

Product Change Notice

Issue Date: 19-January-2021

Change Description:

New dice replacement for seven segment display

Parts Affected:

HDSP-301A
HDSP-303A
HDSP-311A
HDSP-313A
HDSP-333A
HDSP-511A
HDSP-513A
HDSP-515A
HDSP-521A-KL000
HDSP-521A-Z0000
HDSP-521A
HDSP-523A
HDSP-561A
HDSP-563A
HDSP-701A
HDSP-703A
HDSP-711A
HDSP-713A
HDSP-G01A
HDSP-G03A
QDSP-494A
QDSP-495A
QDSP-G09A

Description and Extent of Change:

The new dice (AlInGaP) shall be replacing current dice (AlGaAs) for part number above.

Reasons for Change:

Obsolescence of current dice by dice supplier.

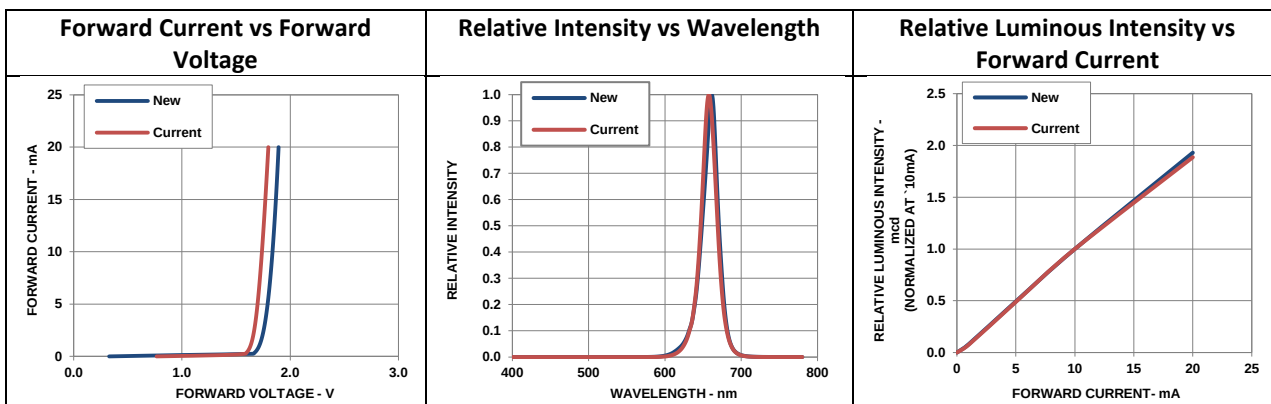
Effect of Change on Fit, Form, Function, Quality, or Reliability:

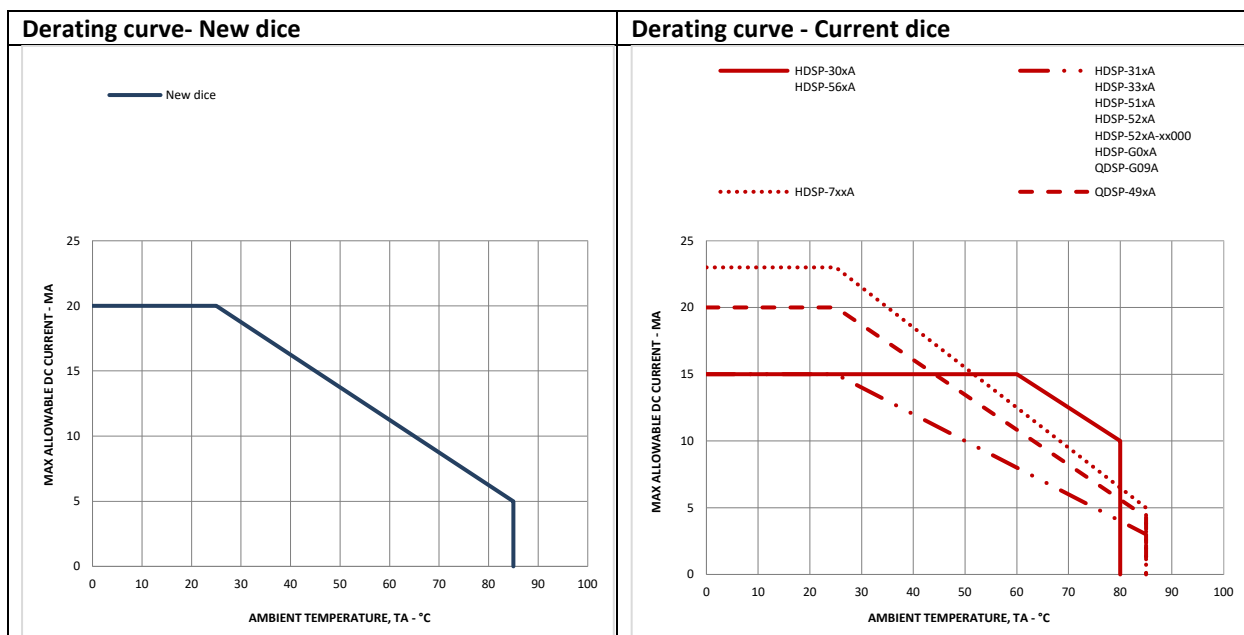
There is no change in fit and form of the product as per datasheet.

