

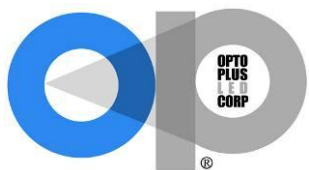
**Opto Plus LED Corp.**  
**0.56" SMD Type LED Display**  
**OPS-S5620PG-GW**  
**OPS-S5621PG-GW**

● **EDIT HISTORY**

Version A: Mar. 05, 2015

Preliminary spec.

Manufacture	Examination	Approving



**Opto Plus LED Corp.**  
**0.56" SMD Type LED Display**  
**OPS-S5620PG-GW**  
**OPS-S5621PG-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-S5620PG-GW & OPS-S5621PG-GW are 0.56 inch (14.20 mm) height Single digit 7-segment displays.

This device utilizes Pure Green chip which are made from InGaN on a transparent GaN, substrate.

The display has Gray face, White segment.

● **DEVICE**

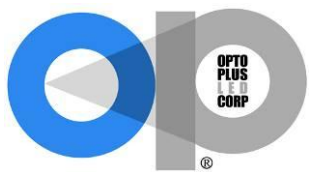
PART NO	DESCRIPTION
OPS-S5620PG-GW	Common Anode
OPS-S5621PG-GW	Common Cathode

**RoHS Compliance**



**Pb free.**





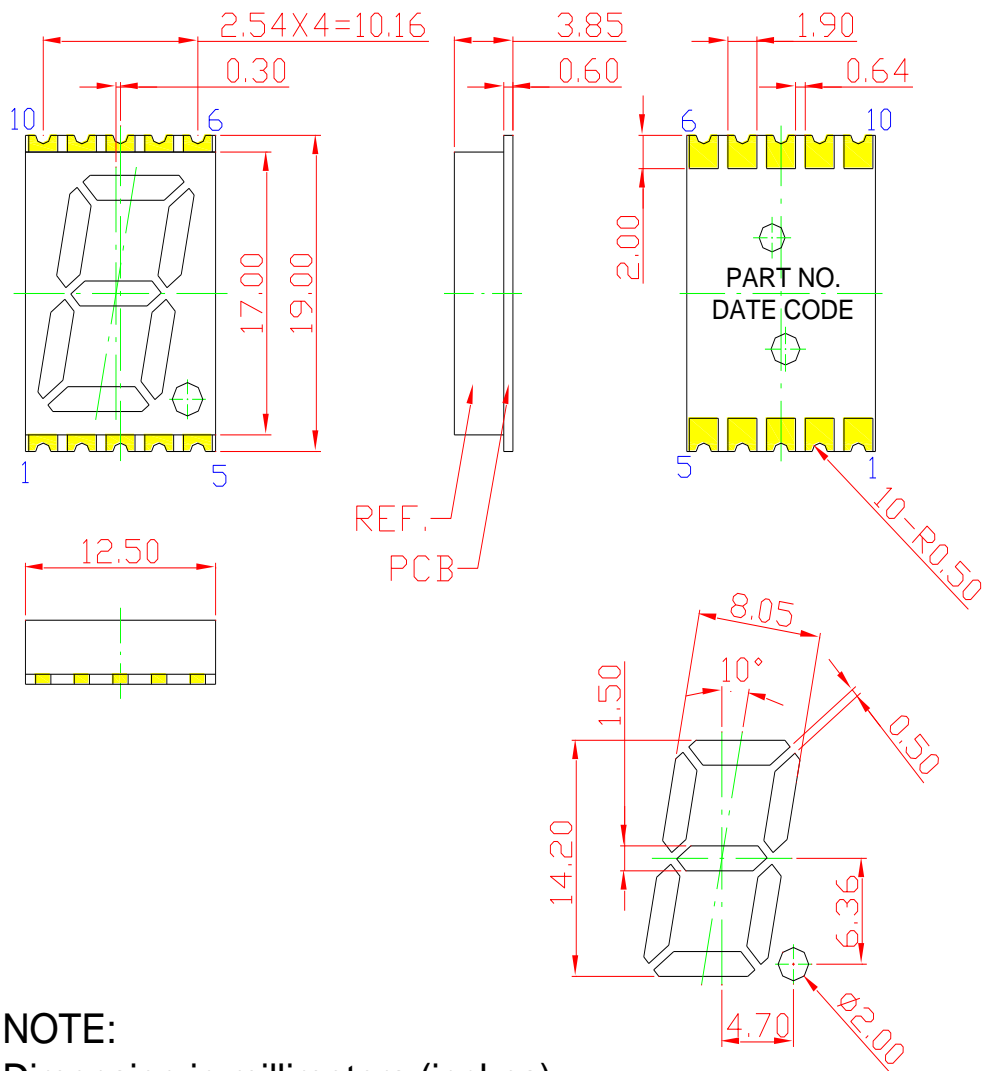
# Opto Plus LED Corp.

