



Opto Plus LED Corp.

0.39" Case Mold Type LED Display

OPD-D3910LE-BW

● EDIT HISTORY

Version 1(A) : Sep. 07, 2015

New color data sheet.

Version 2(B) : Mar. 14, 2023

Modify Electrical Character & Curve (P5,P6)

Modify package dimensions.

Prepared by	Checked by	Approved by



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● **EDIT HISTORY**

Version A : Nov . 22, 2013

Preliminary Spec..



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● FEATURES

- 0.39 inch (10.0 mm) Digit Height.
- Low current operation..
- Case mold type.
- Black face, White segment.
- RoHS compliant, Pb Free.

● DESCRIPTION

The OPD-D3910LE-BW is a 0.39 inch (10.0 mm) height dual digits display.

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

● DEVICE

PART NO	DESCRIPTION
Super Bright Red	
OPD-D3910LE-BW	Common Anode

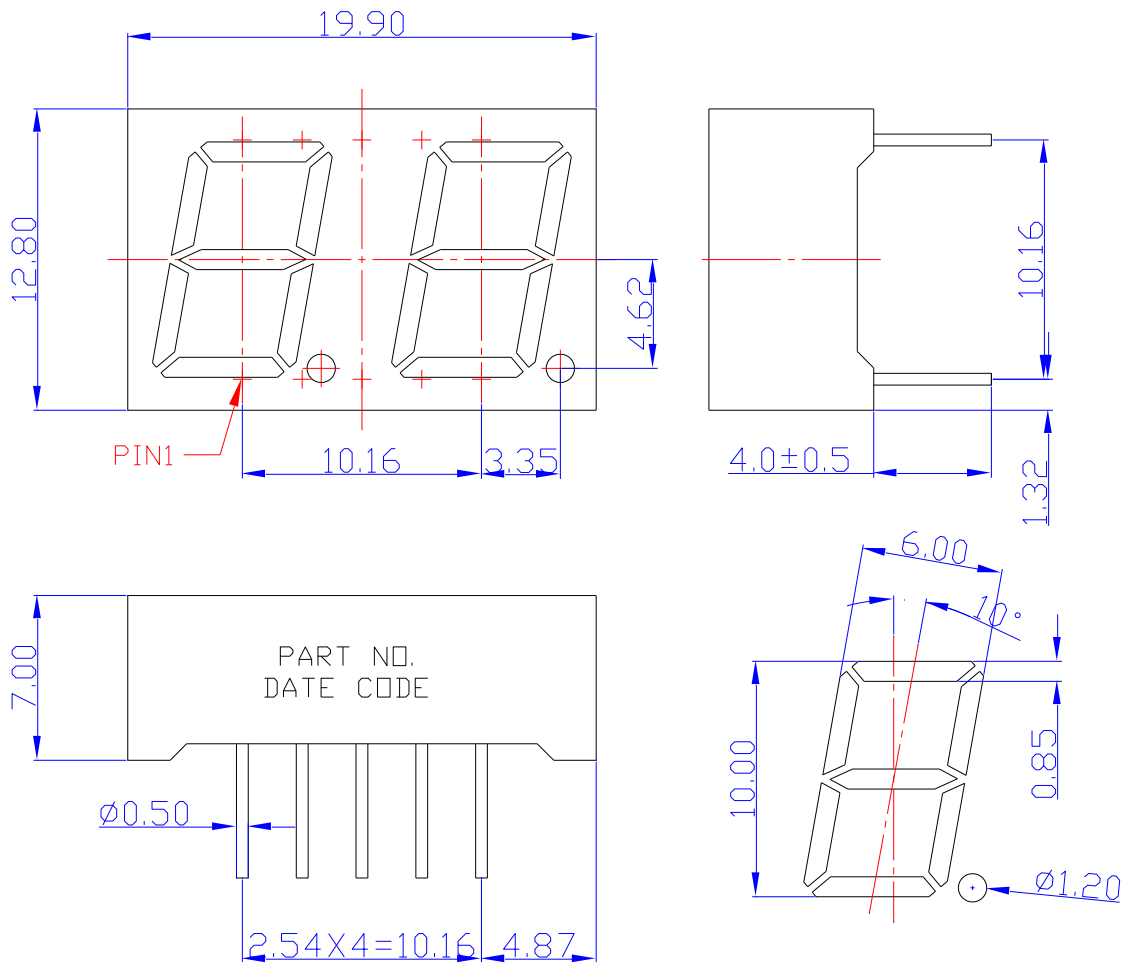
RoHS Compliance



Pb free.

