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

Opto Plus LED Corp.
2.3” Case Mold Type LED Display
OPD-S23010LE | OPD-S23011LE

FEATURES

- 2.3 inch (56.8 mm) Digit Height.
- Low current operation.
- Case mold type.
- RoHS compliant, Pb Free.

DESCRIPTION

The device are 2.3 inch (56.8 mm) height single digit 7-segment displays.

The device is Opto Plus LED Corp standard LED Display.

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

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

DEVICE

PART NO.		DESCRIPTION
	OPD-S23010LE-GW	Common Anode ｜Gray face ｜White segment
	OPD-S23011LE-GW	Common Cathode ｜Gray face ｜White segment
	OPD-S23010LE-BW	Common Anode ｜Black face ｜White segment
	OPD-S23011LE-BW	Common Cathode ｜Black face ｜White segment

RoHS Compliance

Pb Free.

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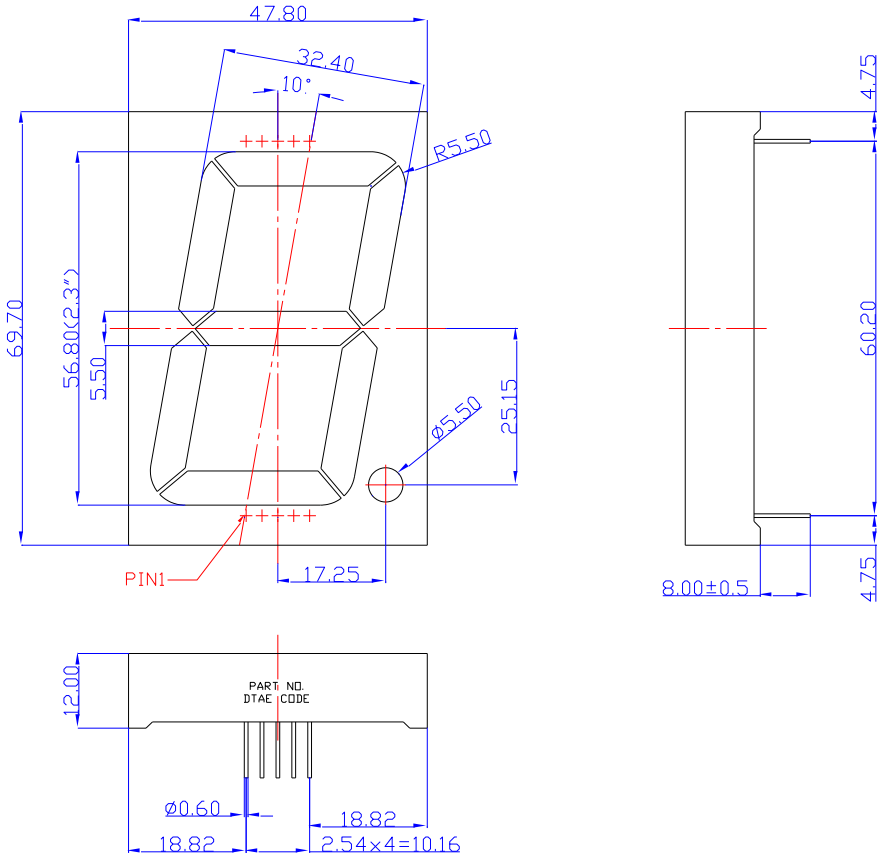
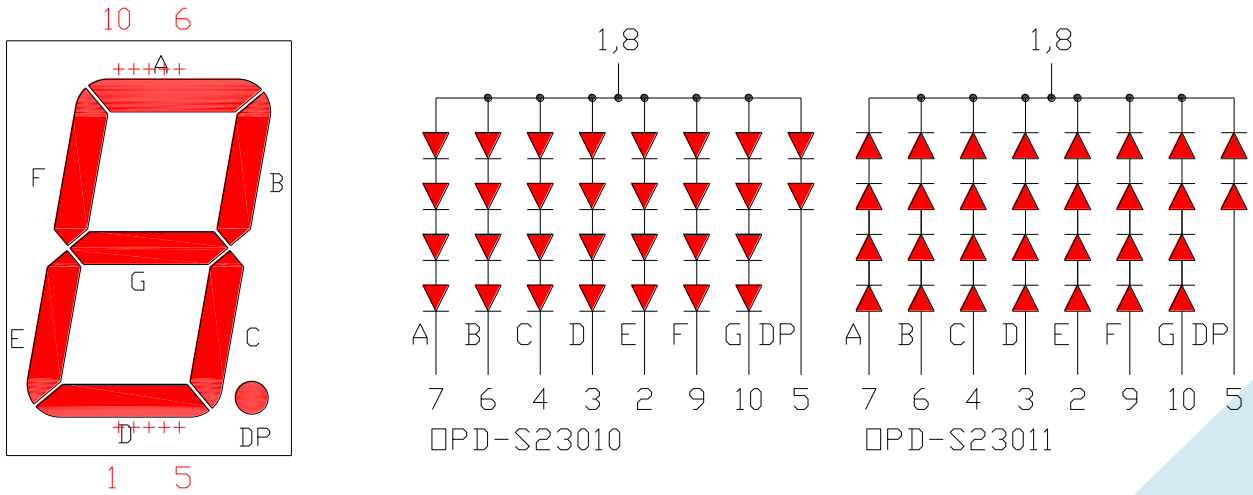
● MECHANICAL DIMENSIONS



