www.opledtw.com

Opto Plus LED Corp.
1.22” 8 x 8 Dot Matrix LED Display
OPD-M38820LB | OPD- M38821LB

EDIT HISTORY

Version A: Nov. 04, 2020

Preliminary Spec.

Opto Plus LED Corp. 7F-3, No.496 , Bannan Road, Jhonghe Dist., New Taipei City 235, Taiwan (R.O.C)
Website: www.opledtw.com E-mail: sales@opledtw.com Tel: 886-2-2222-5698 Fax: 886-2-2222-2566

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FEATURES

- 1.22 inch (31.0 mm) Matrix Height.
- Stackable vertically and horizontally.
- 8x8 array with X-Y select.
- Wide viewing angle
- RoHS compliant, Pb Free.

DESCRIPTION

The device are 1.22 inch (31.0 mm) 8x8 dot matrix display.

The device is Opto Plus LED Corp standard LED Display.

This device utilizes Super Bright Blue LED chip which are made from InGaN on a transparent GaN.substrate.

The device has face and segment option, please refer to **PRODUCT APPEARANCE**.

DEVICE

	PART NO.	DESCRIPTION
	OPD-M38820LB-GW	Common Anode | Gray face | White segment
	OPD-M38821LB-GW	Common Cathode | Gray face | White segment
	OPD-M38820LB-BW	Common Anode | Black face | White segment
	OPD-M38821LB-BW	Common Cathode | Black face | White segment

RoHS Compliance **Pb Free.**

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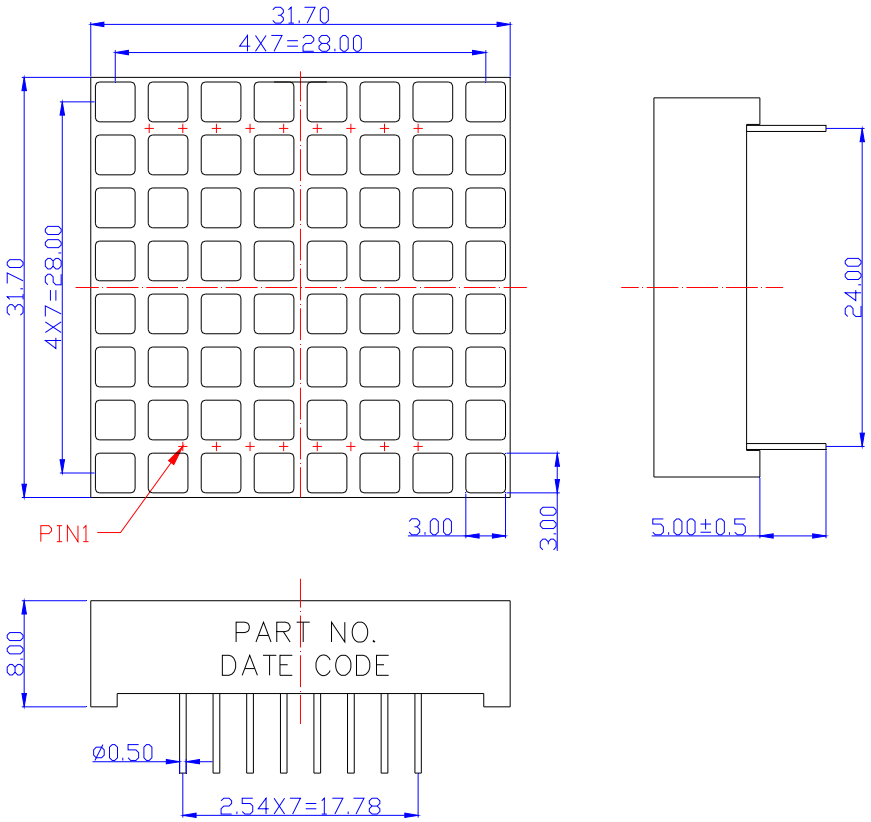
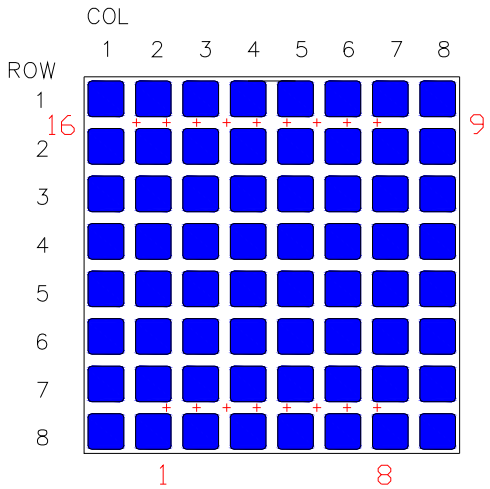
● MECHANICAL DIMENSIONS

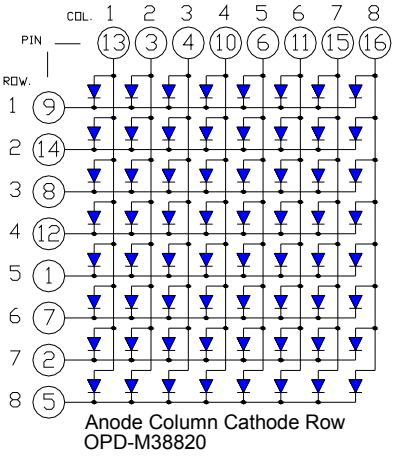


NOTES: Dimension is in millimeters. Tolerance is ± 0.25 mm unless otherwise noted.

