

Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

● **EDIT HISTORY**

Version A: Apr. 23, 2014

Preliminary spec.

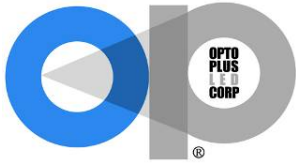
Version B: Apr. 24, 2015

Modify IV min. data, from 5.0 mcd to 2.0 mcd.

Version C: Apr. 29, 2015

Modify mechanical dimensions

Manufacture	Examination	Approving



Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

● **FEATURES**

- 0.30 inch (7.62 mm) Digit Height.
- Low current operation.
- SMD type.
- Gray face, White segment.
- RoHS compliant, Pb Free.

● **DESCRIPTION**

The OPS-D3010LB-GW & OPS-D3011LB-GW are 0.30 inch (7.62mm) height Dual digit 7-segment displays.

This device utilizes Super Bright Blue LED chip which are made from InGaN On a transparent GaN, substrate.

The display has Gray face, White segment.

● **DEVICE**

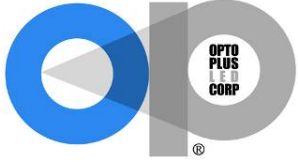
PART NO	DESCRIPTION
OPS-D3010LB-GW	Common Anode
OPS-D3011LB-GW	Common Cathode

RoHS Compliance



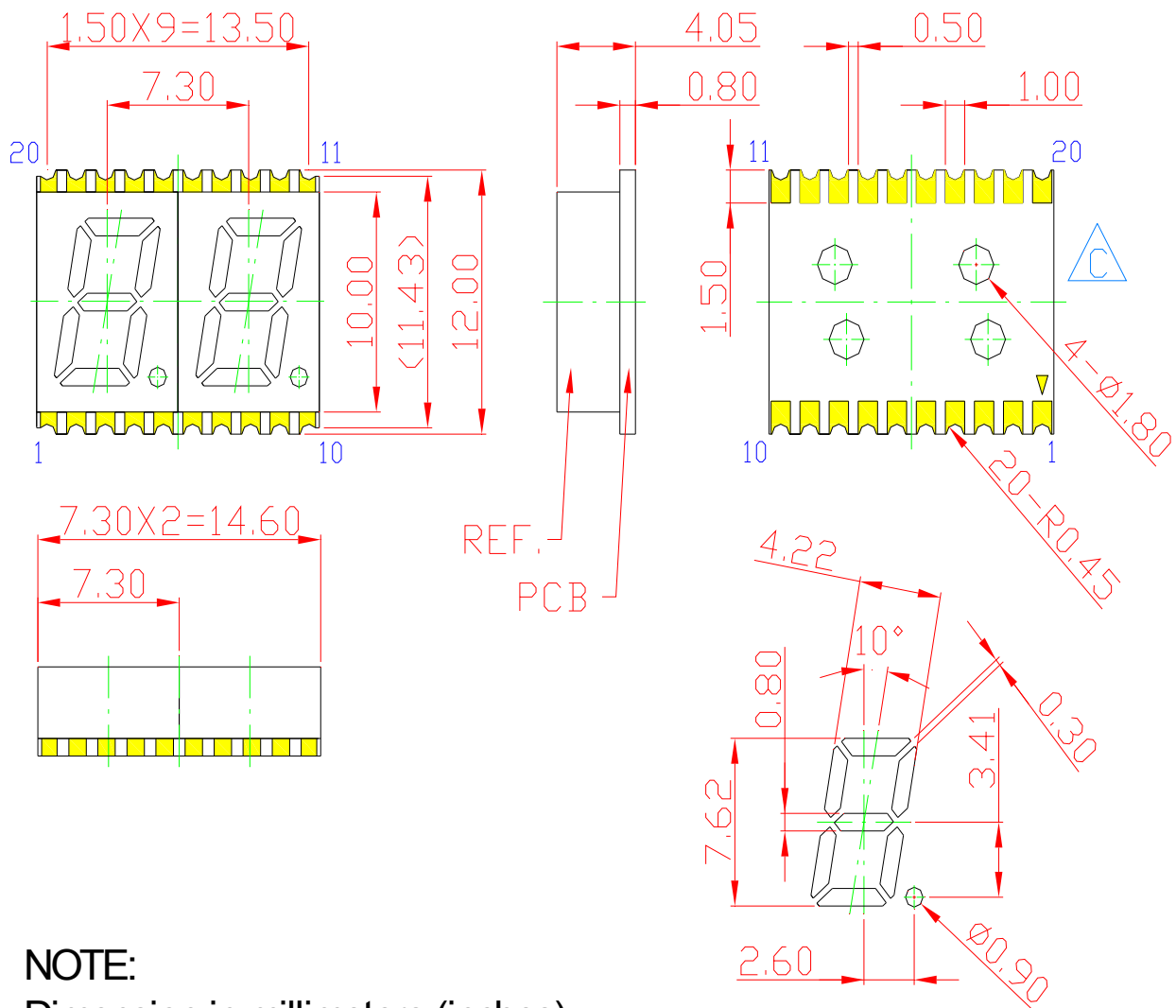
Pb free.