## 0.56" SMD Type LED Display

### OPS-S5620PG-GW

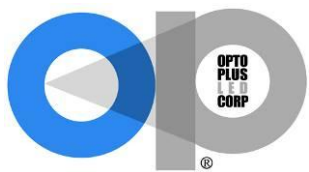
### OPS-S5621PG-GW

#### ● MECHANICAL DIMENSIONS



#### NOTE:

Dimension in millimeters (inches),  
and tolerances are  $\pm 0.25\text{mm}$  (.01") specified.



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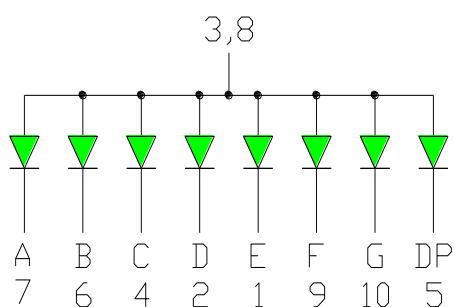
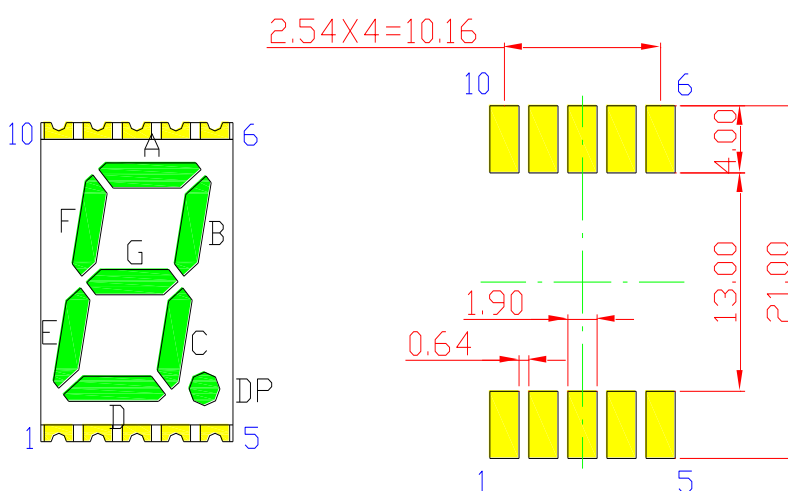
## 0.56" SMD Type LED Display

### OPS-S5620PG-GW

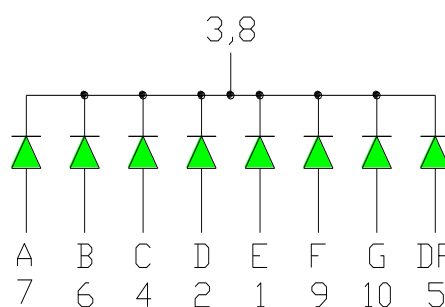
### OPS-S5621PG-GW

#### ● TYPICAL INTERNAL EQUIVALENT CIRCUIT

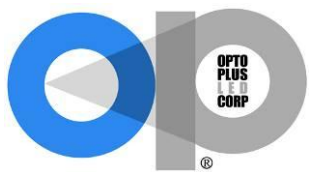
#### Recommended Soldering Pattern



**OPS-S5620PG-GW**  
( Common Anode )



**OPS-S5621PG-GW**  
( Common Cathode )



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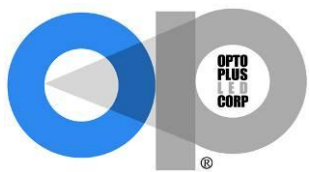
● **PG: PURE GREEN (InGaN/GaN)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P <sub>AD</sub>	120	mW
Derating liner from 25°C	-	0.3	mA / °C
Continuous forward current	I <sub>AF</sub>	30	mA
Peak current (duty cycle 1/10, 1kHz)	I <sub>PF</sub>	100	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	-	3.2	4.0	V
Reverse Current, (Per Dice)	I <sub>R</sub>	V <sub>R</sub> =8V	-	-	10	μA
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> =20mA	515	-	530	nm
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	50	90	130	mcd
Spectral radiation bandwidth	Δλ	I <sub>F</sub> =20mA	-	30	-	nm



