



Opto Plus LED Corp.

0.56" Case Mold Type LED Display

OPD-D5630LR-BW

● EDIT HISTORY

Version 1 : Dec. 24, 2014

New color data sheet.

Version 2(B) : Dec. 19, 2016

Add bin and hue.

Version 3(C) : Apr. 13, 2023

Modify Electrical Character & Curve (P5,P7)

Modify package dimensions.

Prepared by	Checked by	Approved by



Opto Plus LED Corp.
0.56" Case Mold Type LED Display
OPD-D5630LR-BW

● **EDIT HISTORY**

Version A : Jun. 10, 2014

Preliminary Spec.

Version B : Jun. 25, 2015

Add bin and hue.

Version C : Apr. 13, 2023

Modify Electrical Character & Curve (P5,P7)

Modify package dimensions.



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● FEATURES

- 0.56 inch (14.20 mm) Digit Height.
- Low current operation.
- Case mold type.
- Black face, White segment.
- RoHS compliant, Pb Free.

● DESCRIPTION

The OPD-D5630LR-BW is a 0.56 inch (14.20 mm) height dual digits display.

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

● DEVICE

PART NO Super Red	DESCRIPTION
OPD-D5630LR-BW	Common Anode

RoHS Compliance



Pb free.

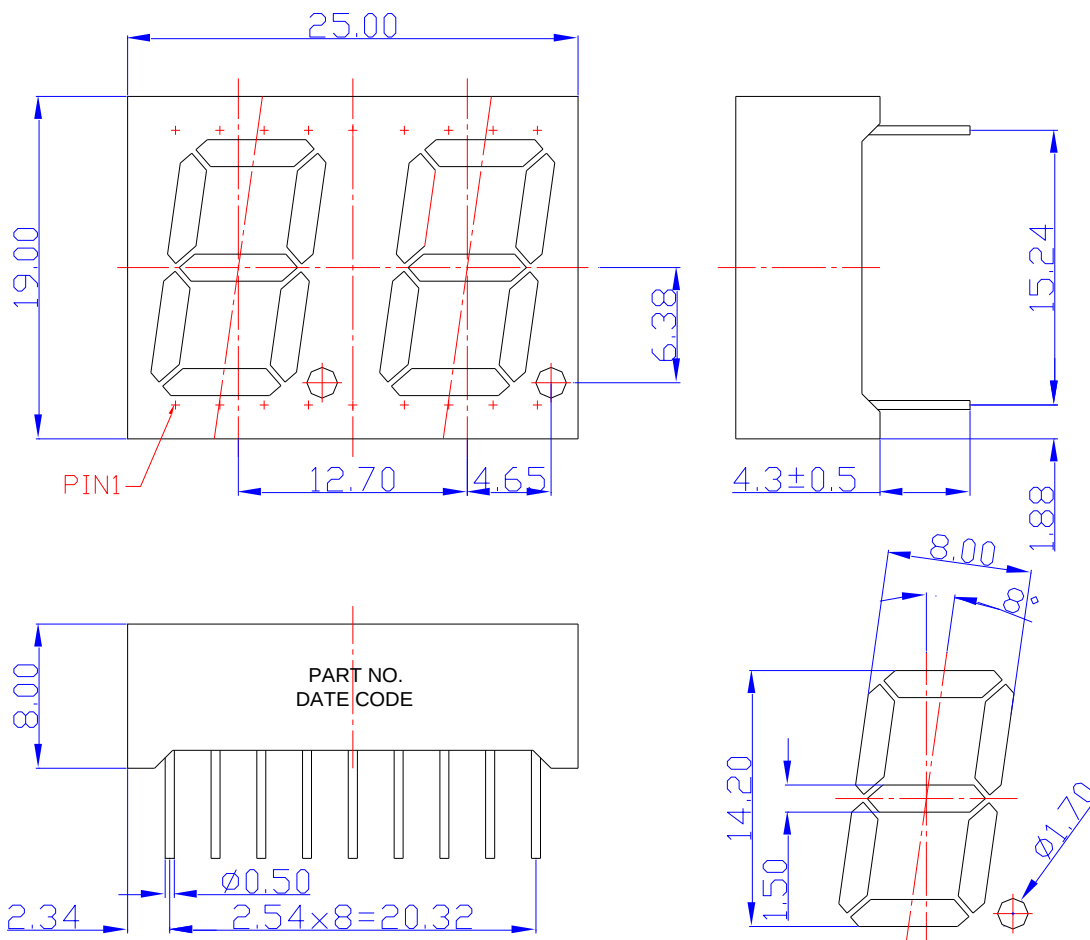


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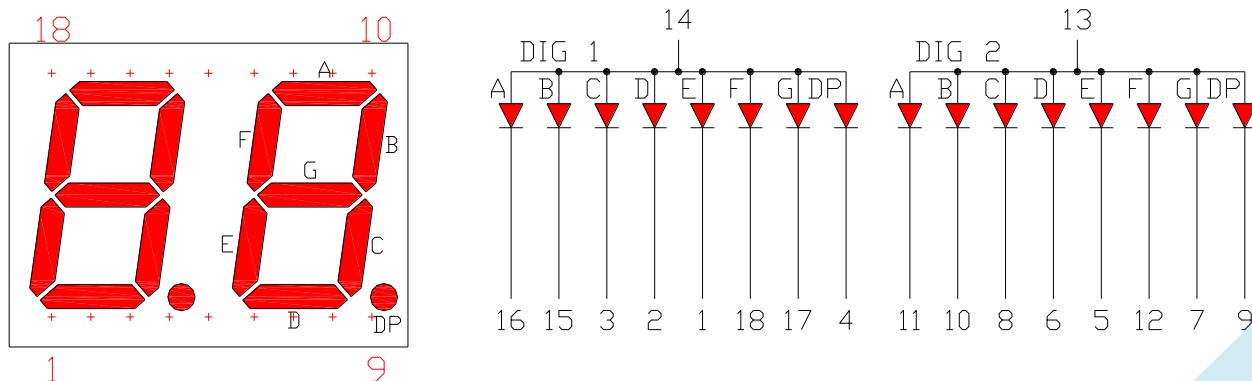
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MECHANICAL DIMENSIONS



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

TYPICAL INTERNAL EQUIVALENT CIRCUIT





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● LR: SUPER 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	$I_F = 20\text{mA}$	-	2.1	2.4	V
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Peak Wavelength	λ_P	$I_F = 20\text{mA}$	-	650	-	nm
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	635	639	648	nm
Luminous Intensity	I_V	$I_F = 20\text{mA}$	-	30	-	mcd
Spectral Line Half-Bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm



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● LR: BIN GRADE (Unit : mcd / $I_F = 20\text{mA}$)

Super Bright Red	P	Q	R
	16 ~ 35	36 ~ 53	55 ~ 72

● LR: HUE GRADE (λ_D : nm $I_F = 20\text{mA}$)

1	2	3
636~640	641~643	644~647

● AVAILABLE BIN / HUE TABLE

P1	Q1	R1
P2	Q2	R2
P3	Q3	R3

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● LR: SUPER RED (AlGaInP/GaAs) CURVE