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

● TYPICAL INTERNAL EQUIVALENT CIRCUIT

Turn On Color



※EMITTED COLOR：SUPER BRIGHT RED

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LE: SUPER BRIGHT RED (AlGaInP/GaAs)

ABSOLUTE MAXIMUM RATING AT Ta=25ºC

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per dice	P_{AD}	48	mW
Continuous forward current per dice	I_{AF}	20	mA
Peak current (duty cycle 1/10, 1kHz)	I_{PF}	40	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=25ºC

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward voltage per Segment (DP)	V_F	I_F =20mA	-	8.4 (4.2)	9.6 (4.8)	V
Reverse Current per dice	I_R	V_R =5V	-	-	10	μA
Peak Wavelength	λ_P	I_F =20mA	-	632	-	nm
Dominant Wavelength	λ_D	I_F =20mA	619	624	629	nm
Luminous Intensity	I_V	I_F =20mA	-	240	-	mcd
Spectral Line Half-Bandwidth	$\Delta\lambda$	I_F =20mA	-	20	-	nm

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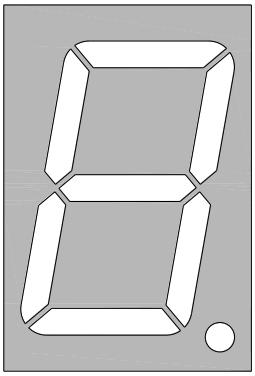
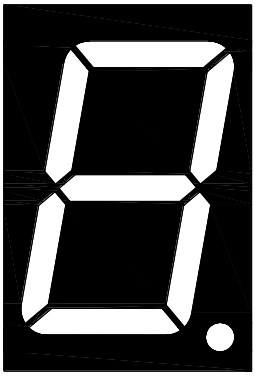
PRODUCT APPEARANCE

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-S23010LE-GW	Common Anode｜Gray face｜White segment
OPD-S23011LE-GW	Common Cathode｜Gray face｜White segment
OPD-S23010LE-BW	Common Anode｜Black face｜White segment
OPD-S23011LE-BW	Common Cathode｜Black face｜White segment

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

Typical Electro-optical Characteristic Curves

(25℃ Free Air Temperature Unless Otherwise Specified)

