American Opto Plus LED Corp.
0.28” SMD Type LED Display
SMA284LB G/W
SMC284LB G/W

FEATURES

- 0.28 inch (7.00 mm) Digit Height.
- SMD type.
- Low current operation.
- Gray face, White segment.
- RoHS compliant, Pb Free.

DESCRIPTION

The SMA284LB G/W & SMC284LB G/W are 0.28 inch (7.00mm) height Quadruple 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
SMA284LB G/W	Common Anode
SMC284LB G/W	Common Cathode

RoHS Compliance **Pb free.**

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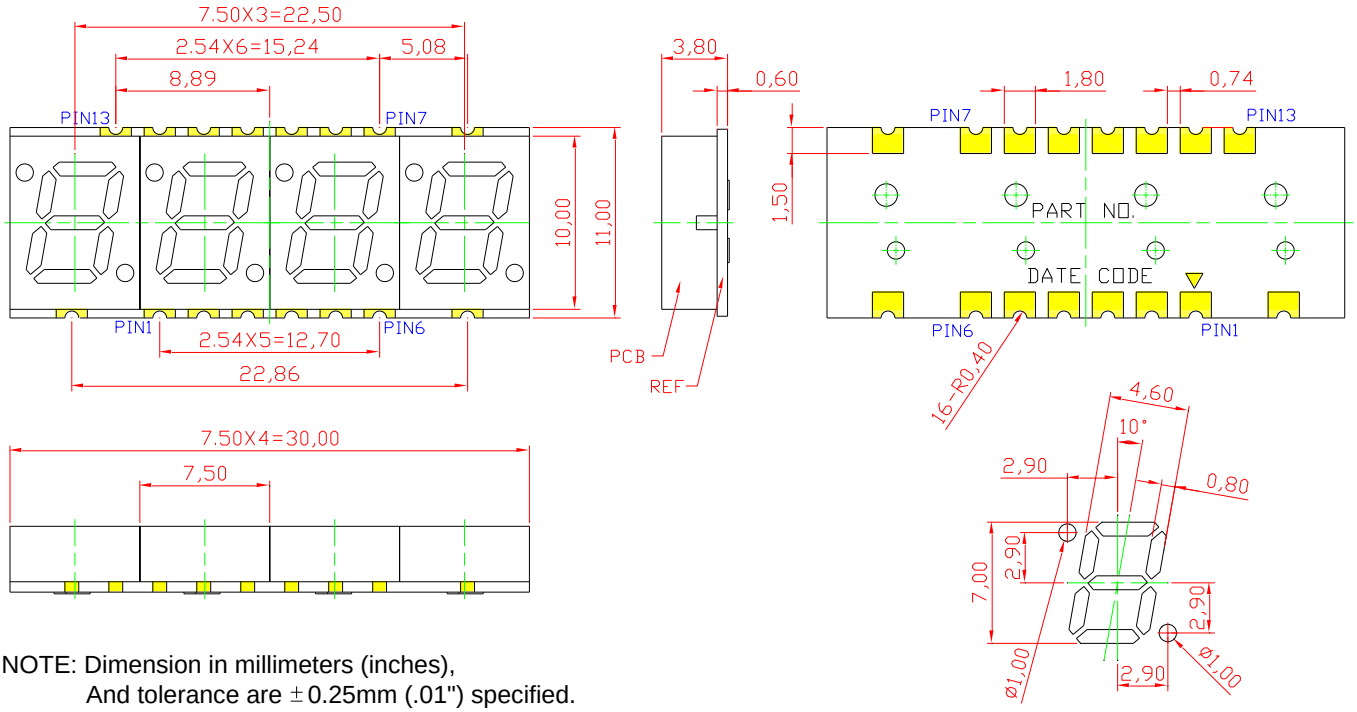
MECHANICAL DIMENSIONS



NOTE: Dimension in millimeters (inches),
And tolerance are ±0.25mm (.01") specified.

