

**Opto Plus LED Corp.**  
**0.56" SMD Type LED Display**  
**OPS-S5620LE-GW**  
**OPS-S5621LE-GW**

● **EDIT HISTORY**

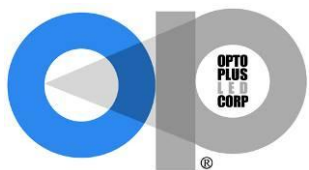
Version A: Jan. 08, 2013

Preliminary spec.

Version B: Mar. 25, 2014

1. Add package spec.
2. Add Bin and Hue data.

Manufacture	Examination	Approving



# Opto Plus LED Corp.

## 0.56" SMD Type LED Display

### OPS-S5620LE-GW

### OPS-S5621LE-GW

#### ● FEATURES

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

#### ● DESCRIPTION

The OPS-S5620LE-GW & OPS-S5621LE-GW are 0.56 inch (14.20 mm) height Single digit 7-segment displays.

This device utilizes Super Bright Red LED chip which are made from AlGaInP On a transparent GaAs, substrate.

The display has Gray face, White segment.

#### ● DEVICE

PART NO	DESCRIPTION
OPS-S5620LE-GW	Common Anode
OPS-S5621LE-GW	Common Cathode

**RoHS Compliance**



**Pb free.**

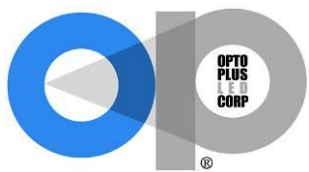


Version: B Date: 03/25/2014

Opto Plus LED Corp. 7F-3, No.496, Bannan Road, Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C)

Website: [www.opled.com.tw](http://www.opled.com.tw) E-mail: [sales@opled.com.tw](mailto:sales@opled.com.tw) Tel: 886-2-2222-5698 Fax: 886-2-2222-2566





# Opto Plus LED Corp.

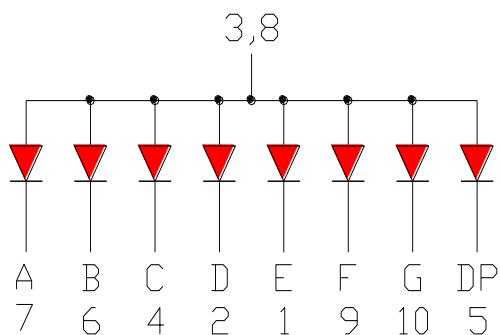
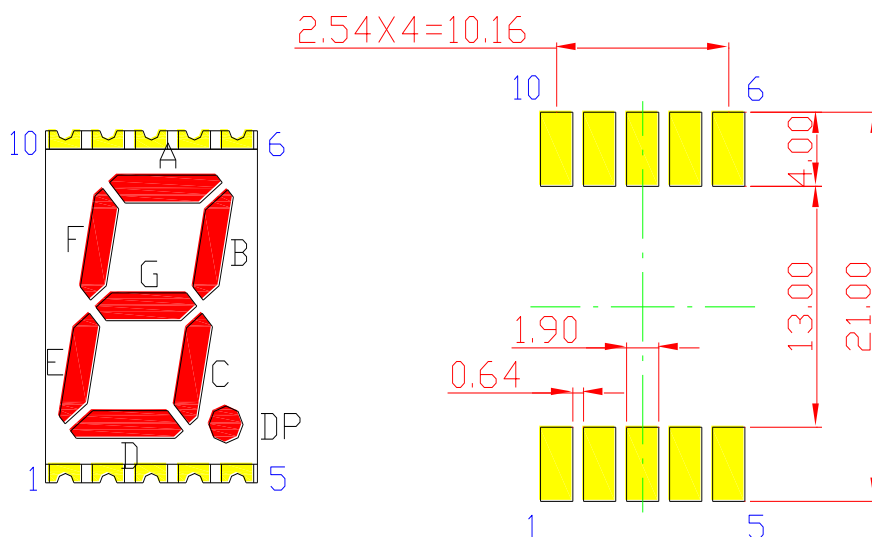
## 0.56" SMD Type LED Display

