



American Opto Plus LED Corp.
0.56" SMD Type LED Display
SMC/A561LB G/W

● **EDIT HISTORY**

Version A: Apr. 23, 2009

New color data sheet.

Version B: Mar. 17, 2010

Change mechanical dimensions.



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● FEATURES

- 0.56 inch (14.2 mm) Digit Height.
- Low current operation.
- SMD type.
- Gray face, White segment.
- RoHS compliant, Pb Free.

● DESCRIPTION

The SMC/A561LB G/W is a 0.56 inch (14.2 mm) height single 7-segment display. 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
Super Bright Blue	Common Cathode / Anode
SMC/A561LB G/W	

RoHS Compliance



Pb free.



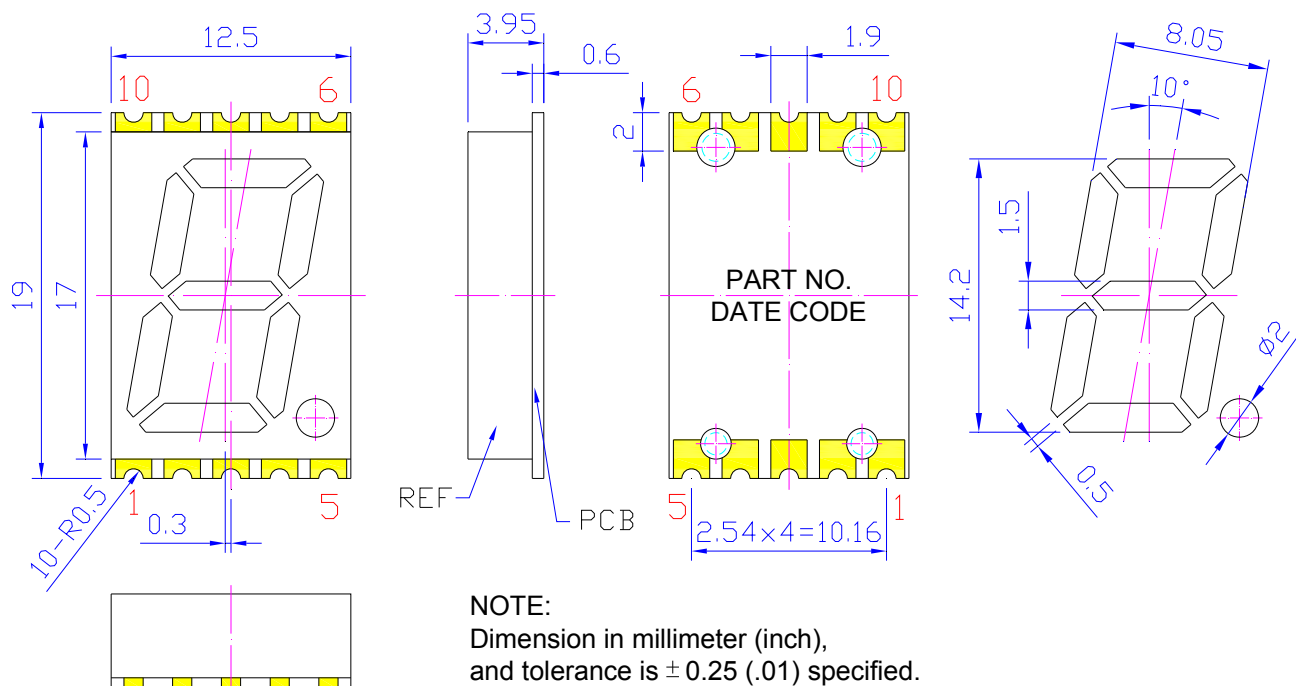


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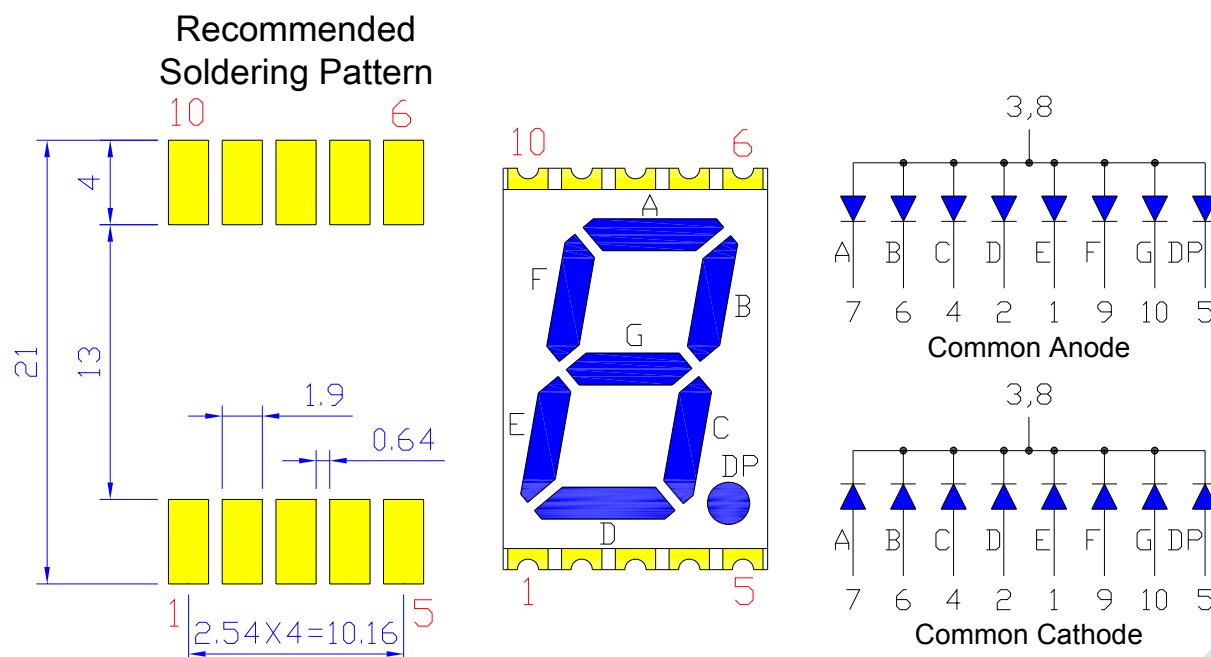
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MECHANICAL DIMENSIONS



TYPICAL INTERNAL EQUIVALENT CIRCUIT





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● B: SUPER BRIGHT BLUE (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Super Bright Blue	Unit
Power dissipation per dice	P _{AD}	120	mW
Derating liner from 25°C per dice	-	0.3	mA / °C
Continuous forward current per dice	I _{AF}	30	mA
Peak current per dice (duty cycle 1/10, 1kHz)	I _{PF}	100	mA
Reverse voltage per dice	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 =5mA	-	3.0	3.6	V
Reverse current per dice	I _R	V _R =8V	-	-	10	μA
Dominant wavelength per dice	λ _D	I _F =5mA	460	465	470	nm
Luminous intensity per dice	I _V	I _F =5mA	-	40	-	mcd
Spectral radiation bandwidth per dice	Δλ	I _F =5mA	-	30	-	nm



