



**Opto Plus LED Corp.**  
**0.76" 8 x 8 Dot Matrix SMD Type LED Display**  
**OPS-M2880LE-BW**  
**OPS-M2881LE-BW**

● **FEATURES**

- 0.76 inch (19.4 mm) Matrix Height.
- Stackable vertically and horizontally.
- 8x8 array with X-Y select.
- SMD type.
- Wide viewing angle.
- Black face, White dot.
- RoHS compliant, Pb Free.

● **DESCRIPTION**

The OPS-M2880LE-BW & OPS-M2881LE-BW are 0.76 inch (19.4mm) height 8x8 dot matrix display.

This device utilizes Super Bright Red LED chip which are made from AlGaInP On a transparent GaAs, substrate.

The display has Black face, White dot.

● **DEVICE**

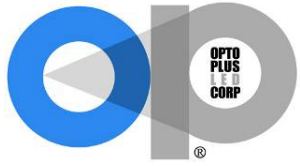
PART NO	DESCRIPTION
OPS-M2880LE-BW	Cathode Row , Anode Column
OPS-M2881LE-BW	Cathode Column , Anode Row

**RoHS Compliance**



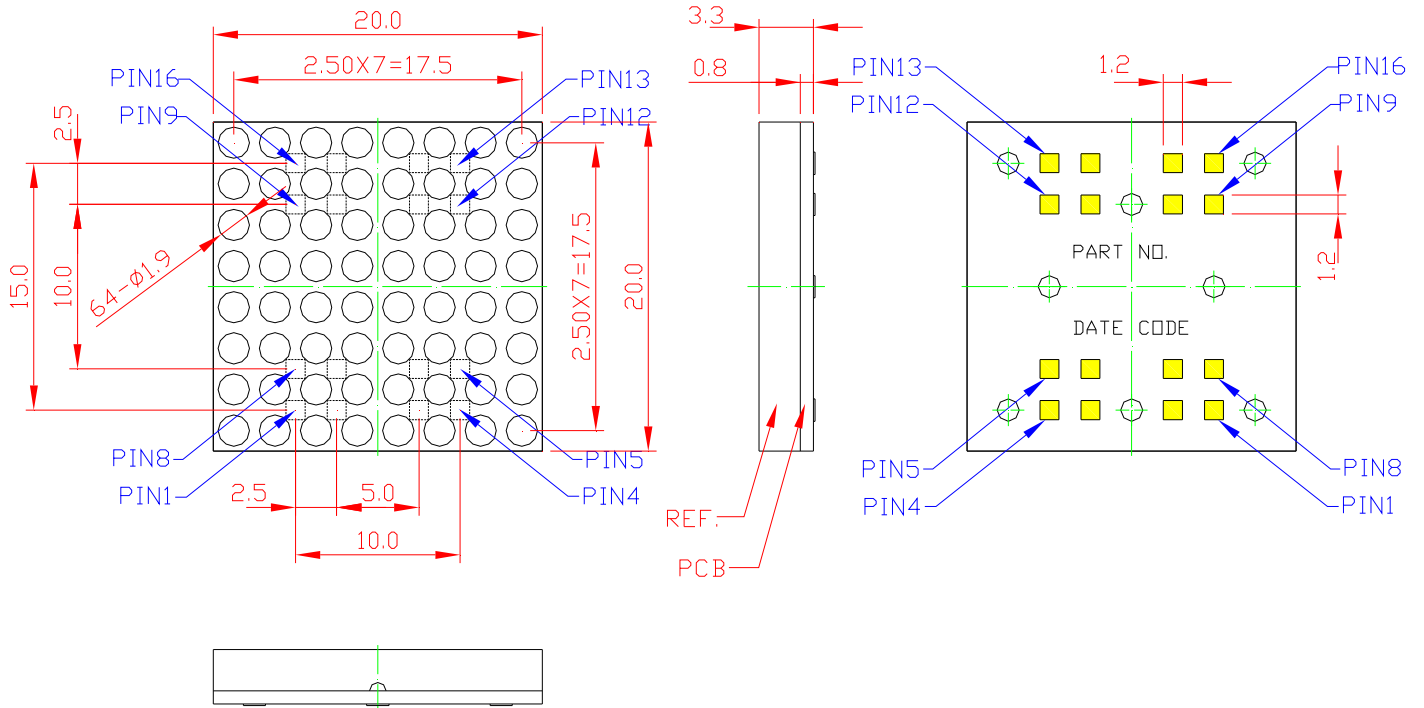
**Pb free.**

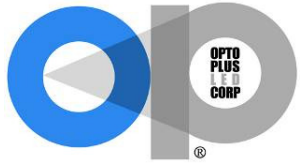




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● **MECHANICAL DIMENSIONS**