### OPS-S5620LE-GW

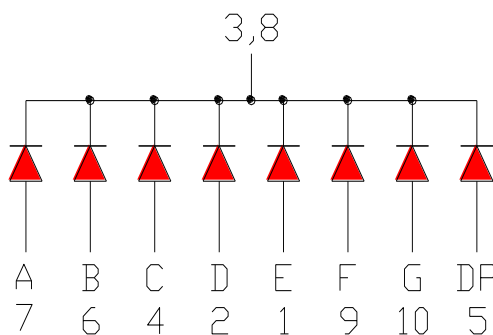
### OPS-S5621LE-GW

#### ● TYPICAL INTERNAL EQUIVALENT CIRCUIT

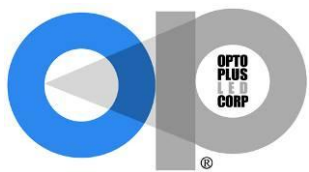
#### Recommended Soldering Pattern



**OPS-S5620LE-GW**  
( Common Anode )



**OPS-S5621LE-GW**  
( Common Cathode )



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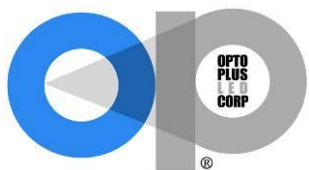
● **LE: SUPER BRIGHT RED (AlGaInP/GaAs)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P <sub>AD</sub>	70	mW
Derating liner from 25°C	-	0.28	mA / °C
Continuous forward current	I <sub>AF</sub>	25	mA
Peak current (duty cycle 1/10, 1kHz)	I <sub>PF</sub>	90	mA
Reverse voltage	V <sub>R</sub>	5	V
Operating temperature	T <sub>OPR</sub>	-40 to +105	°C
Storage temperature	T <sub>STG</sub>	-40 to +105	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage, (Per Dice)	V <sub>F</sub>	I <sub>F</sub> =20mA	-	2.0	2.6	V
Reverse Current, (Per Dice)	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	μA
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =20mA	-	632	-	nm
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> =20mA	619	-	629	nm
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	10	-	50	mcd
Spectral radiation bandwidth	Δλ	I <sub>F</sub> =20mA	-	20	-	nm



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● **LE: BIN GRADE (Unit : mcd / I<sub>F</sub> =20mA)**

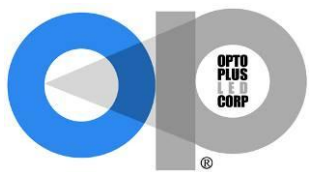
Super Bright Red	K	L	M
	10.0 - 20.0	20.1 - 35.0	35.1 - 50.0

● **LE: HUE GRADE ( $\lambda_D$  : nm)**

1	2	3
619.0 – 622.0	622.1 – 626.0	626.1 – 629.0

● **AVAILABLE BIN / HUE TABLE**

K1	L1	M1
K2	L2	M2
K3	L3	M3



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## 0.56" SMD Type LED Display