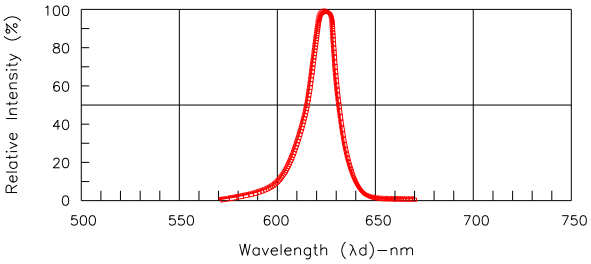

Fig.1–Relative Intensity VS. Wavelength

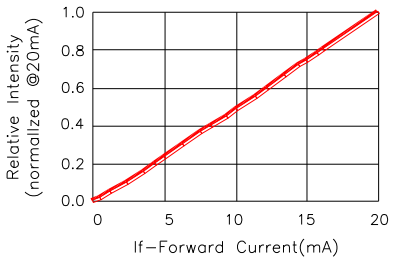

Fig.2–Relative Luminous Intensity vs. Forward Current

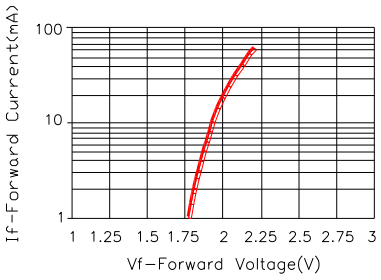

Fig.3–Forward Current vs. Forward Voltage

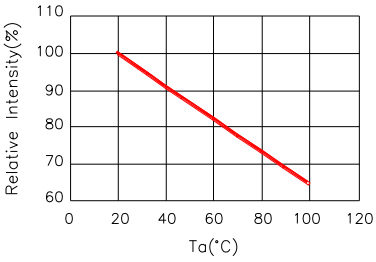

Fig.4–Relative Intensity(@20mA) vs. Ambient Temperature

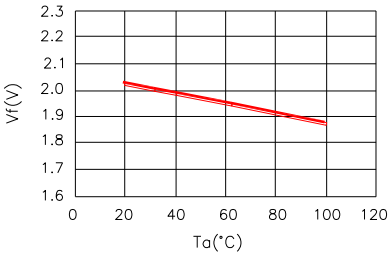

Fig.5–Forward Voltage(@20mA) vs. Ambient Temperature

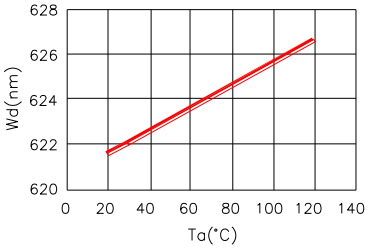

Fig.6–Dominant Wavelength(@20mA) VS. Ambient Temperature

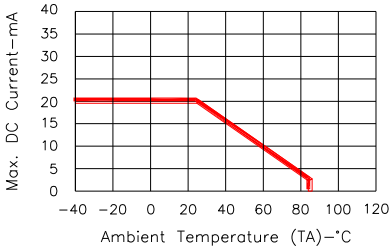

Fig.7–Max. Allowable DC Current VS. Ambient Temperature

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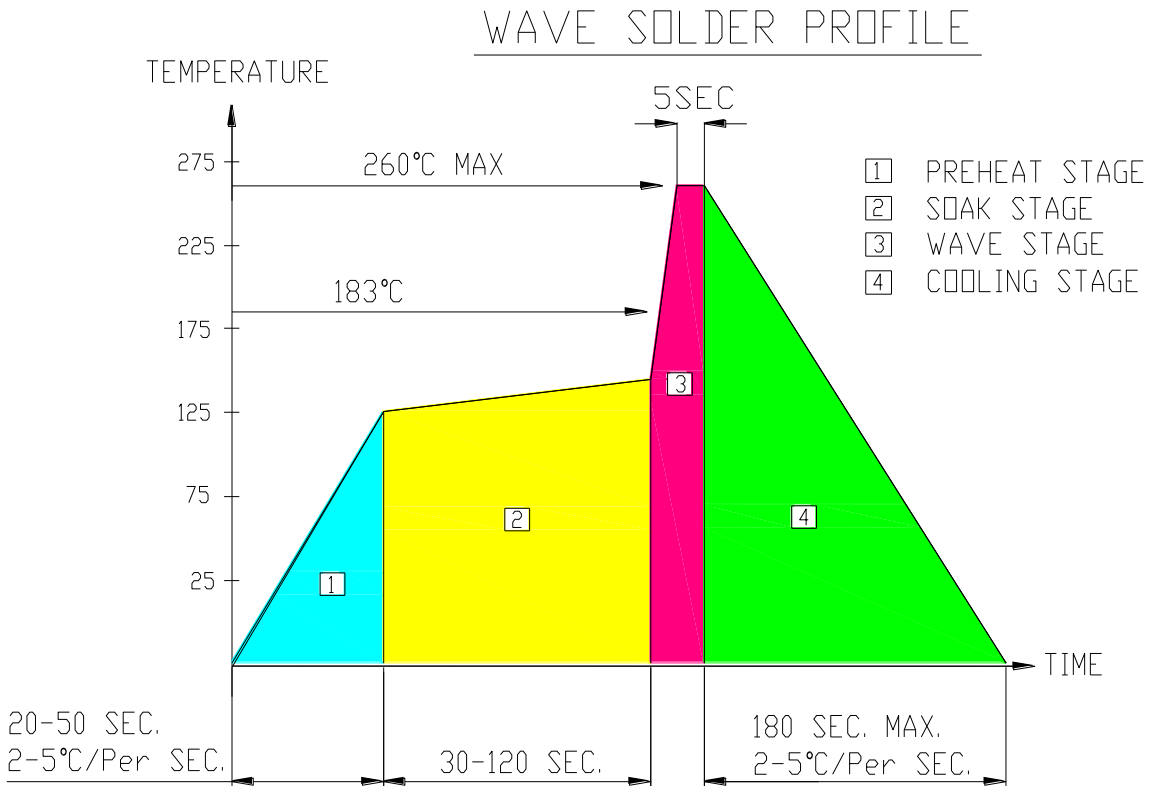
RECOMMEND SOLDERING PROFILE



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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