



American Opto Plus LED Corp.
SMD Type LED Display
SMA-B500PG G/W

● **EDIT HISTORY**

Version A: Nov. 26, 2013

Preliminary spec.



American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● FEATURES

- Bar graph display.
- Excellent character appearance.
- Wide viewing angle.
- Gray face, white bar.
- Super Thin SMD Type.
- RoHS compliant, Pb Free.

● DESCRIPTION

The SMA-B500PG G/W is a rectangular bar graph display.

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

The display has Gray face and white bars.

● DEVICE

PART NO	DESCRIPTION
Pure Green	Common Anode
SMA-B500PG G/W	

RoHS Compliance



Pb free.



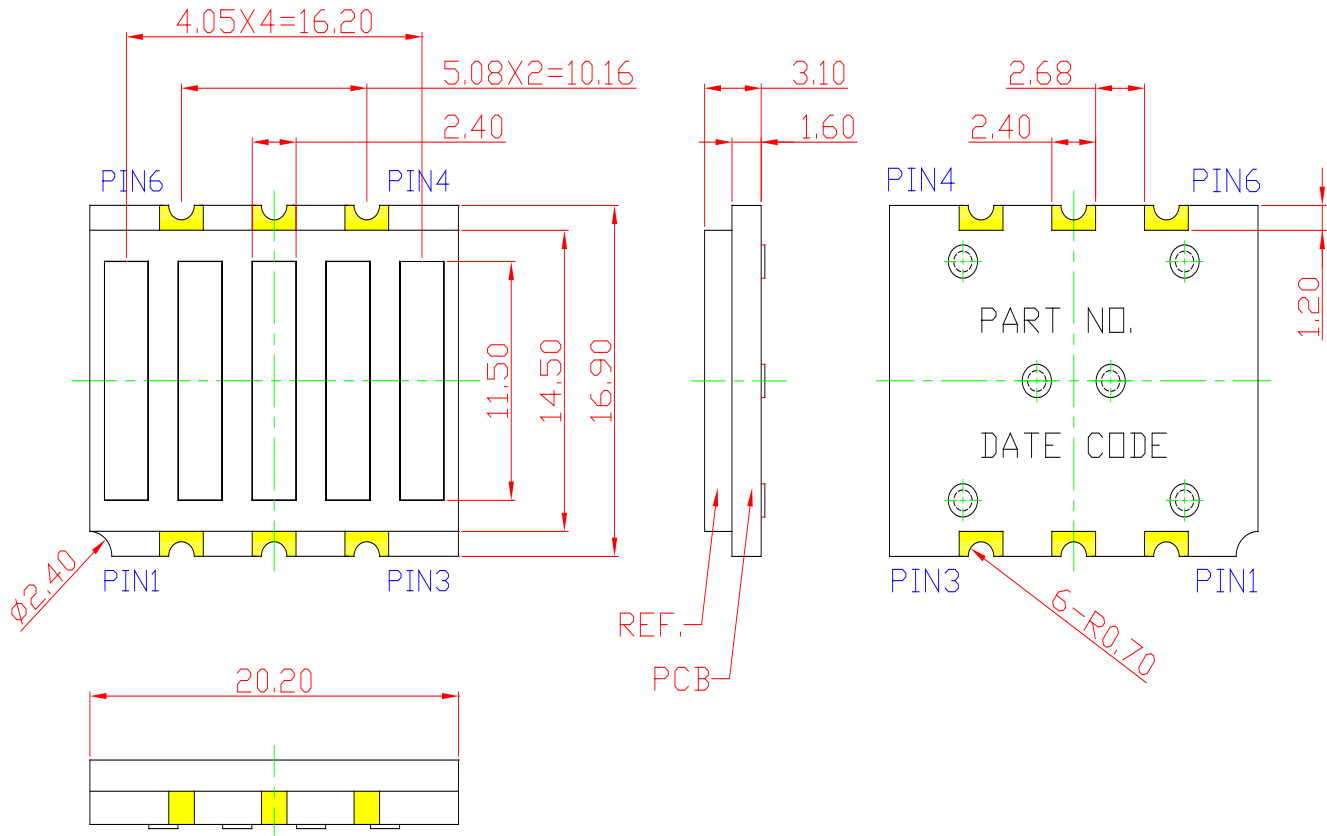


American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● MECHANICAL DIMENSIONS



NOTE:

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



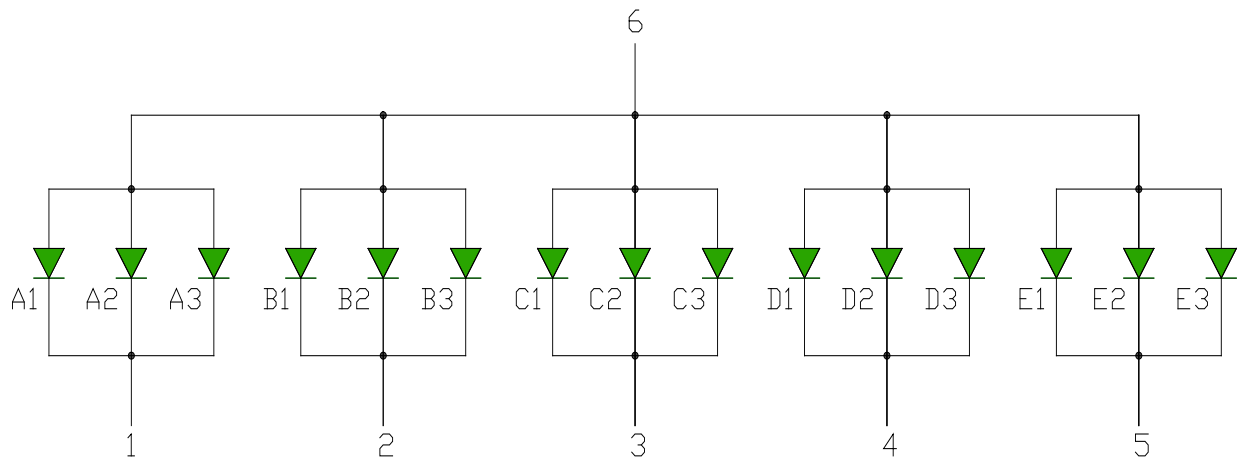
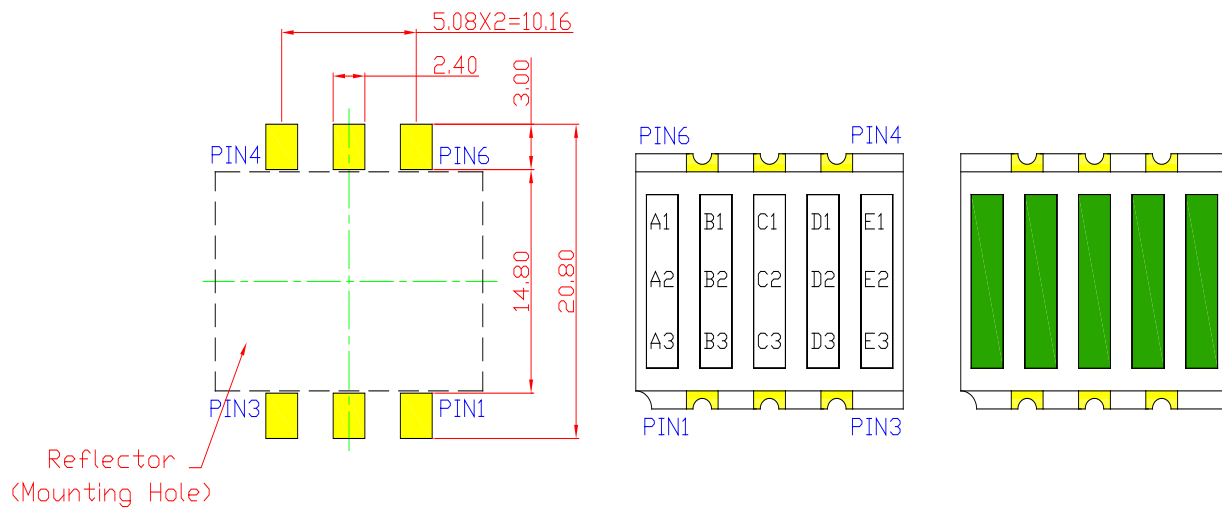
American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● INTERNAL CIRCUIT DIAGRAM PIN CONNECTION

Recommended
Reverse Mount
Solder Pattern





American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● PG: PURE GREEN (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P_{AD}	120	mW
Derating liner from 25°C	-	0.3	mA / $^{\circ}\text{C}$
Continuous forward current	I_{AF}	30	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	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-40 to +105	$^{\circ}\text{C}$

ELECTRICAL - OPTICAL CHARACTERISTICS AT $T_a=25^{\circ}\text{C}$

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage, (Per Dice)	V_F	$I_F = 20\text{mA}$	-	3.2	4.0	V
Reverse Current, (Per Dice)	I_R	$V_R = 8\text{V}$	-	-	10	μA
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	-	525	-	nm
Luminous Intensity	I_V	$I_F = 20\text{mA}$	-	120	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	30	-	nm