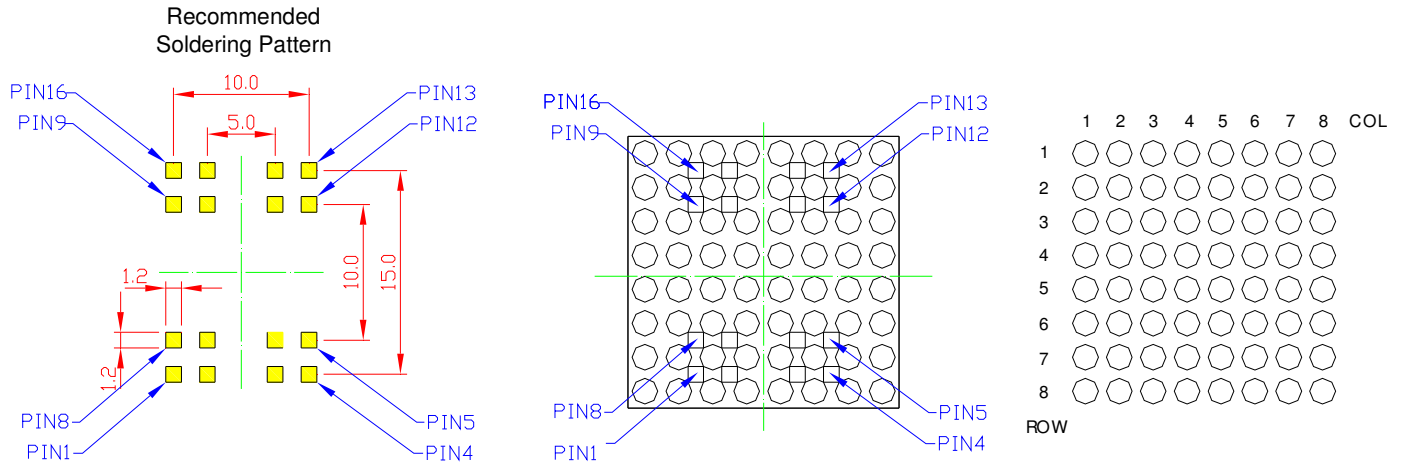
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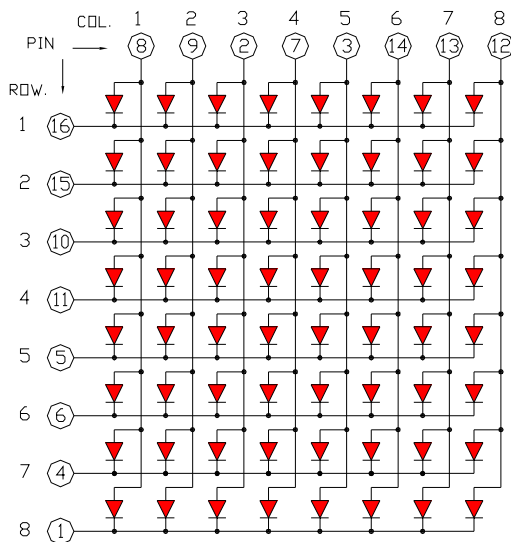
### OPS-M2880LE-BW

### OPS-M2881LE-BW

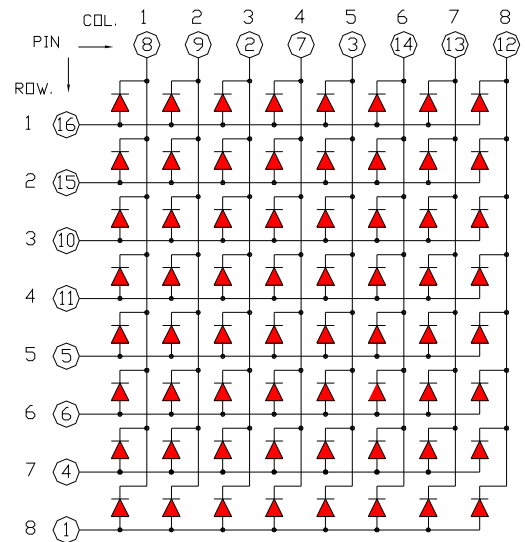
#### ● TYPICAL INTERNAL EQUIVALENT CIRCUIT

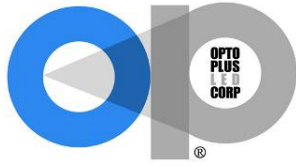


OPS-M2880LE-BW  
ANODE COLUMN, CATHODE ROW



OPS-M2881LE-BW  
CATHODE COLUMN, ANODE ROW





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● **LE: SUPER BRIGHT RED (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	$\mu\text{A}$
Peak Wavelength	$\lambda_P$	$I_F = 20\text{mA}$	-	632	-	nm
Dominant Wavelength	$\lambda_D$	$I_F = 20\text{mA}$	-	625	-	nm
Luminous Intensity	$I_V$	$I_F = 20\text{mA}$	-	15	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm



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### OPS-M2880LE-BW

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#### ● LE: SUPER BRIGHT RED (AlGaInP/GaAs) CURVE

