



Opto Plus LED Corp.

0.40" Case Mold Type LED Display

OPD-S4030LE-BW

● EDIT HISTORY

Version 1(A) : Oct. 12, 2015

New color data sheet.

Version 2(B) : Apr.13, 2023

Modify Electrical Character & Curve (P5,P6)

Modify package dimensions.

Prepared by	Checked by	Approved by



Opto Plus LED Corp.
0.40" Case Mold Type LED Display
OPD-S4030LE-BW

● **EDIT HISTORY**

Version A : Jul. 08, 2014

Preliminary Spec.

Version B : Apr.13, 2023

Modify Electrical Character & Curve (P5,P6)



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● FEATURES

- 0.4 inch (10.16 mm) Digit Height.
- Low current operation..
- Case mold type.
- Black face, White segment.
- RoHS compliant, Pb Free..

● DESCRIPTION

The OPD-S4030LE-BW is a 0.4 inch (10.16 mm) height single 7-segment 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 Super Bright Red	DESCRIPTION
OPD-S4030LE-BW	Common Anode

RoHS Compliance



Pb free.

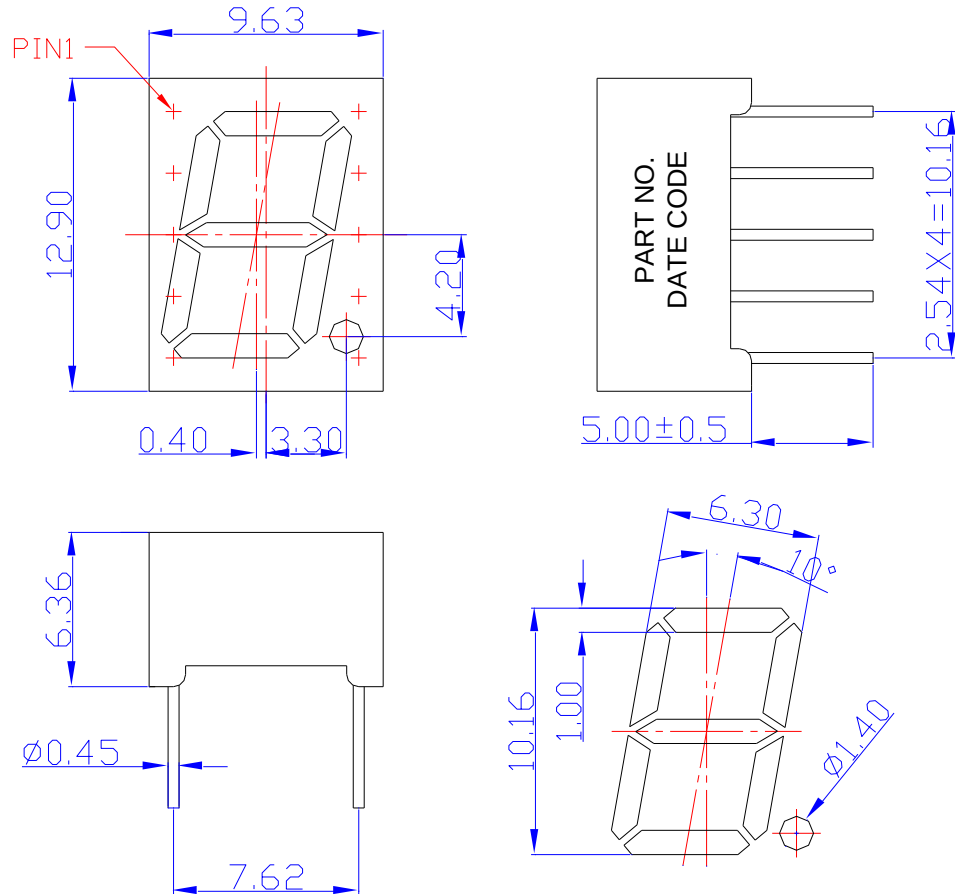


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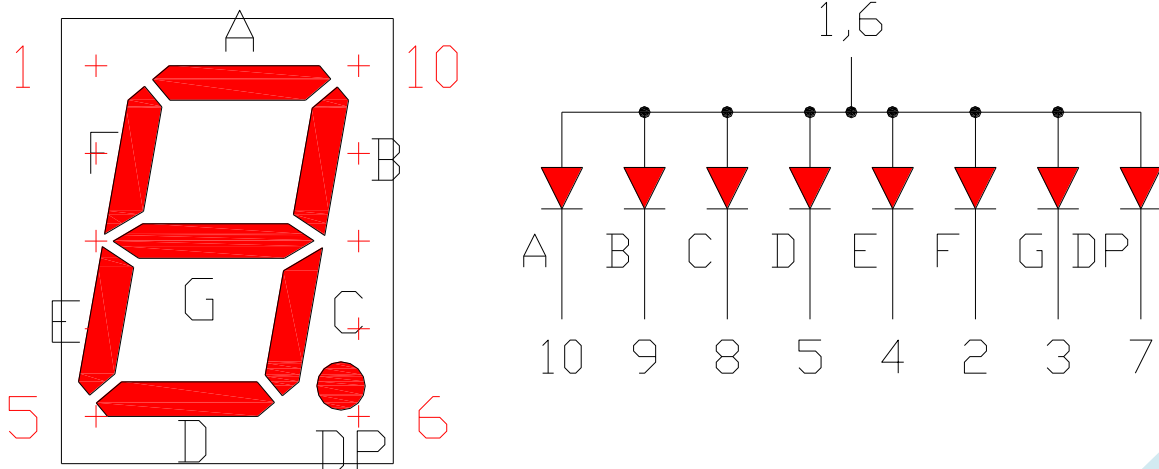
OPD-S4030LE-BW