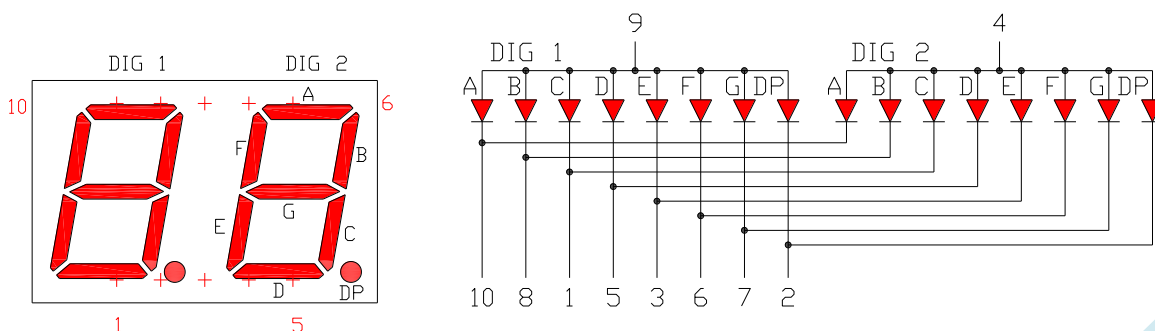


MECHANICAL DIMENSIONS



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

TYPICAL INTERNAL EQUIVALENT CIRCUIT





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● LE: SUPER BRIGHT RED (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P _{AD}	48	mW
Continuous forward current	I _{AF}	20	mA
Peak current (duty cycle 1/10, 1kHz)	I _{PF}	40	mA
Reverse voltage	V _R	5	V
Operating temperature	T _{OPR}	-40 to +85	°C
Storage temperature	T _{STG}	-40 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage	V _F	I _F = 20mA	-	2.1	2.4	V
Reverse Current	I _R	V _R = 5V	-	-	10	μA
Peak Wavelength	λ _P	I _F = 20mA	-	632	-	nm
Dominant Wavelength	λ _D	I _F = 20mA	619	624	629	nm
Luminous Intensity	I _V	I _F = 20mA	-	30	-	mcd
Spectral Line Half-Bandwidth	Δλ	I _F = 20mA	-	20	-	nm



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● LE: SUPER BRIGHT RED (AlGaInP/GaAs) CURVE