### OPS-S5620LE-GW

### OPS-S5621LE-GW

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

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

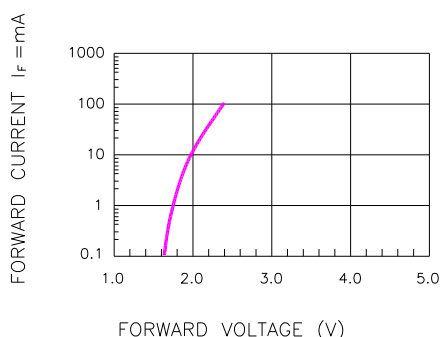


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

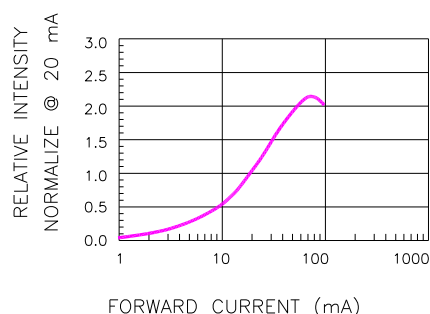


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

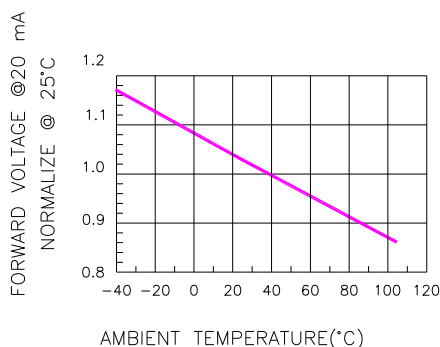


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

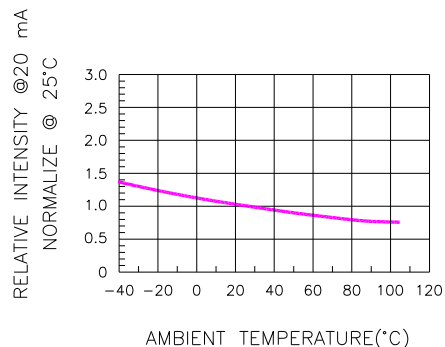


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

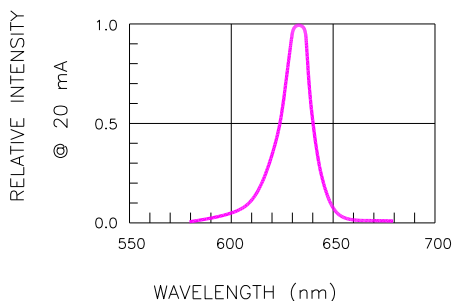


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

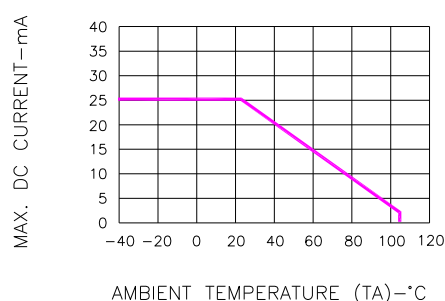
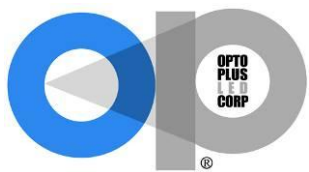


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

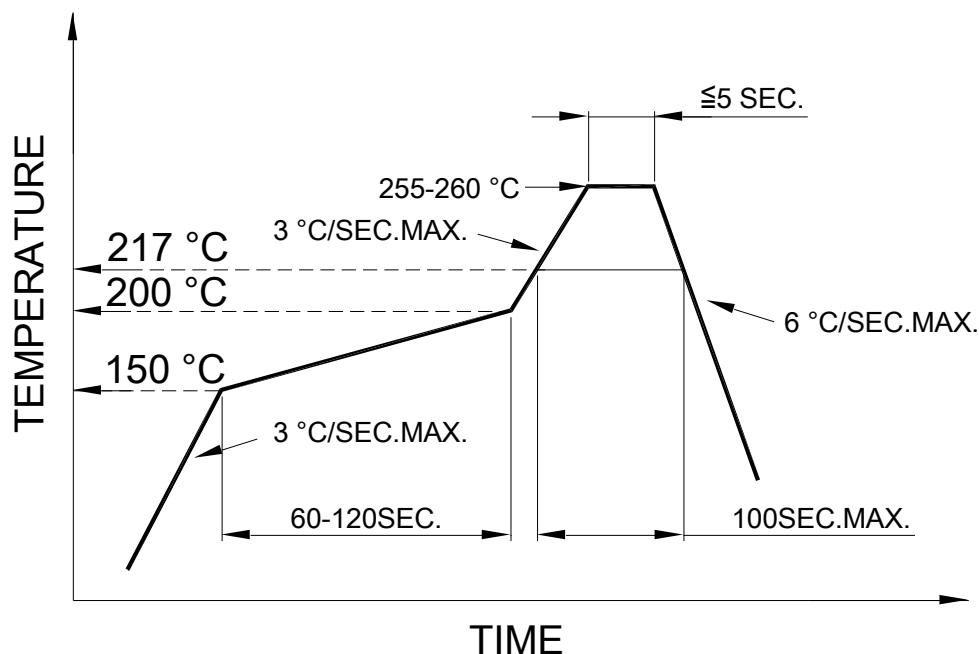


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● **RECOMMEND SOLDERING PROFILE**