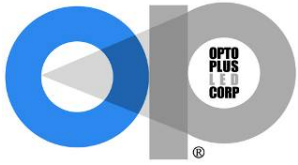


Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

● **MECHANICAL DIMENSIONS**



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



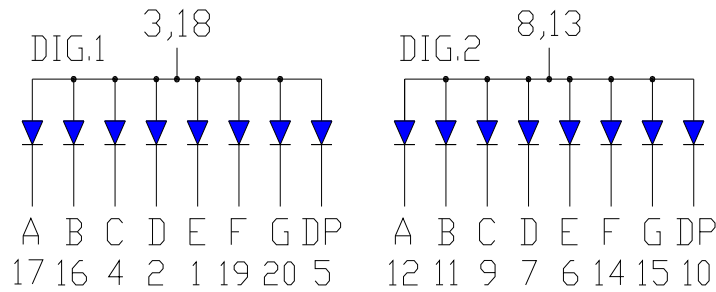
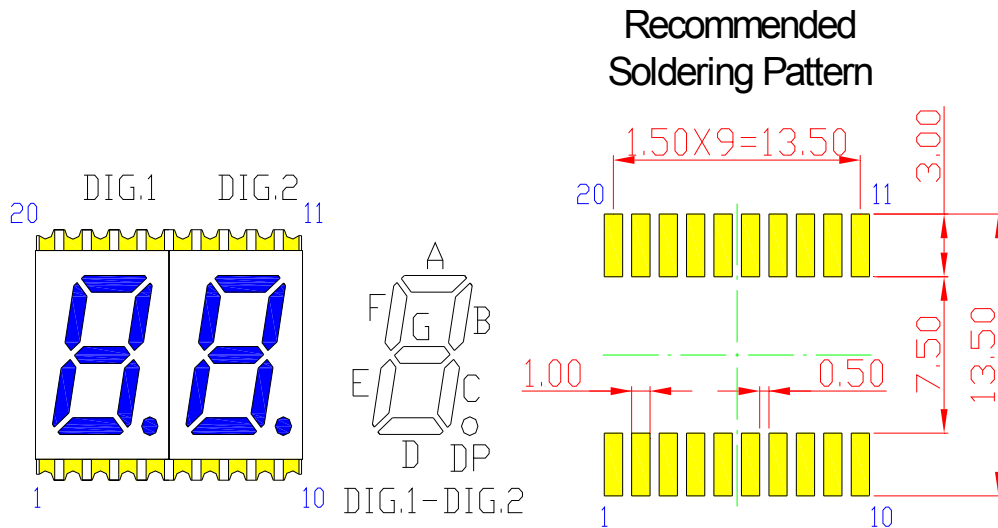
Opto Plus LED Corp.