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.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F = 20\text{mA}$	-	2.0	2.6	V
Reverse current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Peak wavelength	λ_P	$I_F = 20\text{mA}$	-	632	-	nm
Dominant wavelength	λ_D	$I_F = 20\text{mA}$	619	624	629	nm
Luminous intensity	I_v	$I_F = 20\text{mA}$	-	40	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	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)

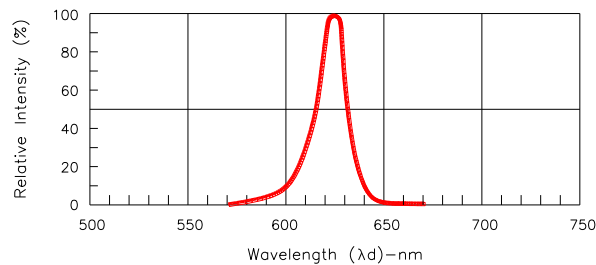


Fig.1-Relative Intensity VS. Wavelength

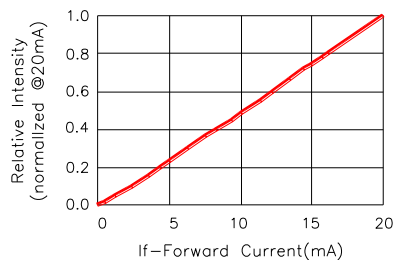


Fig.2-Relative Luminous Intensity vs. Forward Current

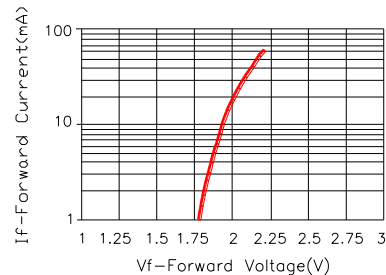


Fig.3-Forward Current vs. Forward Voltage

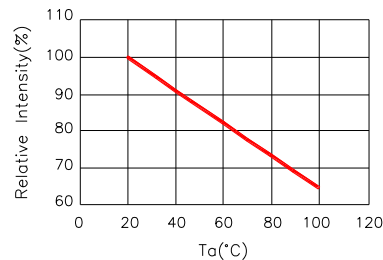


Fig.4-Relative Intensity(@20mA) vs. Ambient Temperature

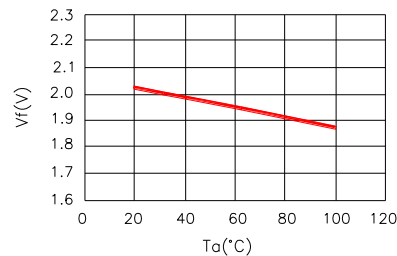


Fig.5-Forward Voltage(@20mA) vs. Ambient Temperature

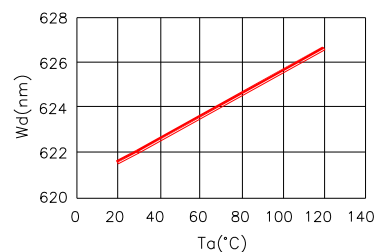


Fig.6-Dominant Wavelength(@20mA)
VS. Ambient Temperature

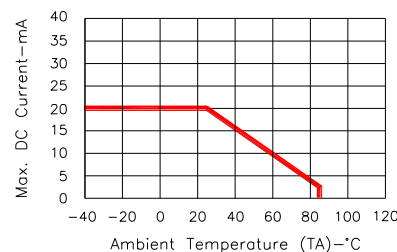
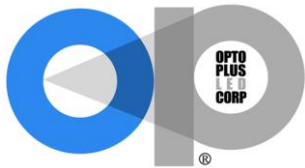