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

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

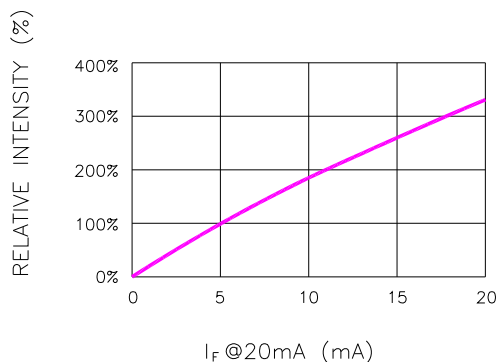


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

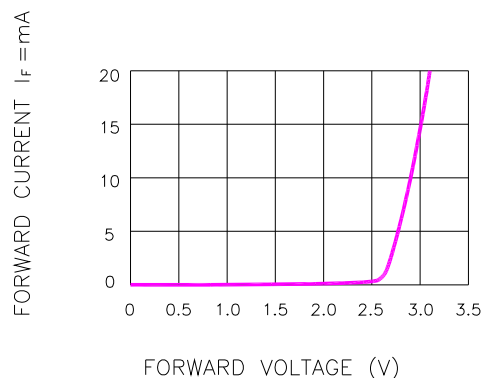


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

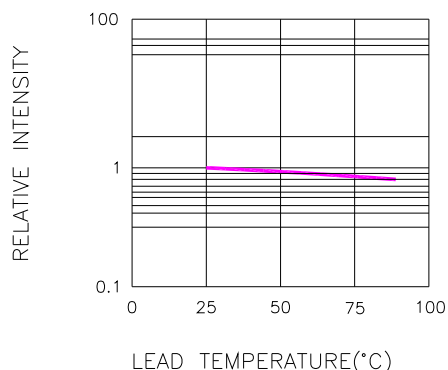


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

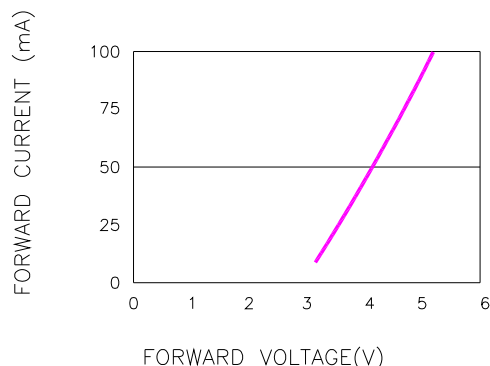


Fig.4 PEAK FORWARD VOLTAGE
VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

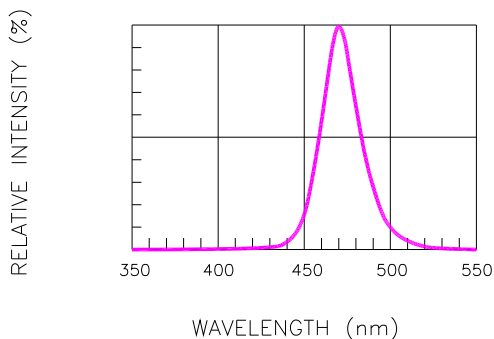


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

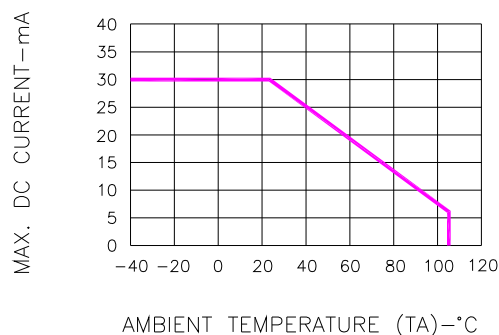


Fig.6 MAX. ALLOWABLE DC CURRENT
VS. AMBIENT TEMPERATURE



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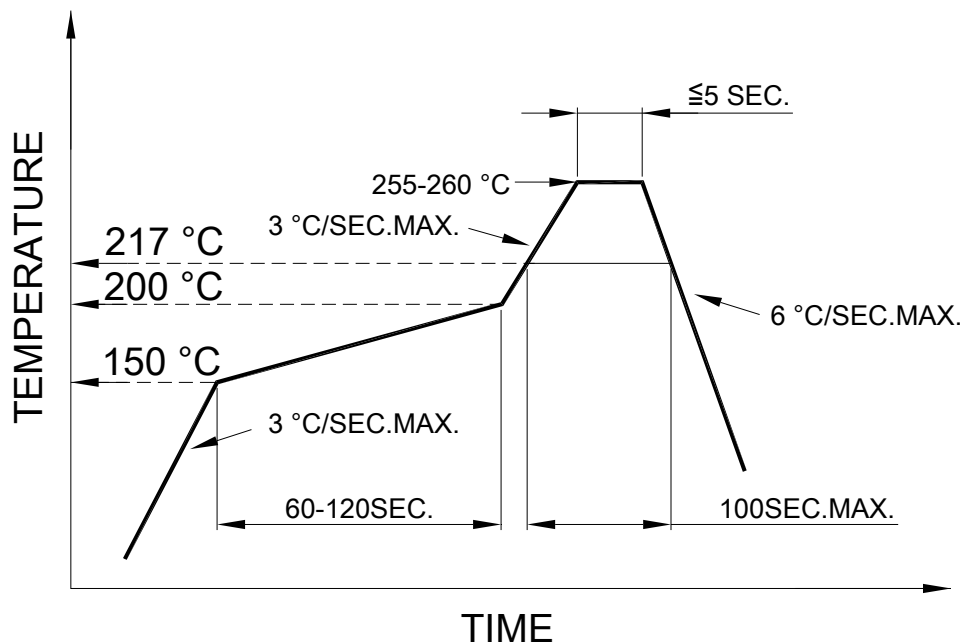
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● SMT REFLOW SOLDERING INSTRUCTIONS