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**OPS-S5620PG-GW**  
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● **PG: BIN GRADE (Unit : mcd / I<sub>F</sub> =20mA)**

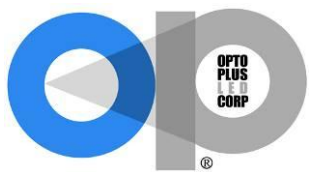
PURE GREEN	O	P	Q
	50.0 – 75.0	75.1 – 100.0	100.1 – 130.0

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

1	2	3
515.0 – 520.0	520.1 – 525.0	525.1 – 530.0

● **AVAILABLE BIN / HUE TABLE**

O1	P1	Q1
O2	P2	Q2
O3	P3	Q3



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## 0.56" SMD Type LED Display

### OPS-S5620PG-GW

### OPS-S5621PG-GW

#### ● PG: PURE GREEN (InGaN/GaN) CURVE

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

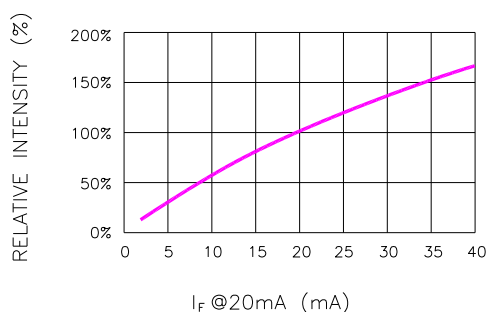


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

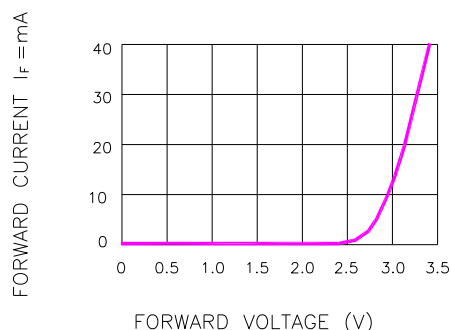


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

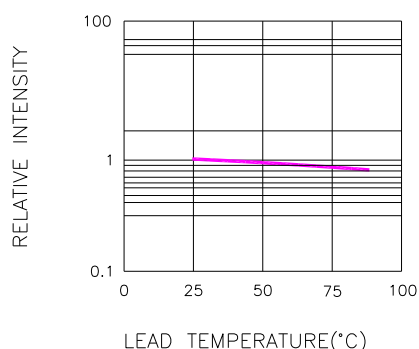


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE  
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

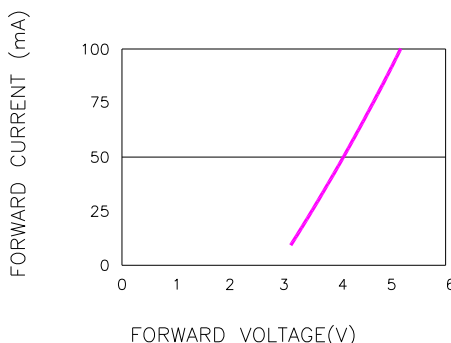


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

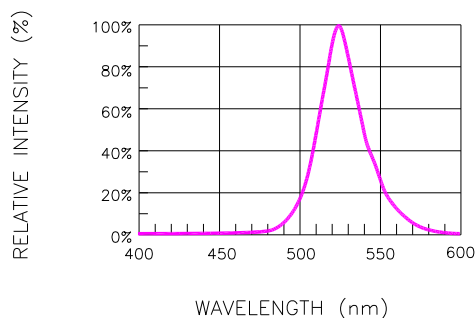


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

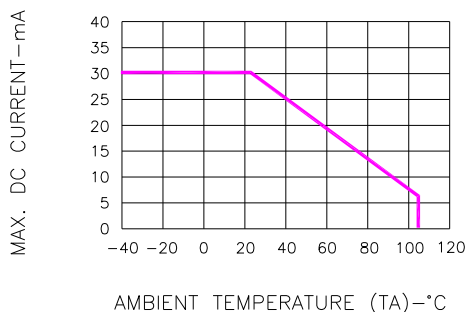
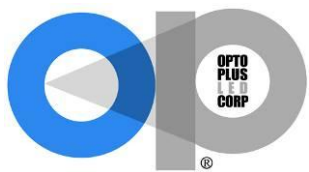