0.30" SMD Type LED Display

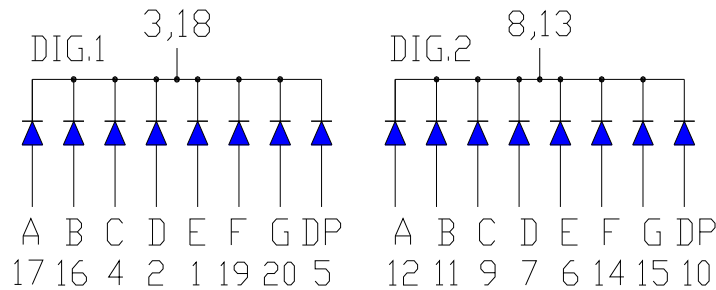
OPS-D3010LB-GW

OPS-D3011LB-GW

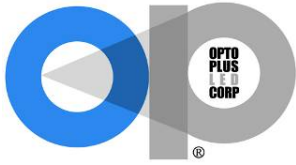
● TYPICAL INTERNAL EQUIVALENT CIRCUIT



OPS-D3010LB-GW (Common Anode)



OPS-D3011LB-GW (Common Cathode)



Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

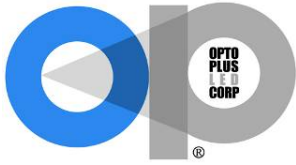
● **LB: SUPER BRIGHT BLUE (InGaN/GaN)**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P _{AD}	120	mW
Derating liner from 25°C	-	0.3	mA / °C
Continuous forward current	I _{AF}	20	mA
Peak current (duty cycle 1/10, 1kHz)	I _{PF}	100	mA
Reverse voltage	V _R	5	V
Operating temperature	T _{OPR}	-40 to +105	°C
Storage temperature	T _{STG}	-40 to +105	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage, (Per Dice)	V _F	I _F = 20mA	-	3.2	4.0	V
Reverse Current, (Per Dice)	I _R	V _R = 8V	-	-	10	μA
Dominant Wavelength	λ _D	I _F = 20mA	464	-	474	nm
Luminous Intensity	I _V	I _F = 20mA	2	-	20	mcd
Spectral radiation bandwidth	Δλ	I _F = 20mA	-	30	-	nm



Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

- LB: BIN GRADE (Unit : mcd) 8V / 20mA

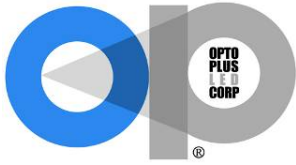
Super Bright Blue	G	H	I
	2.0 – 10.0	10.1 – 15.0	15.1 – 20.0

- LB: HUE GRADE (λ_D : nm)

Super Bright Blue	1	2
	464 ~ 470	470.1 ~ 474

- AVAILABLE BIN / HUE TABLE

G1	G2
H1	H2
I1	I2



Opto Plus LED Corp.