American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● PG: PURE GREEN (InGaN/GaN) CURVE

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

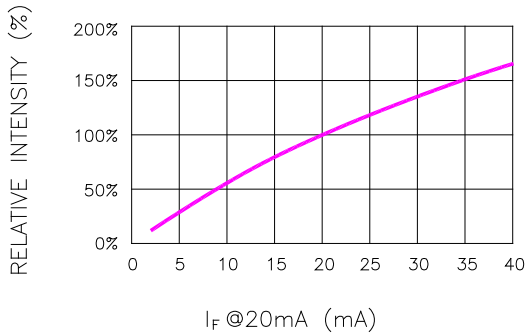


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

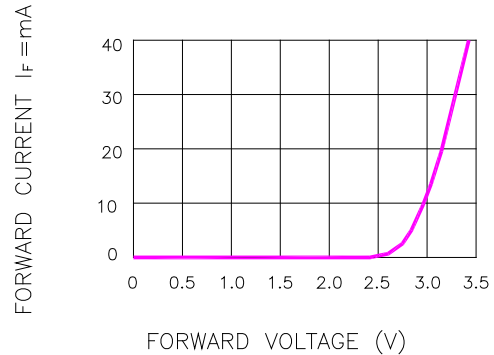


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

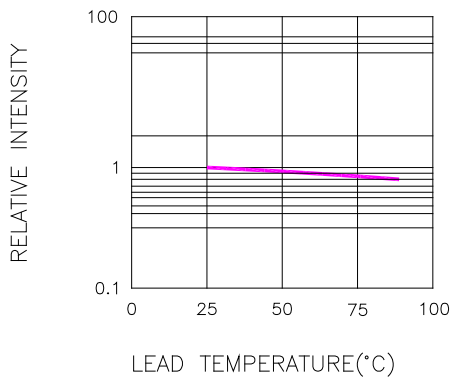


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

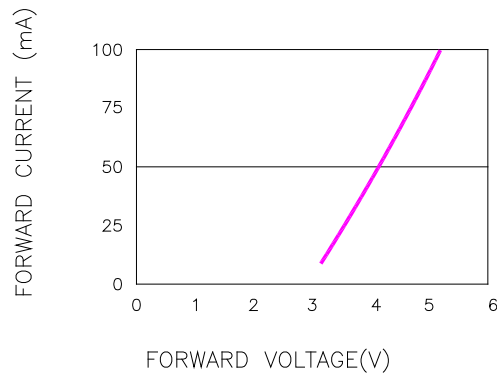


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

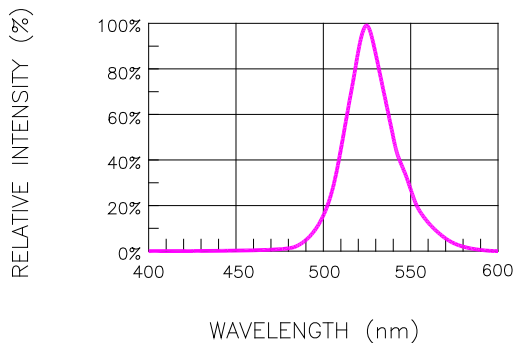


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

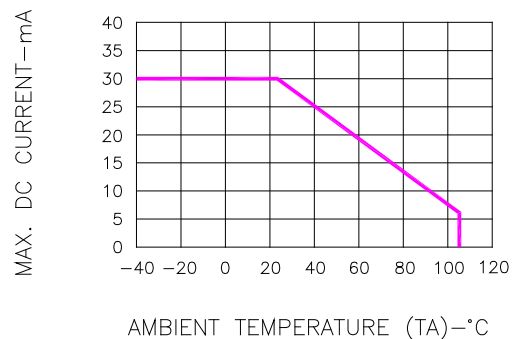


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



American Opto Plus LED Corp.