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

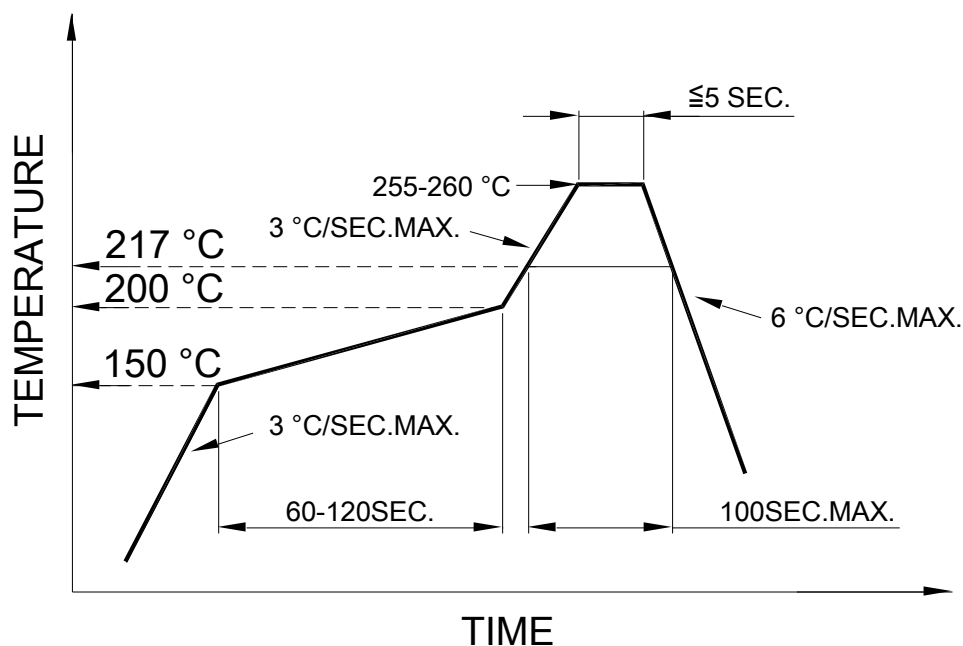


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● **SMT REFLOW SOLDERING INSTRUCTIONS**

SMT Soldering Profile

Pb free reflow soldering Profile



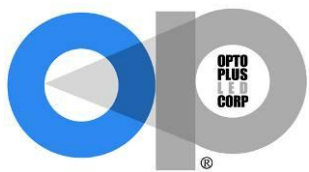
● **SOLDERING IRON**

Basic spec is  $\leq 4$  sec when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow 1$  sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

● **REWORK**

- Customer must finish rework within 3 sec. under  $350^{\circ}\text{C}$ .
- The head of soldering iron cannot touch copper foil.