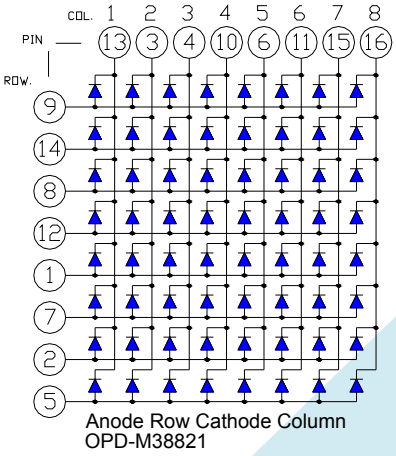
● TYPICAL INTERNAL EQUIVALENT CIRCUIT

Turn On Color





Anode Column Cathode Row
OPD-M38820



Anode Row Cathode Column
OPD-M38821

※EMITTED COLOR：SUPER BRIGHT BLUE

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LB: SUPER BRIGHT BLUE (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P_{AD}	68	mW
Continuous forward current	I_{AF}	20	mA
Peak current (duty cycle 1/10, 1kHz)	I_{PF}	60	mA
Reverse voltage	V_R	5	V
Operating temperature	T_{OPR}	-40 to +85	°C
Storage temperature	T_{STG}	-40 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage	V_F	I_F =20mA	-	3.0	3.4	V
Reverse Current	I_R	V_R =5V	-	-	10	μA
Dominant Wavelength	λ_D	I_F =20mA	460	465	474	nm
Luminous Intensity	I_V	I_F =20mA	-	70	-	mcd
Spectral Line Half-Bandwidth	$\Delta\lambda$	I_F =20mA	-	20	-	nm

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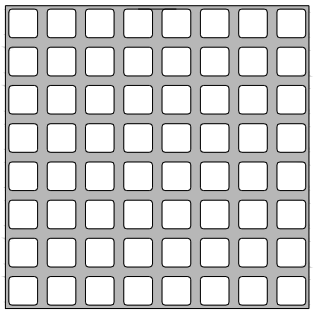
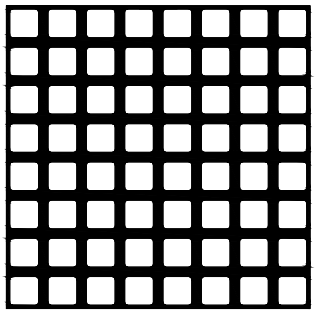
● PRODUCT APPEARANCE

The most common reflector color and segment color are show in below diagram.

-GW	-BW
	
※ REFLECTOR COLOR: Gray ※ SEGMENT COLOR: White	※ REFLECTOR COLOR: Black ※ SEGMENT COLOR: White

Opto Plus can customize reflector and segment colors by customer’s request. If you have these request please visit www.opledtw.com or contact sales@opledtw.com for more **Standard Product Customization** information.

Part NO. related to reflector and segment colors show as table below.

PART NO.	DESCRIPTION
OPD-M38820LB-GW	Common Anode | Gray face | White segment
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LB: SUPER BRIGHT BLUE (InGaN/GaN) CURVE

