



Opto Plus LED Corp.
0.39" Case Mold Type LED Display
OPD-Q3914LB-7.3D-BW
OPD-Q3915LB-7.3D-BW

● **EDIT HISTORY**

Version A : Apr. 19, 2019

Preliminary Spec.

Version B : Nov. 12, 2019

Modify Luminous intensity from 20 mcd to 35 mcd.

Version C : Dec. 16, 2019

Add package dimensions.

Prepared by	Checked by	Approved by



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● **FEATURES**

- 0.39 inch (10.00 mm) Digit Height.
- Low current operation.
- Case mold type.
- Black face, White segment.
- RoHS compliant, Pb Free.

● **DESCRIPTION**

The OPD-Q3914LB-7.3D-BW & OPD-Q3915LB-7.3-BW is a 0.39 inch (10.00 mm) height quadruple digits display.

This device utilizes Super Bright Blue LED chip which are made from InGaN on a transparent GaN substrate. The display has Black face, White segment.

● **DEVICE**

PART NO Super Bright Blue	DESCRIPTION
OPD-Q3914LB-7.3D-BW	Common Anode
OPD-Q3915LB-7.3D-BW	Common Cathode

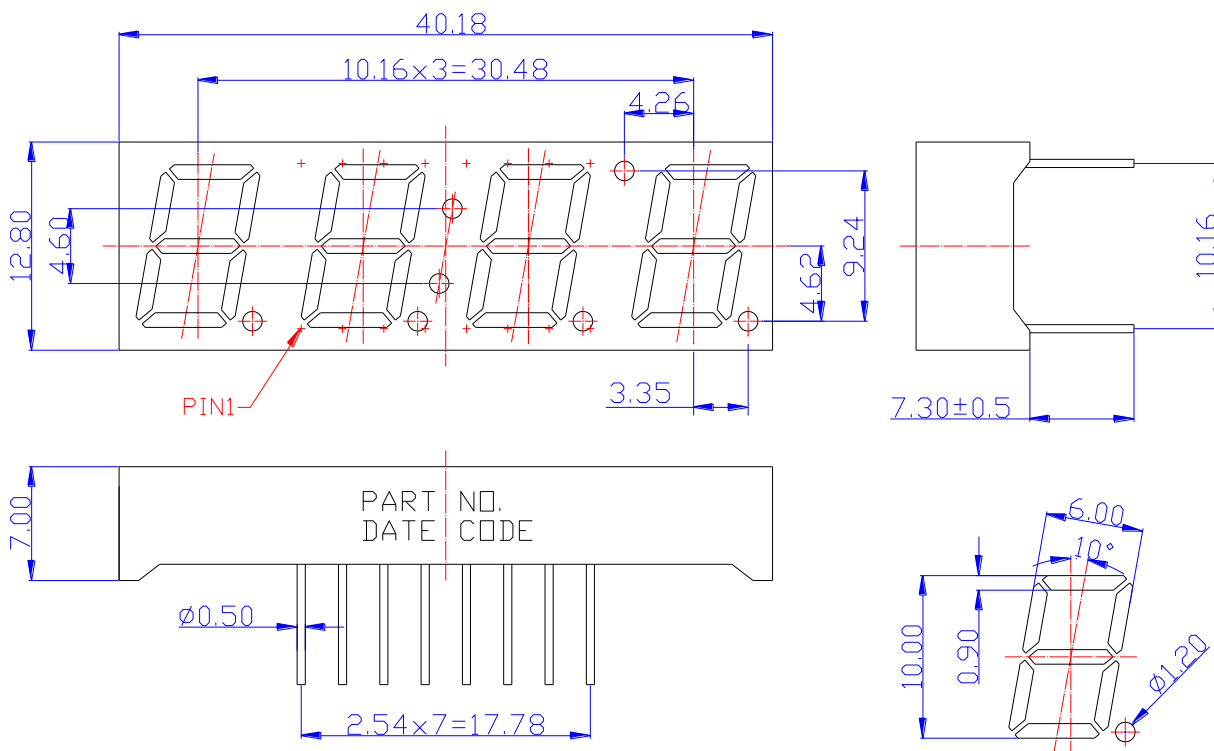
RoHS Compliance



Pb free.