0.30" SMD Type LED Display

OPS-D3010LB-GW

OPS-D3011LB-GW

● LB: SUPER BRIGHT BLUE (InGaN/GaN) CURVE

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

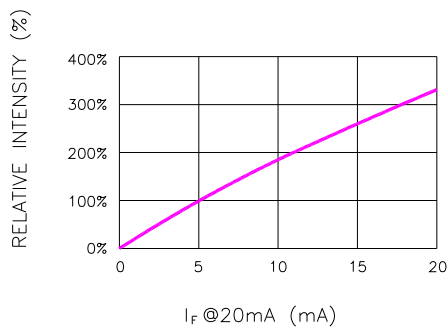


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

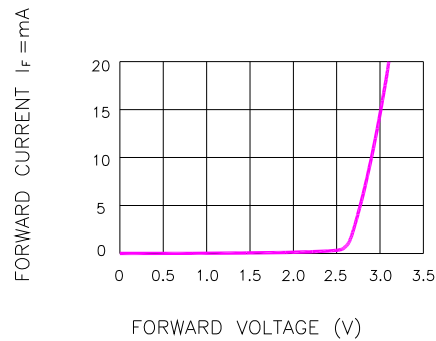


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

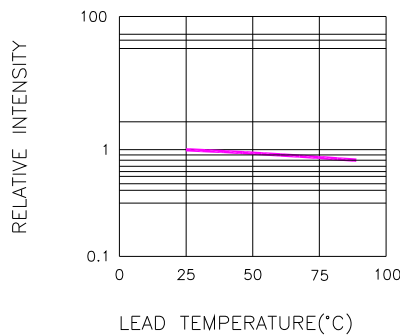


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

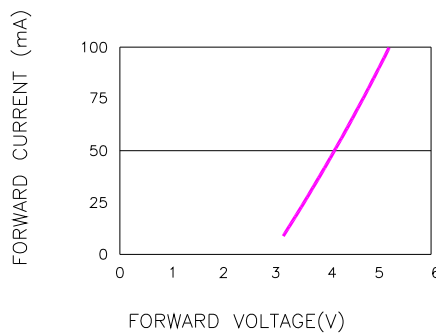


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

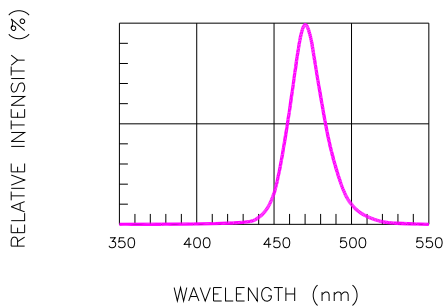


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

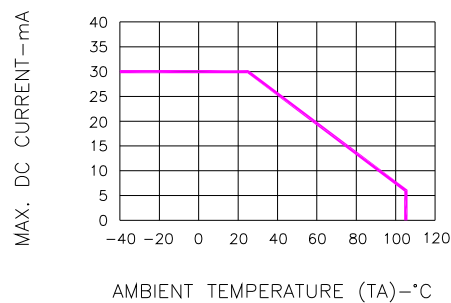
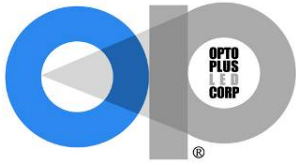