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

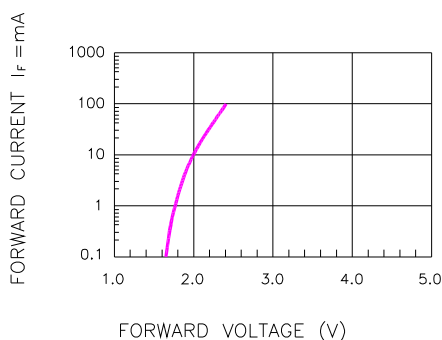


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

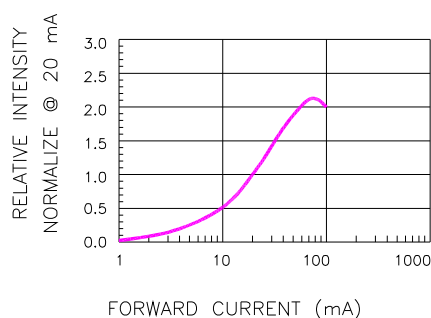


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

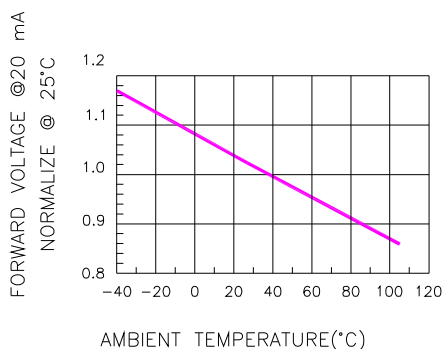


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

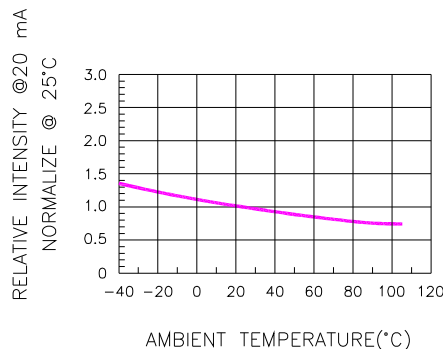


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

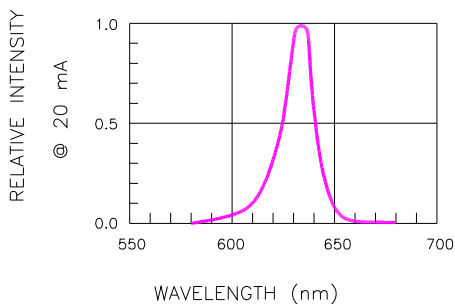


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

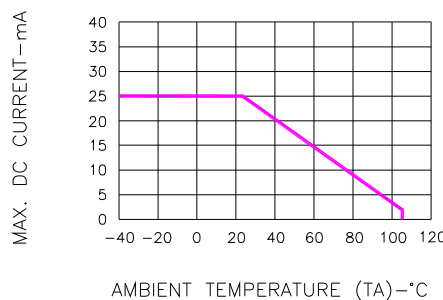
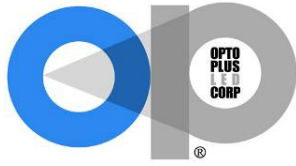


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

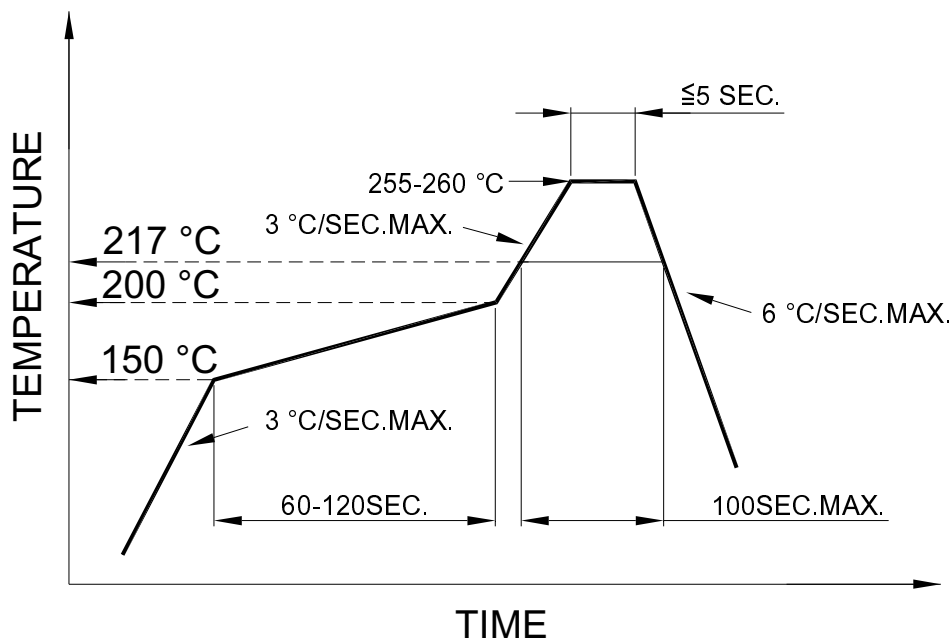


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● **RECOMMEND SOLDERING PROFILE**

SMT Soldering Profile

Pb free reflow soldering Profile



● **SOLDERING IRON**

Basic specification :  $\leq 4$  seconds 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  $\leq 3$  sec under 350°C.