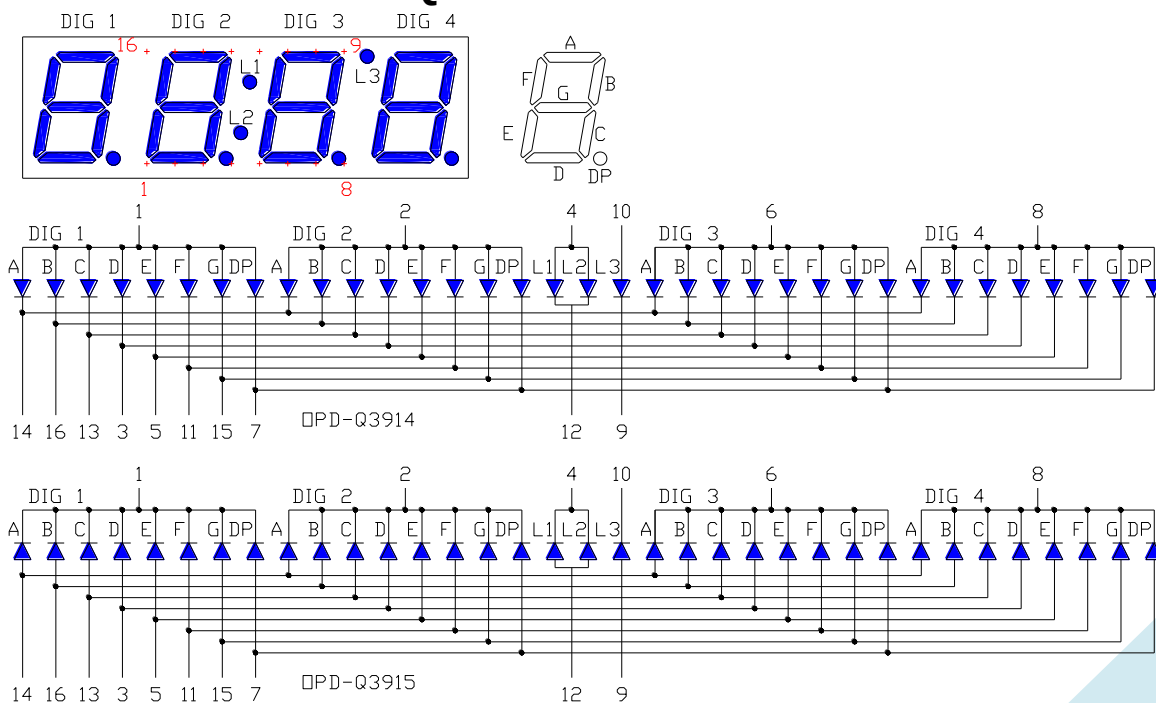


MECHANICAL DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are ± 0.25 mm unless otherwise noted.

TYPICAL INTERNAL EQUIVALENT CIRCUIT





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● **B: SUPER BRIGHT BLUE (InGaN/GaN)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Blue	Unit
Power dissipation per dice	P _{AD}	68	mW
Continuous forward current per dice	I _{AF}	30	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I _{PF}	60	mA
Reverse voltage per dice	V _R	5	V
Operating temperature	T _{OPR}	-25 to +85	°C
Storage temperature	T _{STG}	-25 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V _F	I _F =20mA	-	3.0	3.4	V
Reverse current	I _R	V _R =8V	-	-	10	μA
Dominant wavelength	λ _D	I _F =20mA	460	465	470	nm
Luminous intensity	I _v	I _F =10mA	-	35	-	mcd
Spectral radiation bandwidth	Δλ	I _F =20mA	-	30	-	nm



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● B: SUPER BRIGHT BLUE (InGaN/GaN) CURVE

Typical Electro-optical Characteristic Curves
(25 °C Free Air Temperature Unless Otherwise Specified)