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

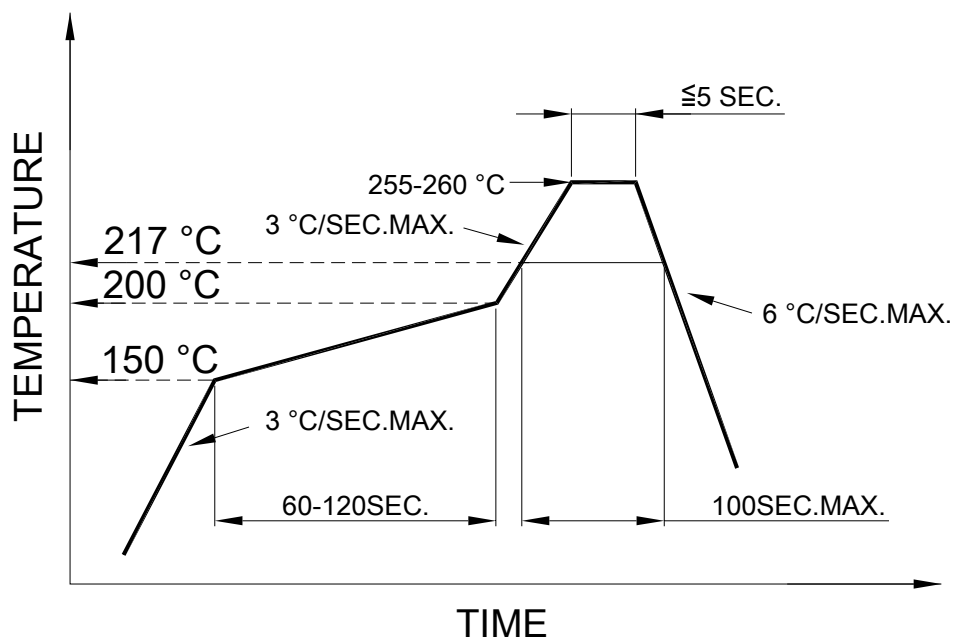


Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

● **RECOMMEND SOLDERING PROFILE**

SMT Soldering Profile

Pb free reflow soldering Profile



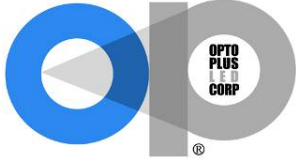
● **SOLDERING IRON**

Basic specification : ≤ 4 seconds when 260°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°C .

● **REWORK**

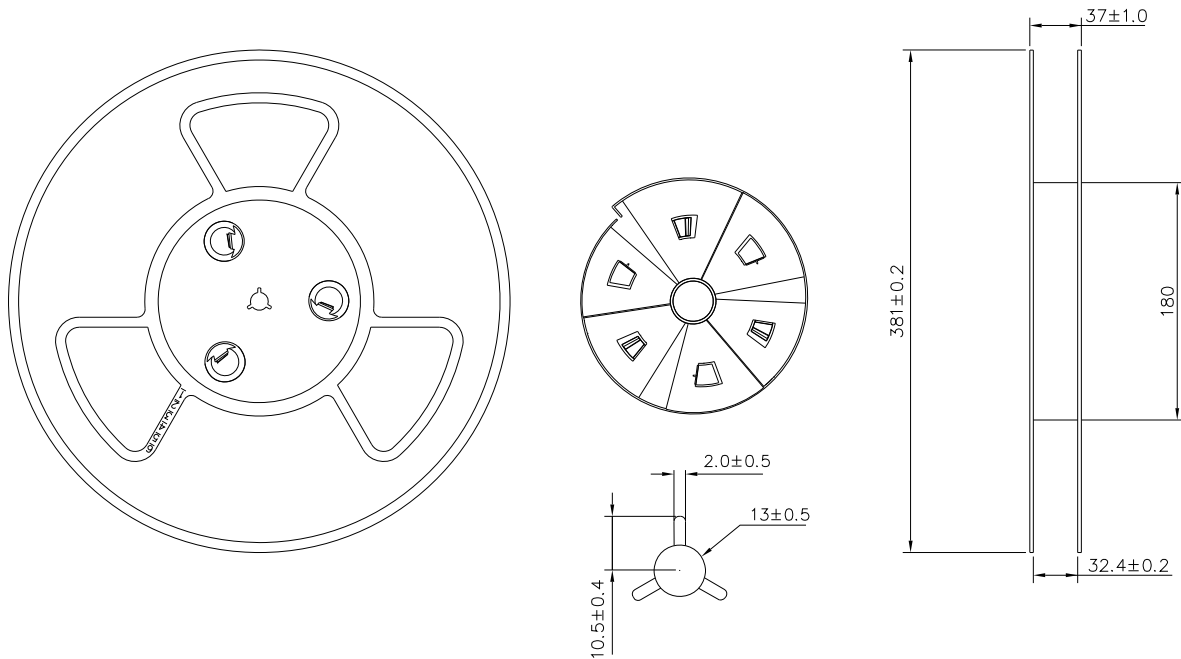
Customer must finish rework within 3 sec. under 350°C .

The head of soldering iron cannot touch copper foil.



Opto Plus LED Corp.
0.30" SMD Type LED Display
OPS-D3010LB-GW
OPS-D3011LB-GW

● **REEL DIMENSIONS**



● **PACKING & LABEL SPECIFICATIONS**