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 °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 5 sec. under 260 °C.
- The head of soldering iron cannot touch copper foil.

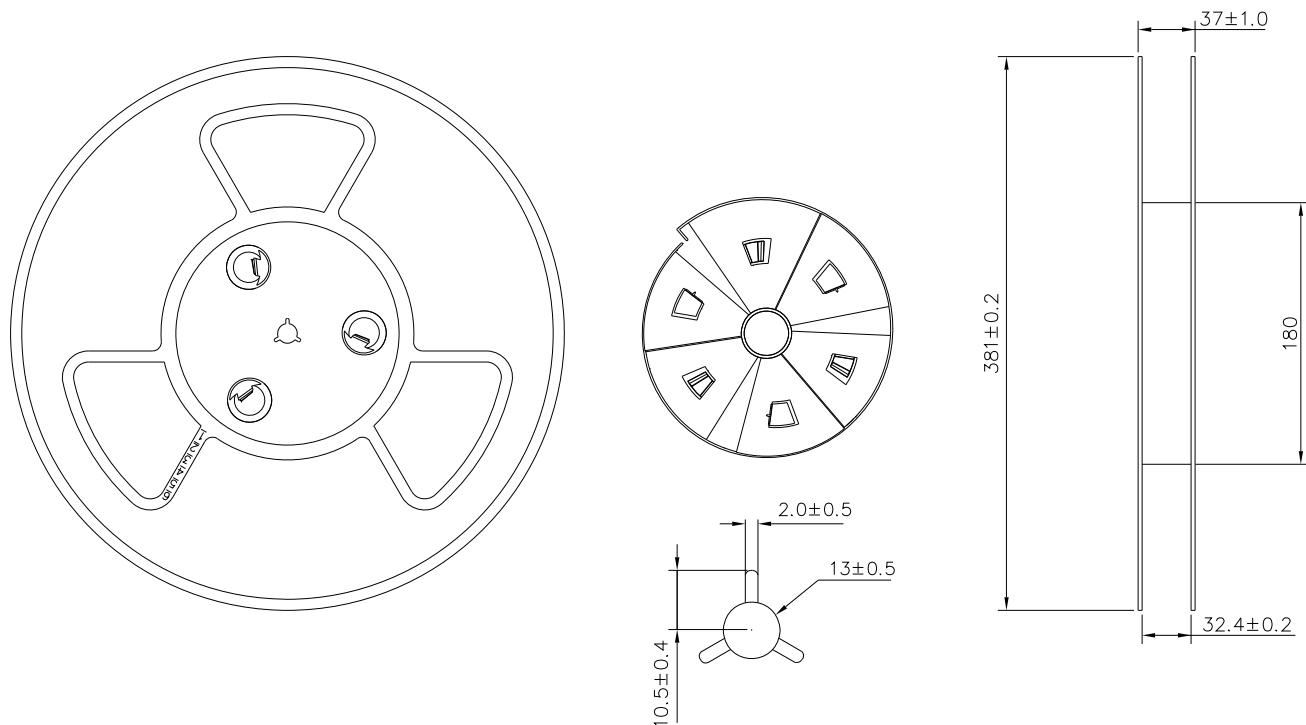


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● REEL DIMENSIONS



● PACKING & LABEL SPECIFICATIONS