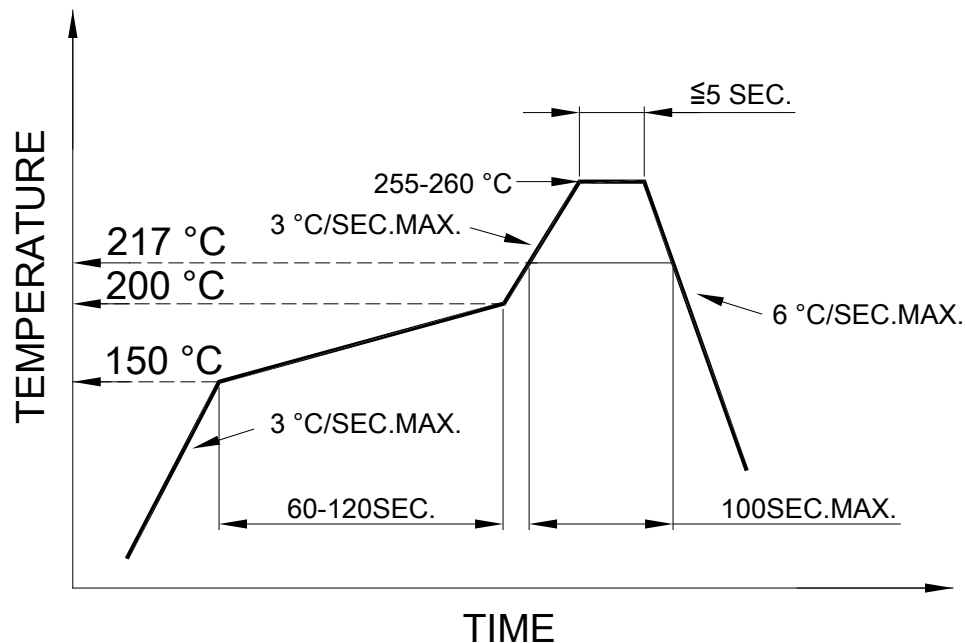
SMD Type LED Display

SMA-B500PG G/W

● SMT REFLOW SOLDERING INSTRUCTIONS

SMT Soldering Profile

Pb free reflow soldering Profile



● SOLDERING IRON

Basic spec is ≤ 4 sec 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.

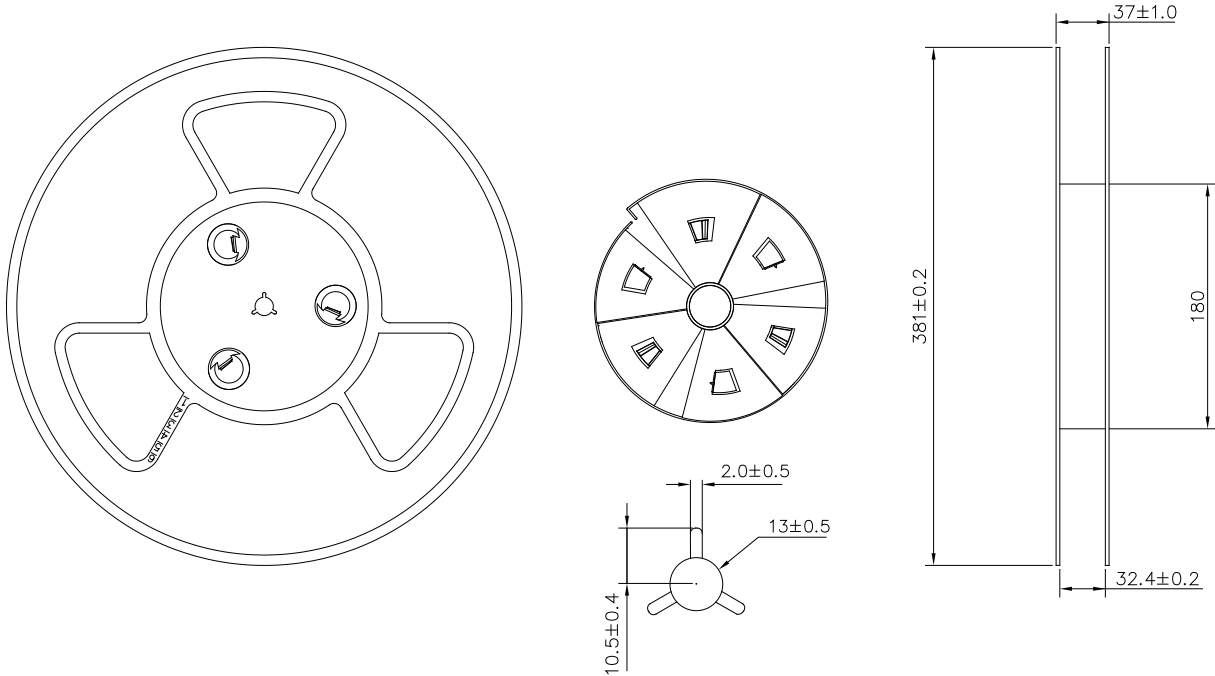


American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500PG G/W

● REEL DIMENSIONS



● PACKING & LABEL SPECIFICATIONS