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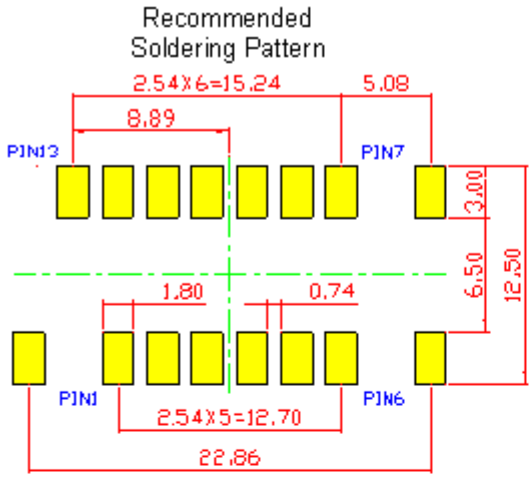
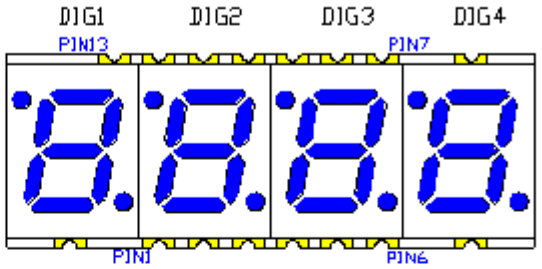
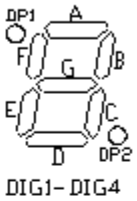
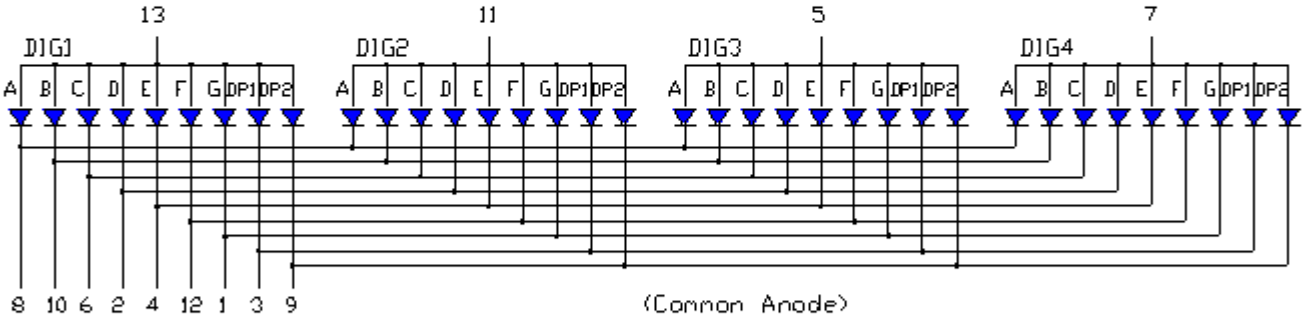
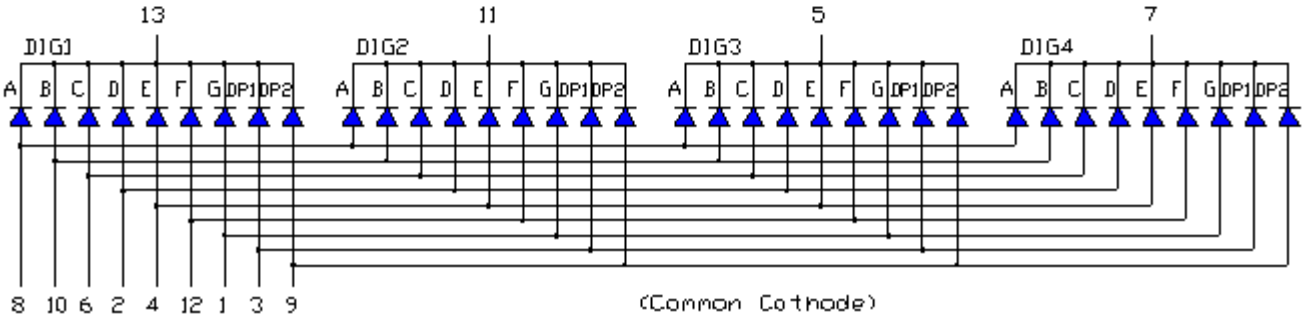
TYPICAL INTERNAL EQUIVALENT CIRCUIT











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● 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}	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	°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	-	470	-	nm
Luminous Intensity	I_V	I_F =20mA	-	20	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	I_F =20mA	-	30	-	nm

SUPER BRIGHT BLUE (InGaN/GaN) CURVE

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

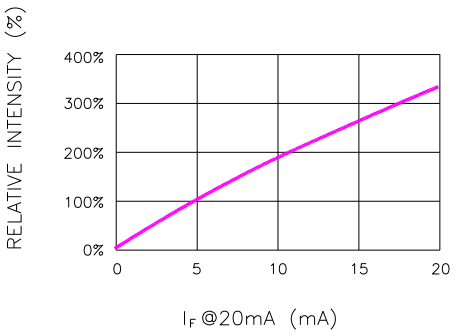


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

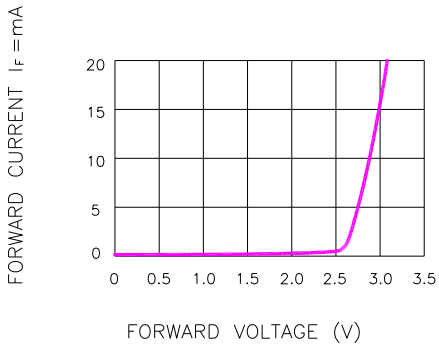


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

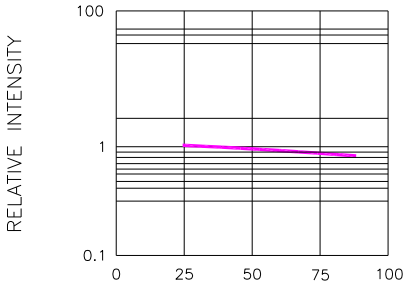


Fig.3 RELATIVE INTENSITY VS.LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE,10ms PERIOD)

