



American Opto Plus LED Corp.
SMD Type LED Display
SMA-B500LA G/W

● **EDIT HISTORY**

Version A: Nov. 26, 2013

Preliminary spec.



American Opto Plus LED Corp.

SMD Type LED Display

SMA-B500LA 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-B500LA G/W is a rectangular bar graph display.

This device utilizes Super Bright Amber LED chip which are made from AlGaInP on a transparent GaAs substrate.

The display has Gray face and white bars.

● DEVICE

PART NO	DESCRIPTION
Super Bright Amber	Common Anode
SMA-B500LA G/W	

RoHS Compliance



Pb free.





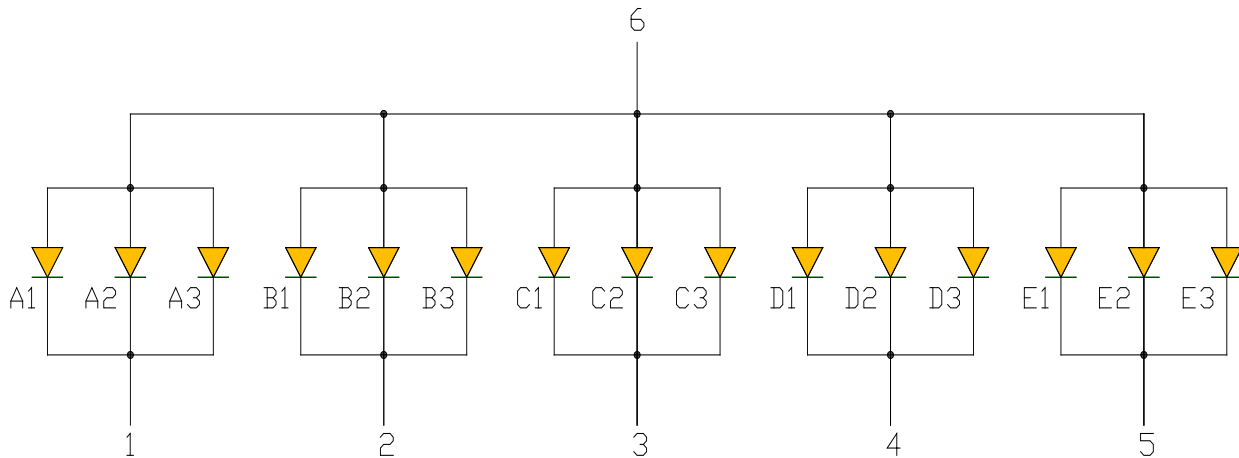
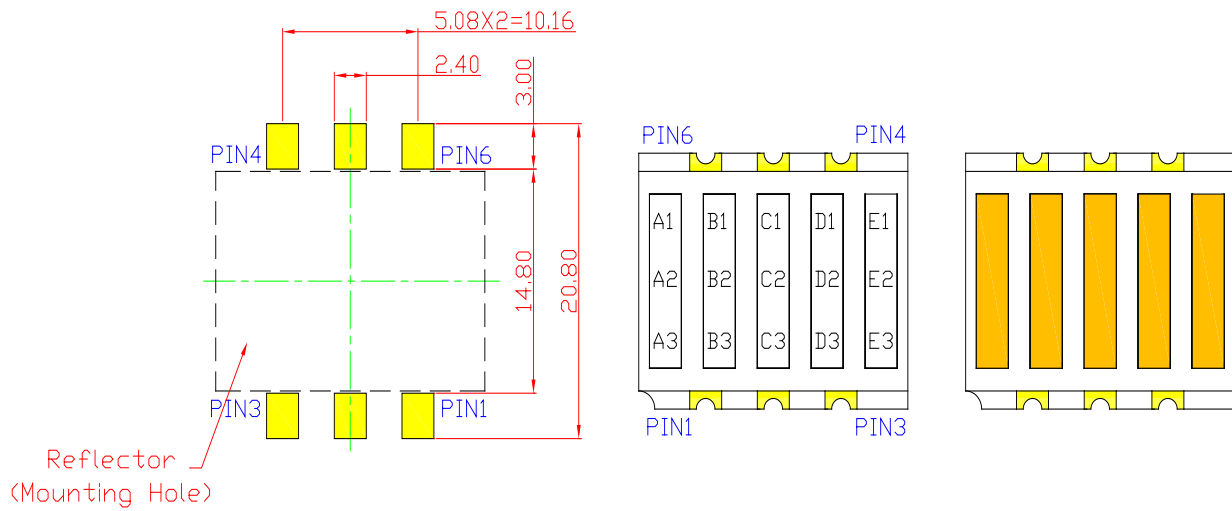
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● INTERNAL CIRCUIT DIAGRAM PIN CONNECTION