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

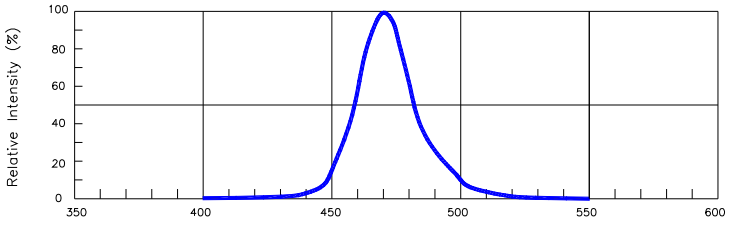

Fig.1—Relative Intensity VS. Wavelength

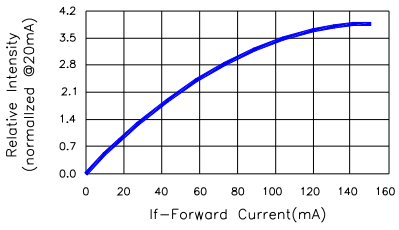

Fig.2—Relative Luminous Intensity vs. Forward Current

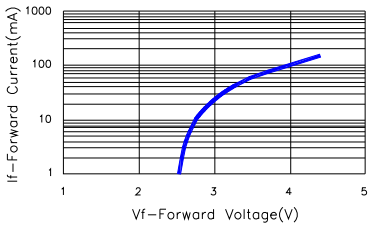

Fig.3—Forward Current vs. Forward Voltage

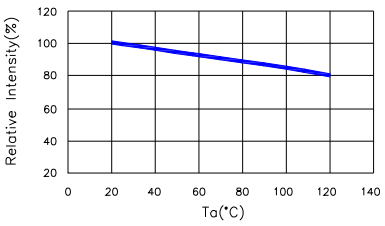

Fig.4—Relative Intensity(@20mA)VS. Ambient Temperature

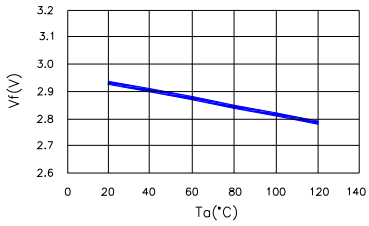

Fig.5—Forward Voltage(@20mA)VS. Ambient Temperature

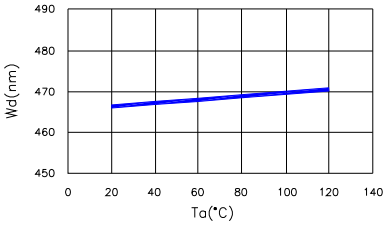

Fig.6—Dominant Wavelength(@20mA)
VS. Ambient Temperature

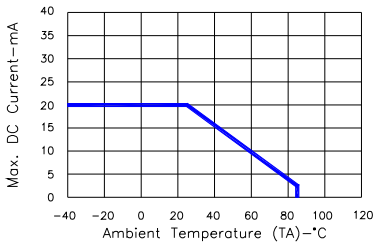

Fig.7—Max. Allowable DC Current
VS. Ambient Temperature

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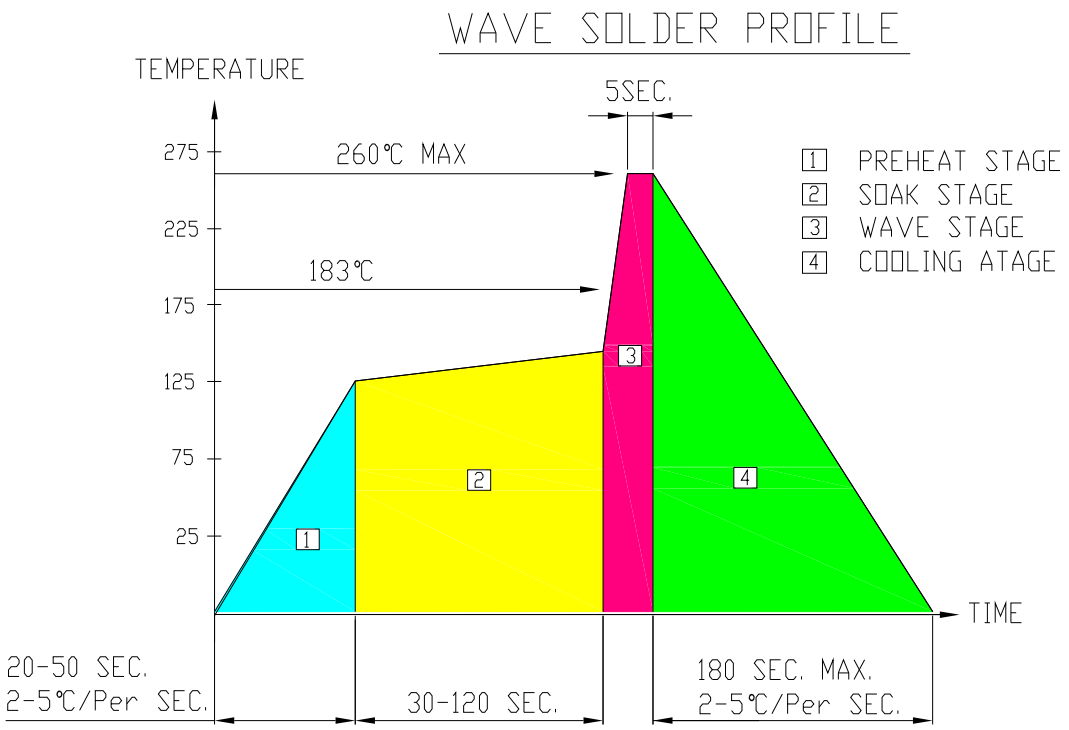
RECOMMEND SOLDERING PROFILE



Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

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 ≦3 sec under 350℃.
The head of soldering iron cannot touch copper foil.

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