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

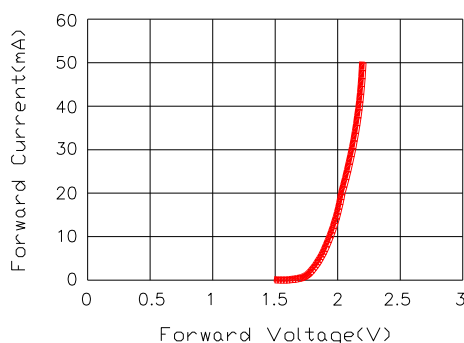


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

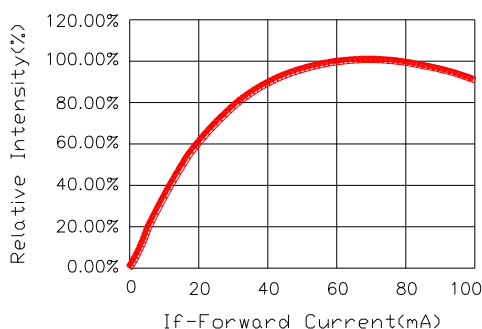


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

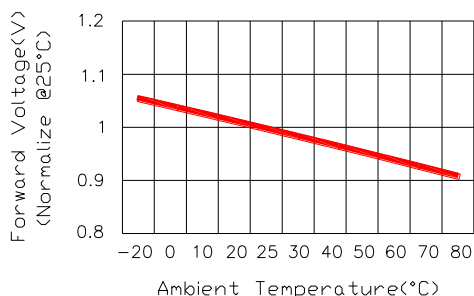


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

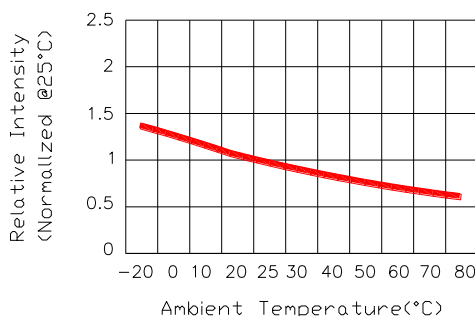


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

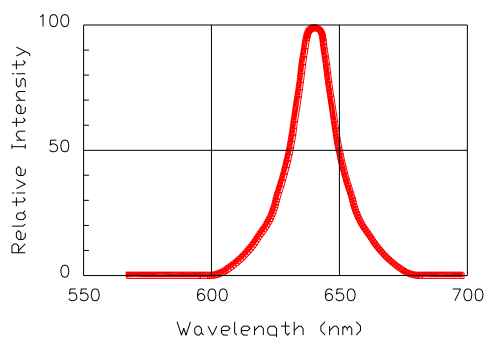


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

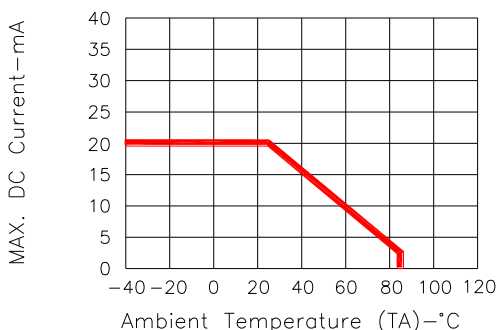