SMT Soldering Profile

Pb free reflow soldering Profile



● **SOLDERING IRON**

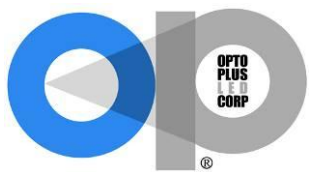
Basic specification :  $\leq 4$  seconds when 260°C, If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

● **REWORK**

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

The head of soldering iron cannot touch copper foil.





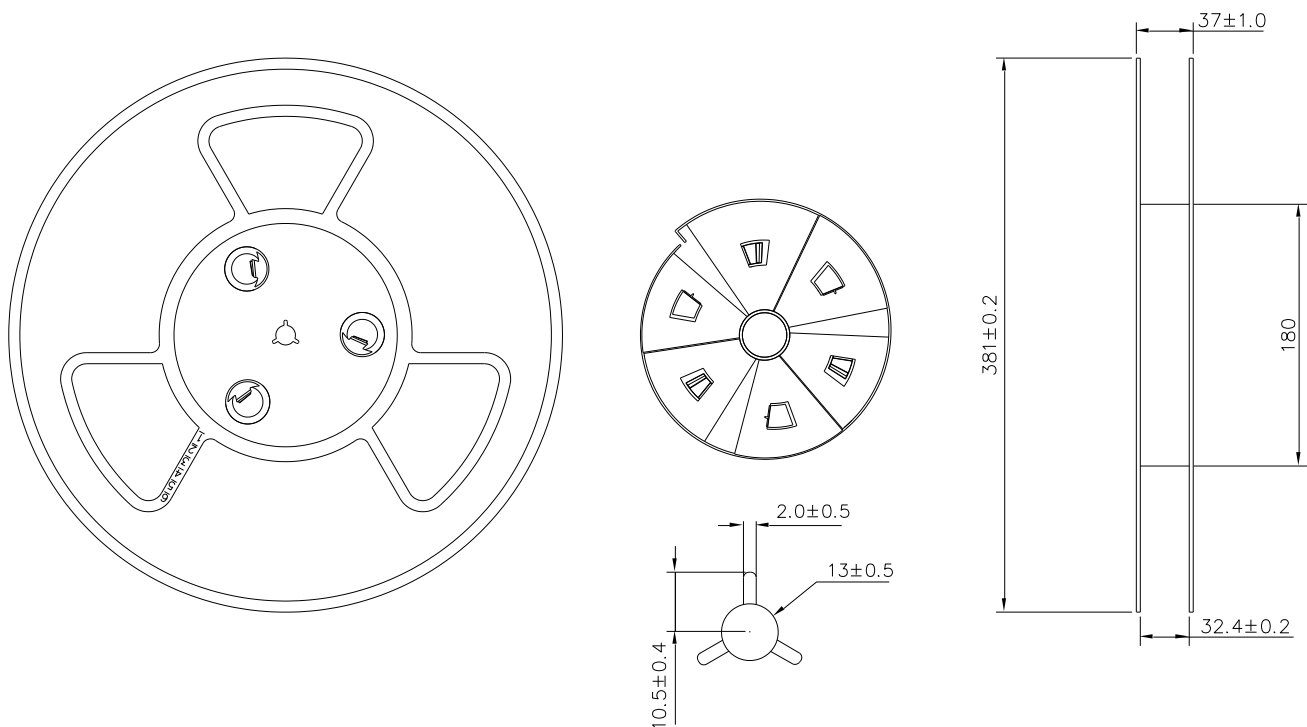
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#### ● REEL DIMENSIONS



#### ● PACKING & LABEL SPECIFICATIONS