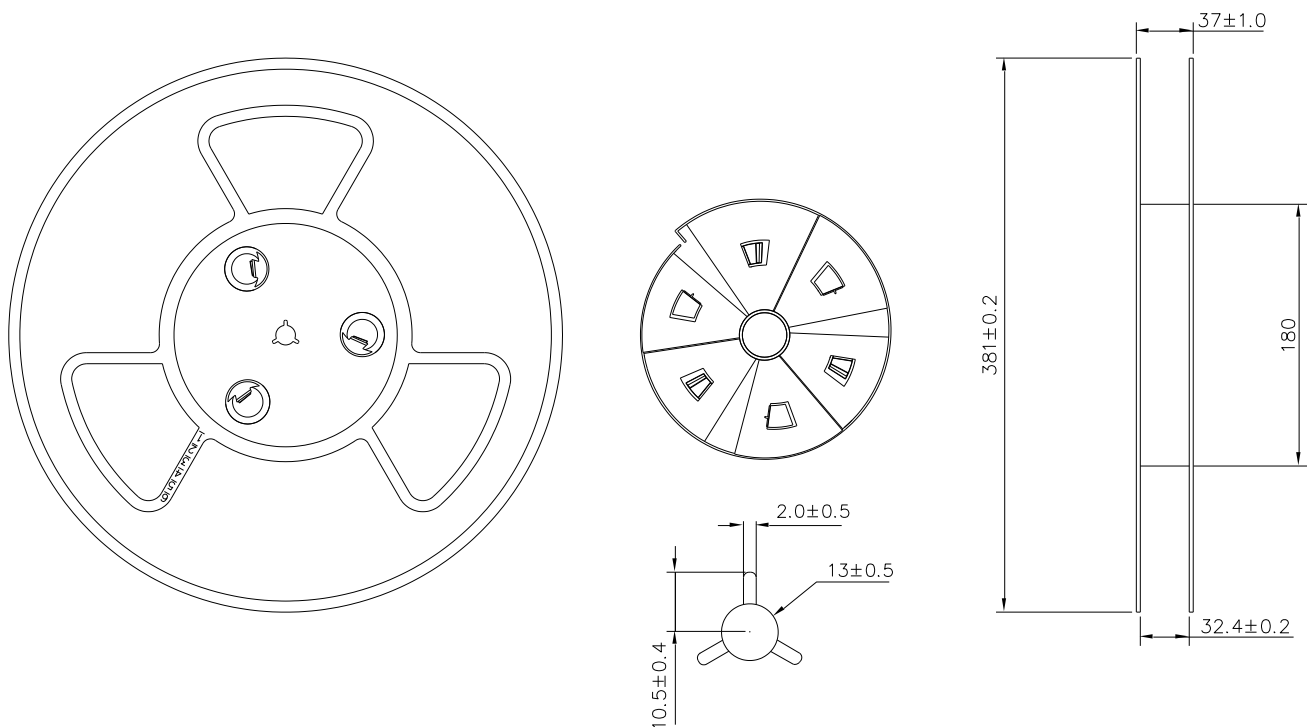
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## 0.56" SMD Type LED Display

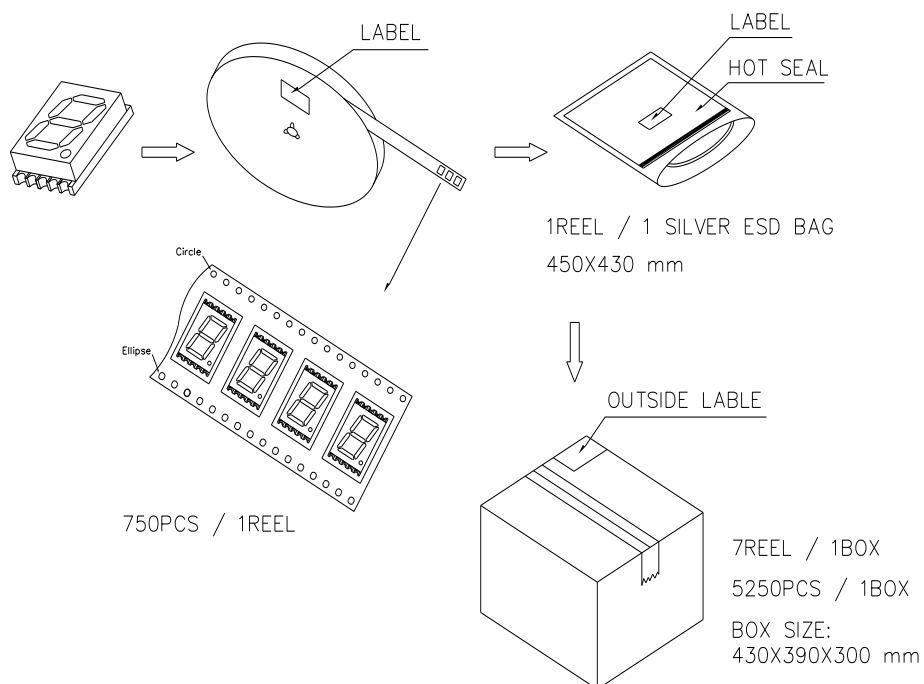
### OPS-S5620PG-GW

### OPS-S5621PG-GW

#### ● REEL DIMENSIONS



#### ● PACKING & LABEL SPECIFICATIONS



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