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

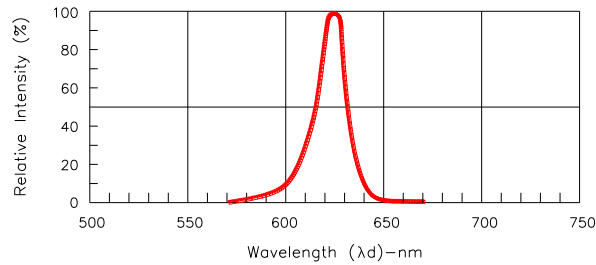


Fig.1-Relative Intensity VS. Wavelength

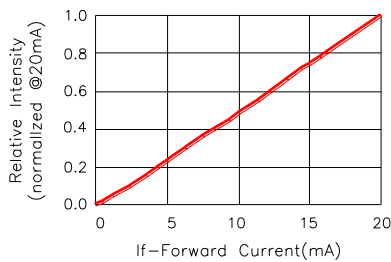


Fig.2-Relative Luminous Intensity vs. Forward Current

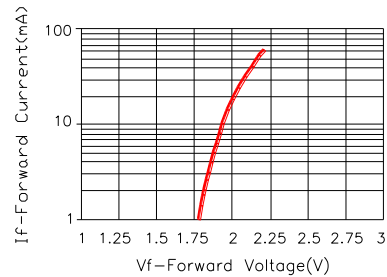


Fig.3-Forward Current vs. Forward Voltage

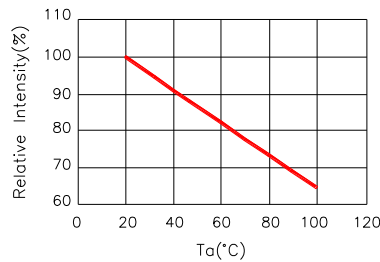


Fig.4-Relative Intensity(@20mA) vs. Ambient Temperature

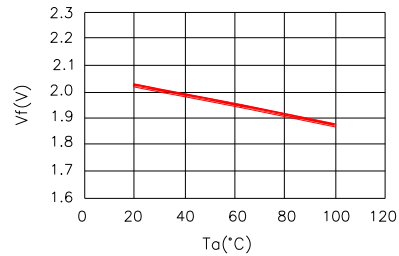


Fig.5-Forward Voltage(@20mA) vs. Ambient Temperature

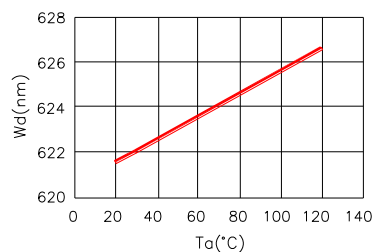


Fig.6-Dominant Wavelength(@20mA)
VS. Ambient Temperature

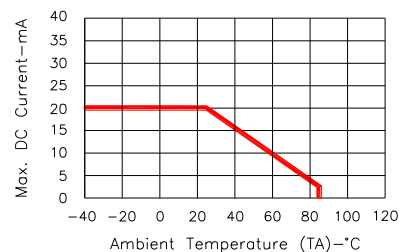
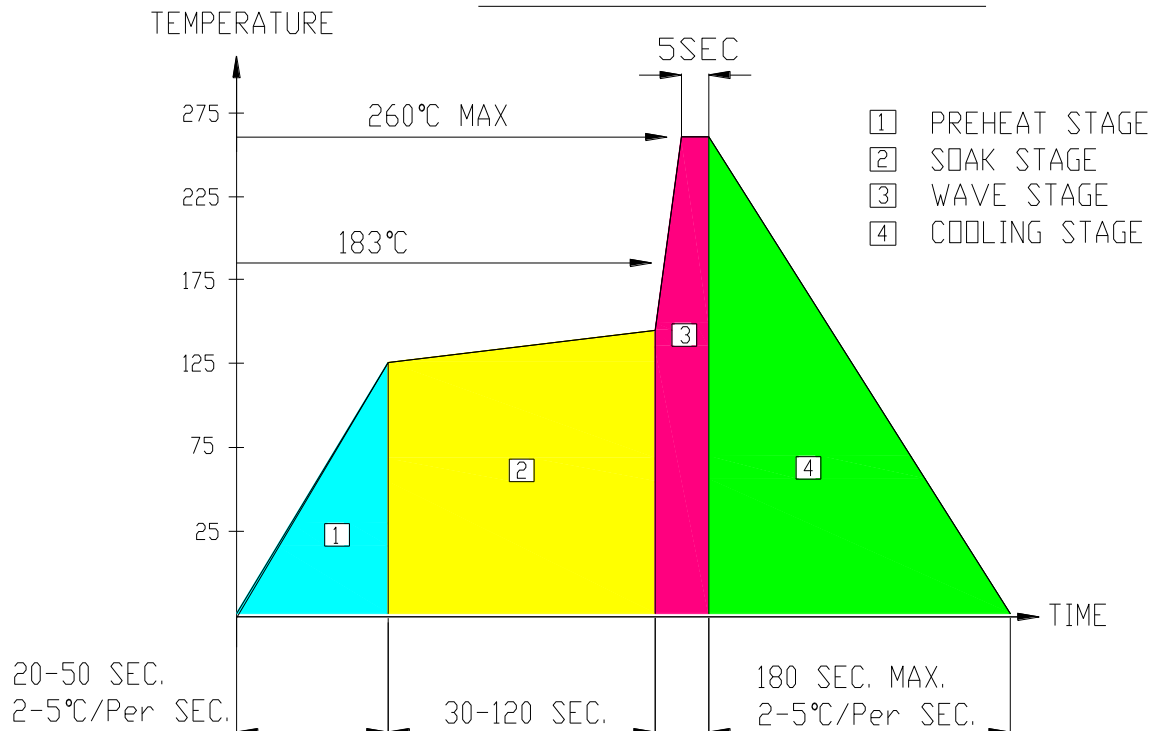


