



Opto Plus LED Corp.

OPL-5013WD-60

5 mm Dia LED Lamp

● EDIT HISTORY

Version A : Feb. 17, 2021

Preliminary Spec.



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● FEATURES

- Low power consumption.
- High efficiency
- Round type
- With Flange
- Solder leads without stand-off
- Compliant with RoHs

● DESCRIPTION

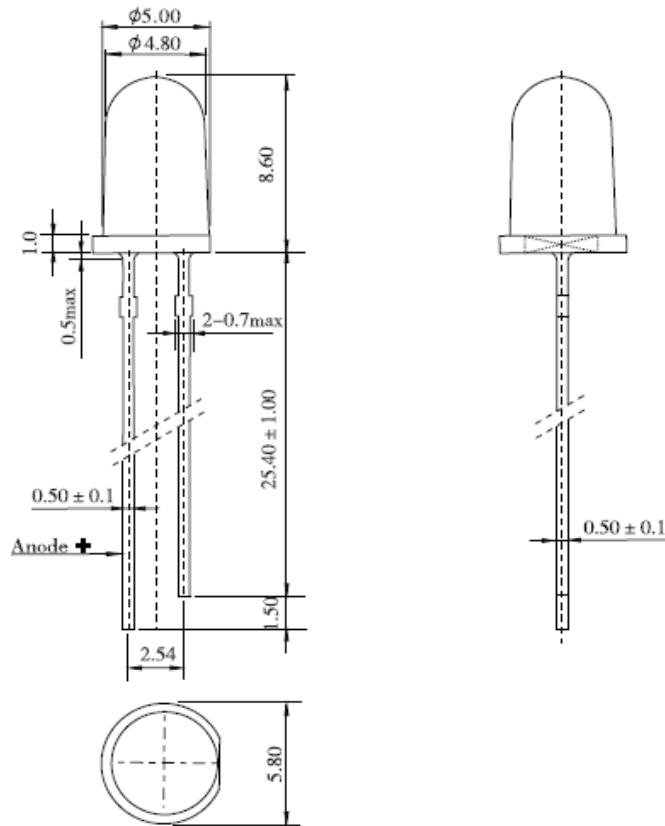
- Chip Material : InGaN/GaN
- Emitting Color : Super White
- Lens Color : White Diffused

● PACKAGE DIMENSIONS

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NOTES: All dimensions are in millimeters. Tolerances are ± 0.25 mm unless otherwise noted.

● **W: WHITE (InGaN/GaN)**

ABSOLUTE MAXIMUM RATING AT $T_a=25^\circ\text{C}$

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Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P_{AD}	120	mW
Reverse voltage	V_R	5	V
Continuous forward current	I_{AF}	30	mA
Temperature coefficient	I/C	0.4	mA/°C
Pulse current	I_{PF}	100	mA
Operating temperature	T_{OPR}	-25 to +85	°C
Storage temperature	T_{STG}	-30 to +100	°C
Soldering Condition	T_{sd}	260°C/5set	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT $T_a=25^{\circ}\text{C}$

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F = 20\text{mA}$	-	3.2	3.6	V
Reverse current	I_R	$V_R = 5\text{V}$	-	-	50	μA
Chromaticity coordinates (tolerance : ± 0.01)	λ_P	$I_F = 20\text{mA}$	X	0.28	-	nm
			Y	0.29	-	
Luminous intensity	I_v	$I_F = 20\text{mA}$	-	1500	-	mcd
Spectral radiation bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	30	-	nm
Viewing Angle	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	60	-	deg