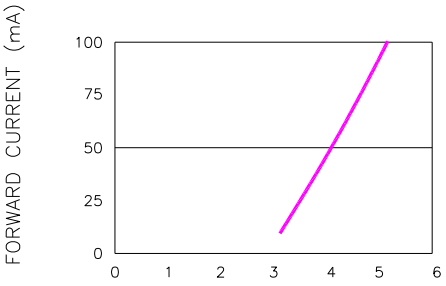


Fig.4 PEAK FORWARD VOLTAGE VS.FORWARD(100us TEST PULSE, 1% DUTY CYCLE)

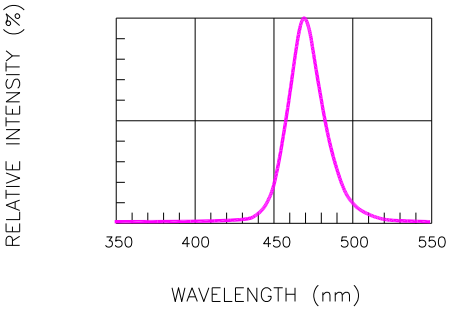


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

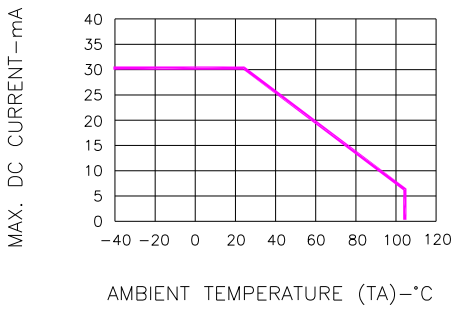
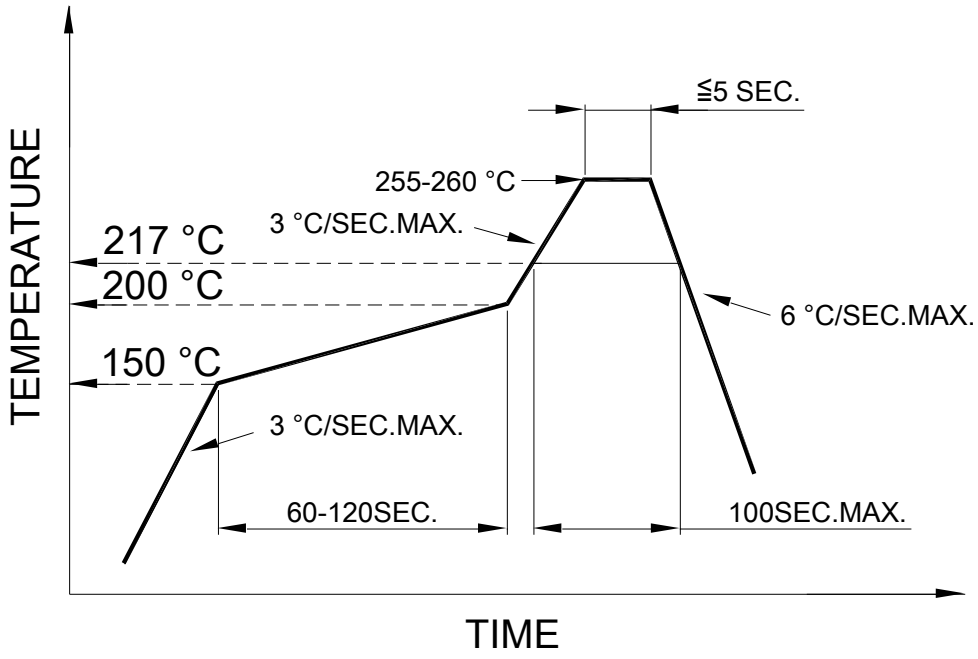


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

RECOMMEND SOLDERING PROFILE

SMT Soldering Profile

Pb free reflow soldering Profile



SOLDERING IRON

Basic specification : ≦4 seconds when 260℃, If temperature is higher, time should be shorter (+10℃→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℃.

REWORK

Customer must finish rework within ≦3 sec under 350℃.