Fig.7-Max. Allowable DC Current
VS. Ambient Temperature



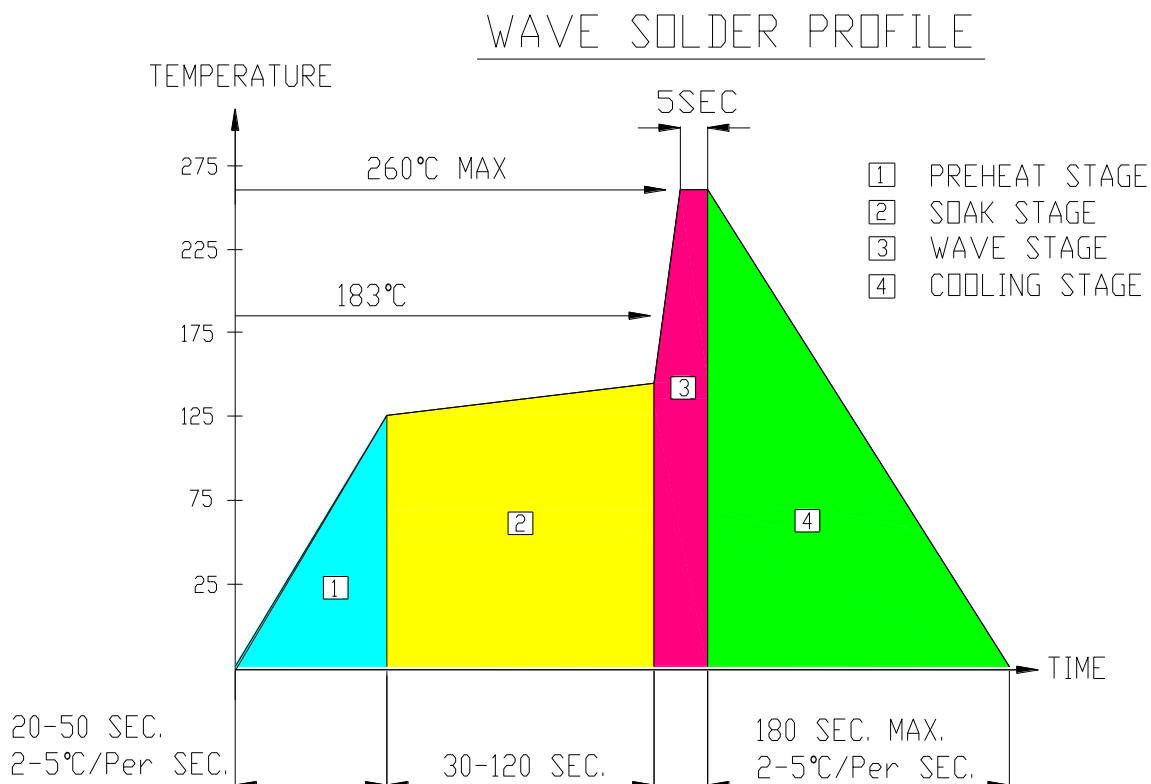
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● RECOMMEND SOLDERING PROFILE



● 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.

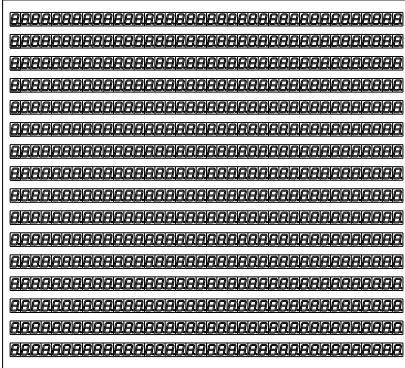
● REWORK

Customer must finish rework within ≤ 3 sec under 350°C.

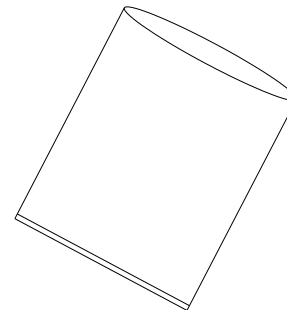
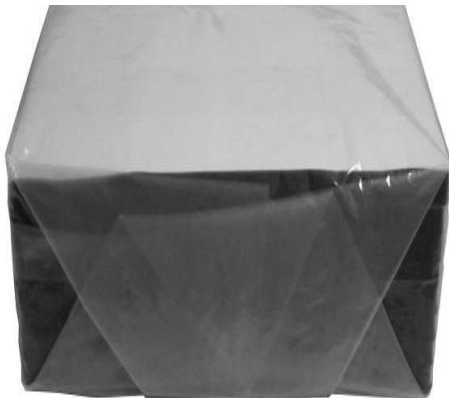
The head of soldering iron cannot touch copper foil.

● PACKAGE DIMENSIONS

608 PCS (38 x 16) / 1 White Polyform

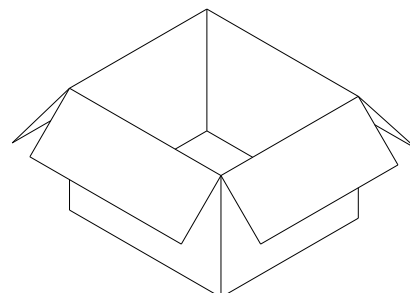


14 White Polyform / 1 BAG



BAG SIZE : 450X410X760

8512 PCS /1 BAG /1Inner Carton



OUTER BOX SIZE : 430 x 390 x 300 mm