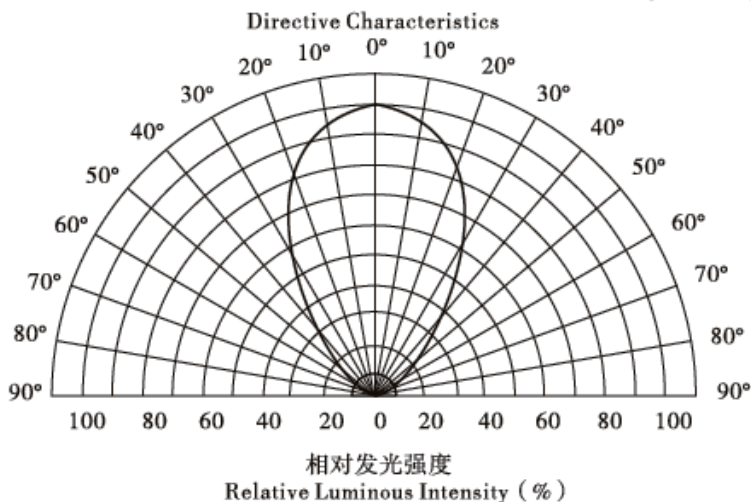
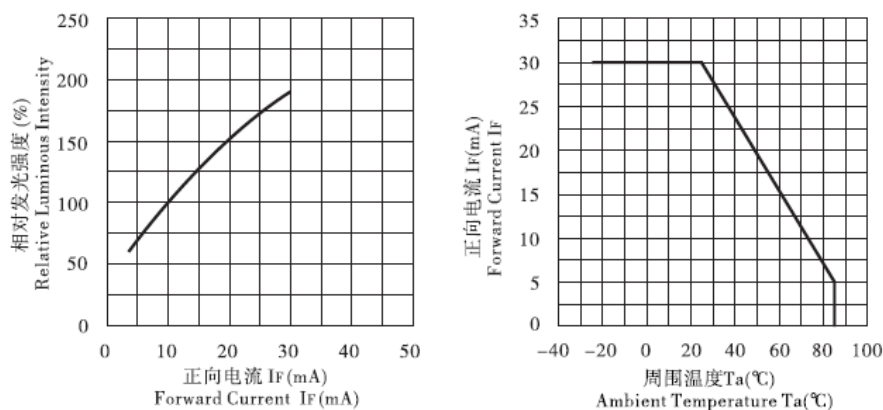
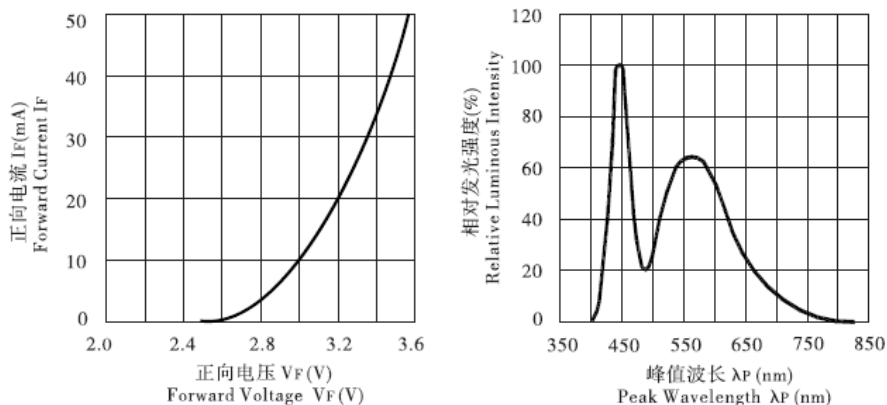
● W: WHITE (InGaN/GaN) CURVE

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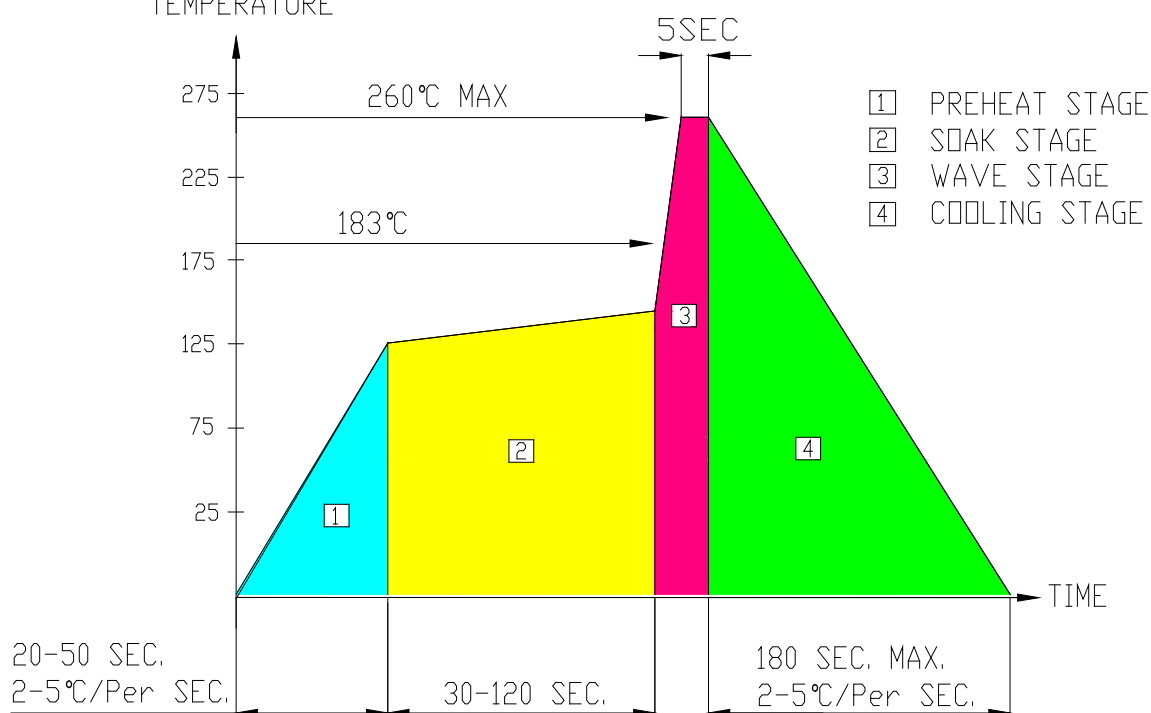
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Typical Electro-optical Characteristic Curves
(25 °C Free Air Temperature Unless Otherwise Specified)



● RECOMMEND SOLDERING PROFILE

WAVE SOLDER 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°C.
The head of soldering iron cannot touch copper foil.