Recommended
Reverse Mount
Solder Pattern





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● LA: SUPER BRIGHT AMBER (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P_{AD}	70	mW
Derating liner from 25°C	-	0.28	mA / °C
Continuous forward current	I_{AF}	25	mA
Peak current (duty cycle 1/10, 1kHz)	I_{PF}	90	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	$I_F = 20\text{mA}$	-	2.0	2.6	V
Reverse Current, (Per Dice)	I_R	$V_R = 5\text{V}$	-	-	10	μA
Peak Wavelength	λ_P	$I_F = 20\text{mA}$	-	612	-	nm
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	-	610	-	nm
Luminous Intensity	I_V	$I_F = 20\text{mA}$	-	50	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm



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● LA: SUPER BRIGHT AMBER (AlGaInP/GaAs) CURVE

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

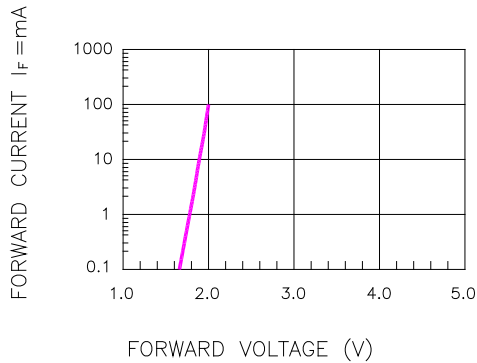