Fig.1-Relative Luminous Intensity vs. Forward Current

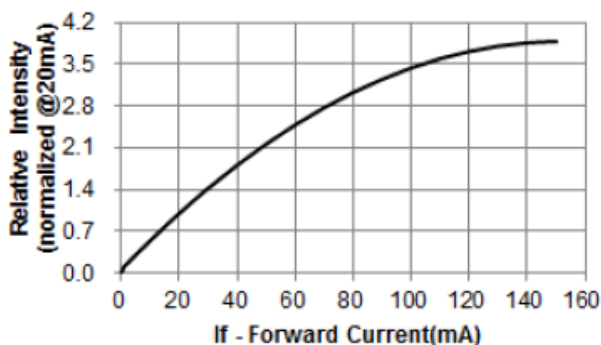


Fig.2-Forward Current vs. Forward Voltage

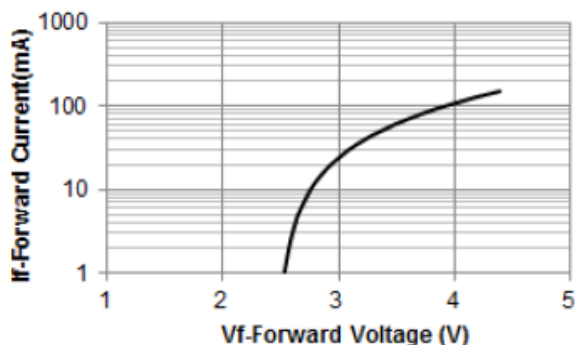


Fig.3-Relative Intensity (@20mA) vs. Ambient Temperature

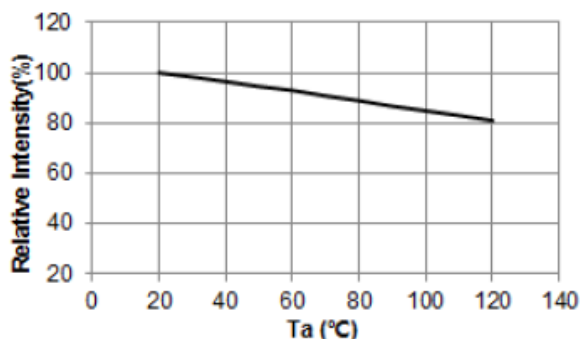


Fig.4-Forward Voltage (@20mA) vs. Ambient Temperature

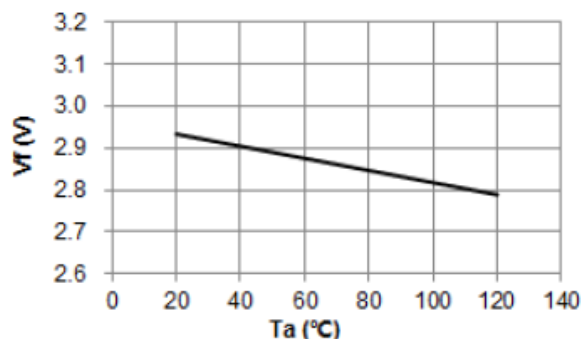


Fig.5-Dominant Wavelength (@20mA) vs. Ambient Temperature

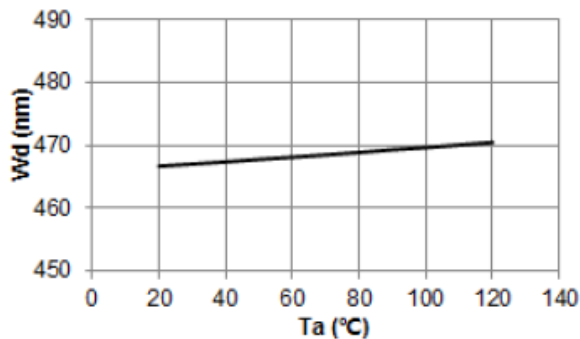
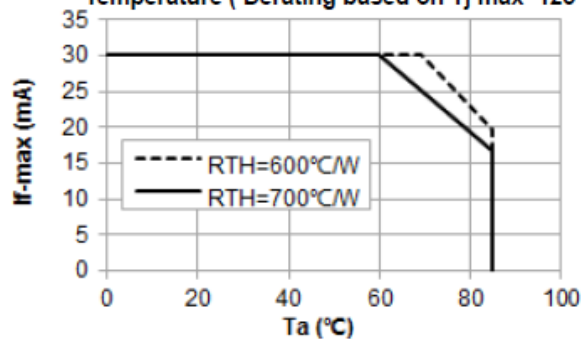
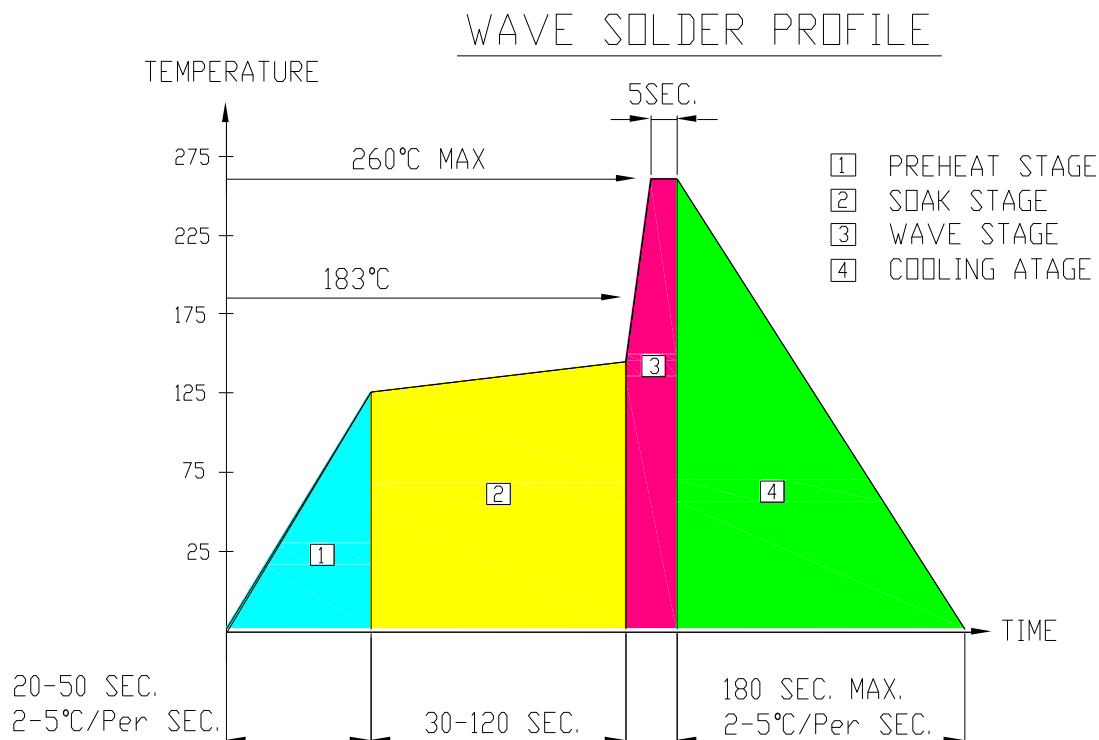


Fig.6-Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on Tj max=125°C)



● RECOMMEND SOLDERING PROFILE



● Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