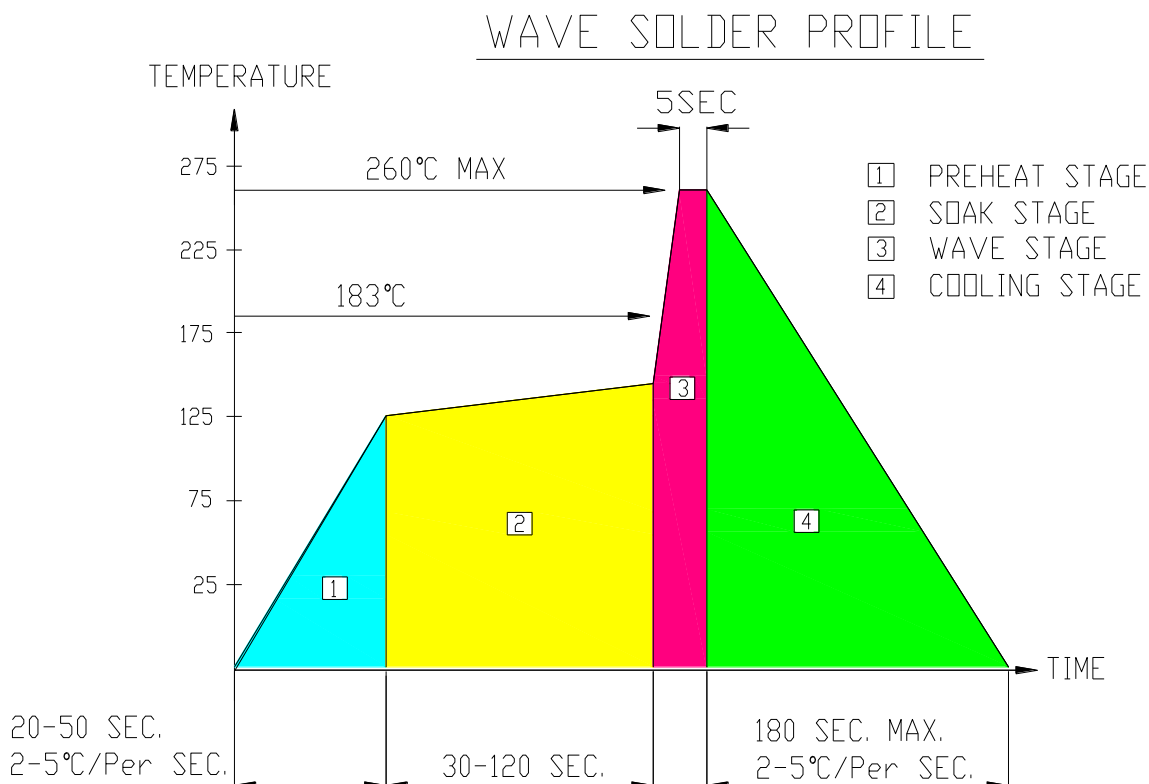
Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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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.



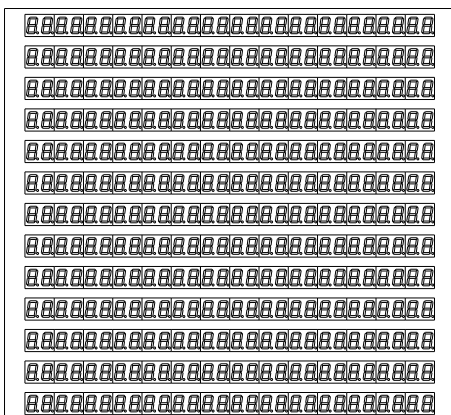
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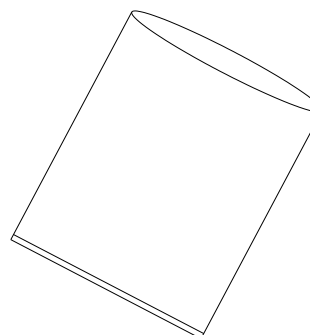
OPD-D5630LR-BW

● PACKAGE DIMENSIONS

182 PCS (14X13) / 1 Polyform

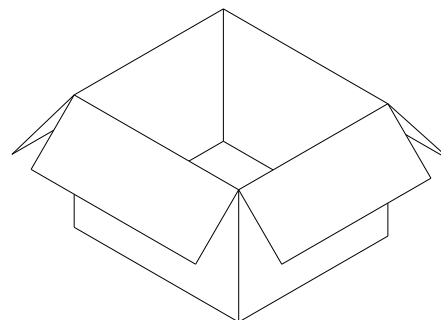


13 White Polyform / 1 BAG



BAG SIZE : 450X410X760

2366 PCS / 1 BAG / 1 OUTER CARTON



OUTER BOX SIZE : 430 x 390 x 300 mm