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

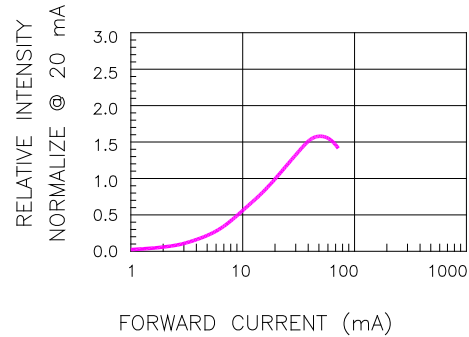


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

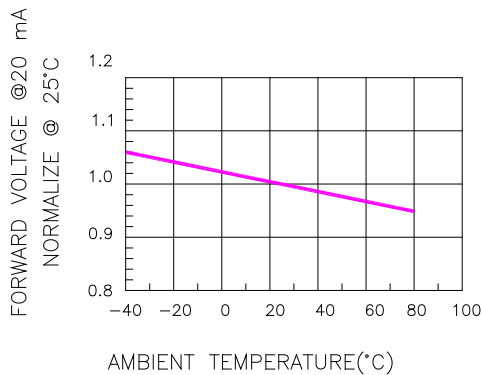


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

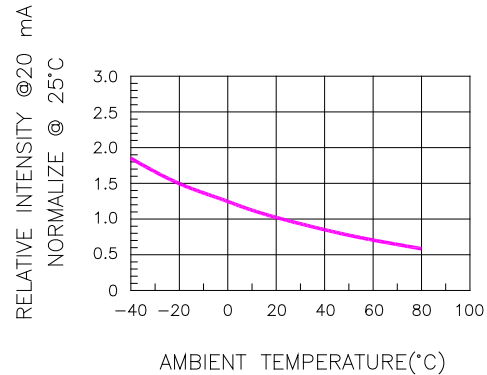


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

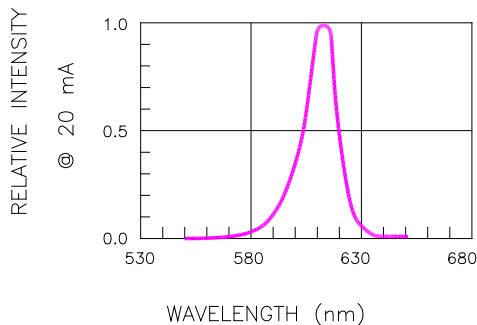


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

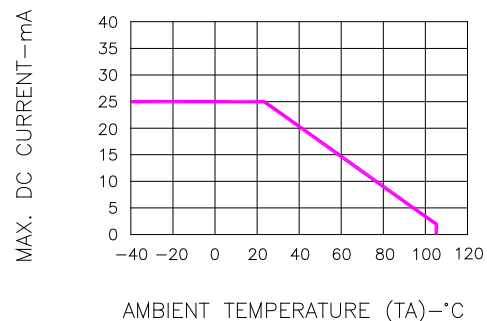


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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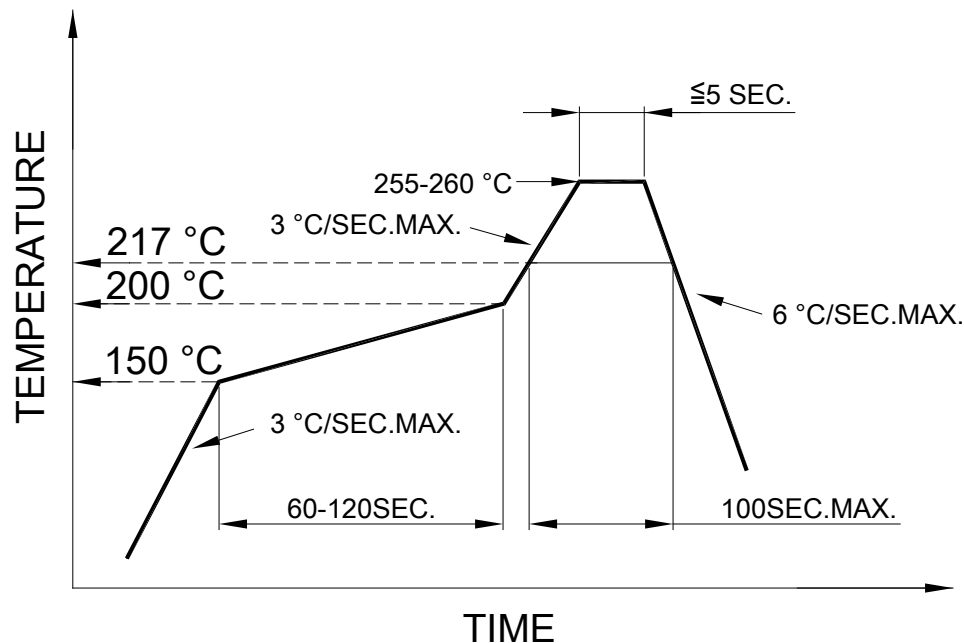
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● SMT REFLOW SOLDERING INSTRUCTIONS

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.

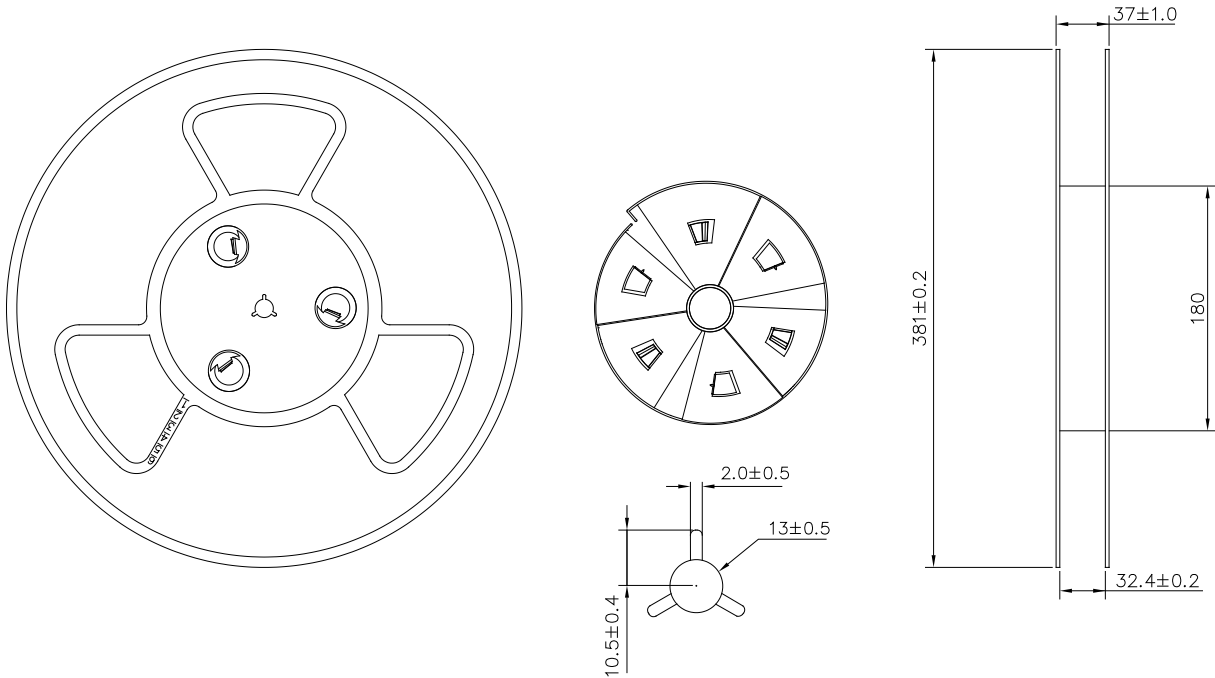


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● REEL DIMENSIONS



● PACKING & LABEL SPECIFICATIONS