Fig.7-Max. Allowable DC Current
VS. Ambient Temperature

● RECOMMEND SOLDERING PROFILE

WAVE SOLDER 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.



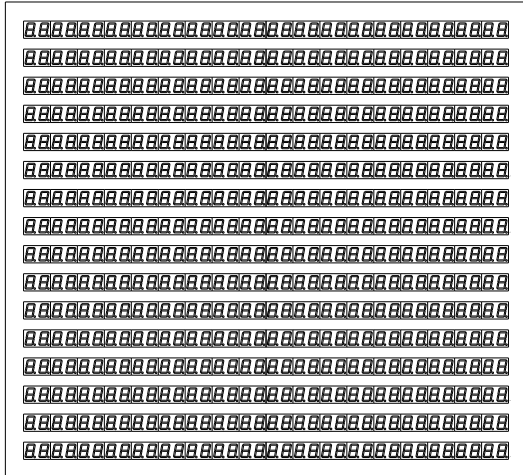
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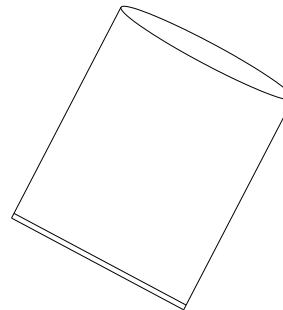
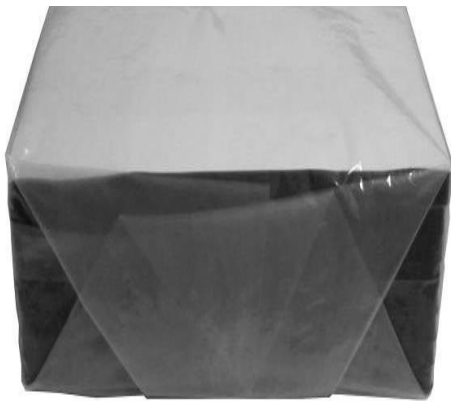
OPD-D3910LE-BW

● PACKAGE DIMENSIONS

288 PCS / (18 X 16 PCS) Polyform & 1 CARDBOARD

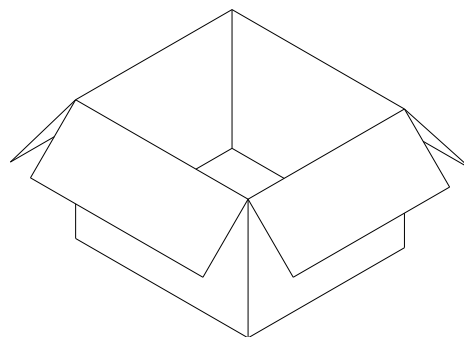


13 White Polyform / 1 BAG



BAG SIZE : 450X410X760

3744 PCS / 1 BAG / 1 Inner Carton



OUTER BOX SIZE : 430 x 390 x 300 mm