● SOLDERING IRON

Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C → 1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

● REWORK

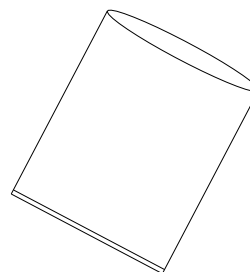
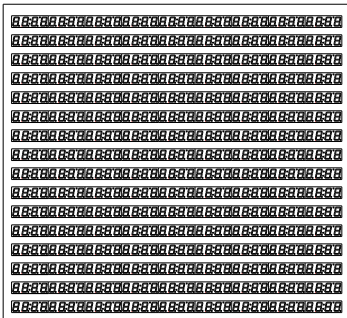
Customer must finish rework within ≤ 3 sec under 350°C.
 The head of soldering iron cannot touch copper foil.



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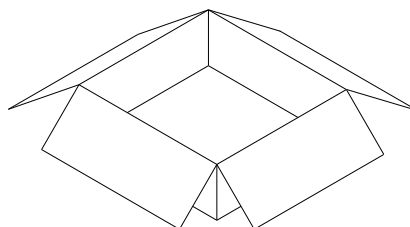
● **PACKAGE DIMENSIONS**

144 PCS(9X16) / 1 Polyform & 1 CARDBOARD



BAG SIZE :450X410X560

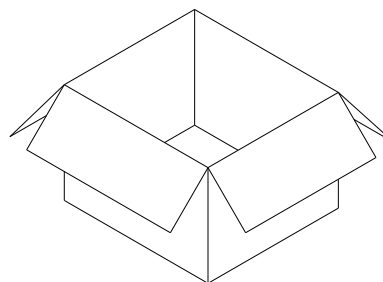
720 PCS / 5 Polyform / 1 BAG



INNER BOX SIZE : 394 x 370 x 138 mm

720 PCS / 1 INNER CARTON

1440 PCS / 2 INNER CARTONS / 1 OUTER CARTON



OUTER BOX SIZE : 430 x 390 x 300 mm