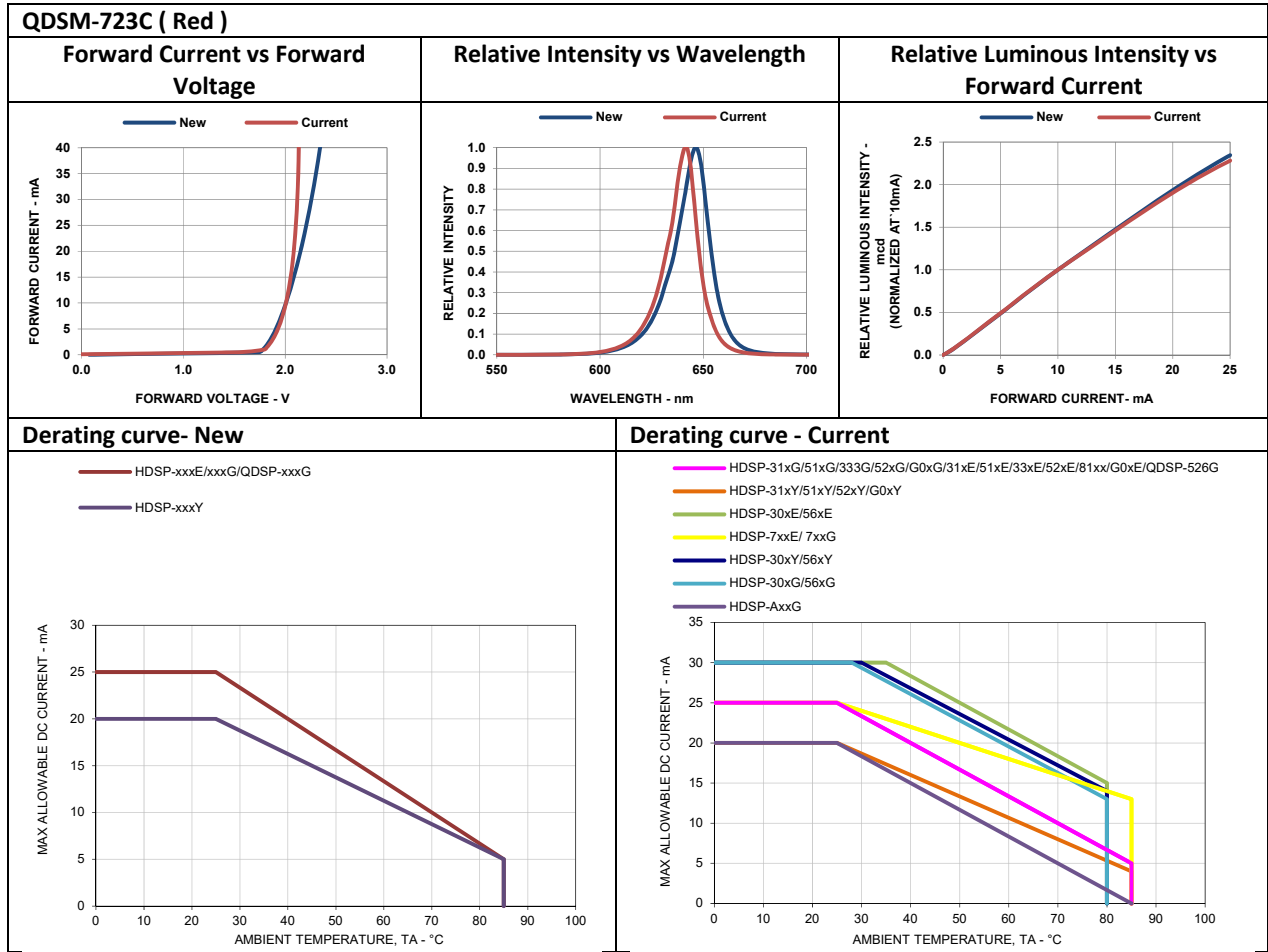
There is no change in fit and form of the product as per datasheet.

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
8. 1 to 3 lv bin higher with new die source

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





Note: No change in derating curve for QDSM-723C

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:

Red (E series) / Yellow (Y series)

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.

For Green (G-series)

Shipment may contain product from current dice and new dice starting 1st August 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.