The storage temperature & operating temperature range will be standardized to -40°C/85°C.

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

Part Number	New dice			Current dice		
	Forward Voltage, Typical (V)	Forward Voltage, Max (V)	Dominant wavelength, Typical (nm)	Forward Voltage, Typical (V)	Forward Voltage, Max (V)	Dominant wavelength, Typical (nm)
HDSP-301A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-303A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-311A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-313A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-333A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-511A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-513A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-515A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-521A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-521A-KL000	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-521A-Z0000	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-523A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-561A	2.00	2.60	640.00	1.80	2.00	643.00
HDSP-563A	2.00	2.60	640.00	1.80	2.00	643.00
HDSP-701A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-703A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-711A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-713A	2.00	2.60	640.00	1.80	2.20	643.00
HDSP-G01A	2.00	2.60	640.00	1.85	2.00	643.00
HDSP-G03A	2.00	2.60	640.00	1.85	2.00	643.00
QDSP-494A	2.00	2.60	640.00	1.80	2.00	643.00
QDSP-495A	2.00	2.60	640.00	1.80	2.00	643.00
QDSP-G09A	2.00	2.60	640.00	1.85	2.00	643.00





Part Number	New dice			Current dice		
	Power dissipation (mW)	Peak forward current (mA)	DC forward current (mA)	Power dissipation (mW)	Peak forward current (mA)	DC forward current, mA
HDSP-30xA HDSP-56xA	52	60	20	37	45	15
HDSP-31xA HDSP-33xA HDSP-51xA HDSP-52xA HDSP-52xA-xx000 HDSP-G0xA				30	80	15
HDSP-7xxA				75	125	23
QDSP-49xA				50	75	20
QDSP-G09A				50	80	25

*Pulsing condition (new dice): Duty factor = 10%, frequency = 1 kHz.

Effective Date of Change:

The shipment with above change is effective 20 April 2021. Shipments of product with current dice will continue until the inventories are fully depleted. There will be no mixed dice type within a shipment.

Qualification Data:

Qualification Vehicle: HDSP-521A

Test Name	Reference	Test conditions	New dice		Current dice	
			Units Tested	Unit Failed	Units Tested	Unit Failed
Temperature Cycle	JESD22-A104	-40°C/85°C, 15 min dwell, 5 min transfer, 100 cycles	196	0	196	0
Humidity Storage Life	JESD22-A103	85°C/85%RH, 168 hours	44	0	44	0
Humidity Operating life	JESD22-A101	85°C/85%RH, 5mA; 168hrs	44	0	44	0
High temperature Operating Life	JESD22-A108	55°C, 13mA; 168hrs	44	0	44	0
Low Temperature Operating Life	JESD22-A108	-40°C, 20mA; 168hrs	44	0	44	0



Please contact your Broadcom field sales engineer or Contact Center for any questions or support requirements. Please return any response as soon as possible, but not to exceed 30 days.