

Datasheet no.47.1 POLYWA POWER LEDs KLHP331XE

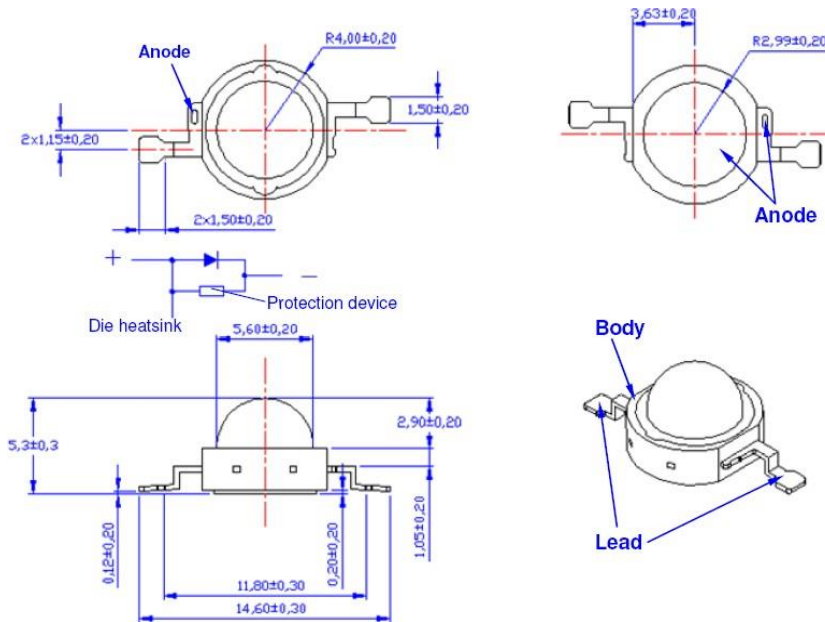
KLHP331XE POLYWA Power LED EMITTER is an excellent high power LED for **Solid State Lighting** applications. This emitter (with Star MPCB option) with **silicone lens** technology provides the good life and can be **reflow soldered** at 260°C.

With special **phosphor** technology, warm white KLHP331WWE has very good color stability in high temperature. The typical CCT change is less than 50K when junction temperature achieves 100°C.

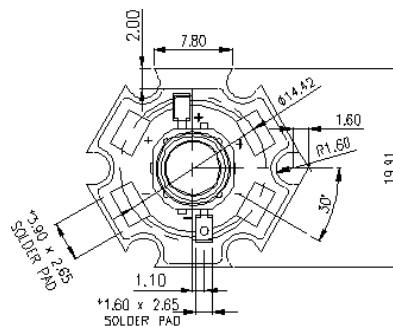
KLHP331XE has special design to fit second optics. The user can easily get the uniform light with any secondary optics.



1. MECHANICAL DIMENSIONS



Star with MPCB

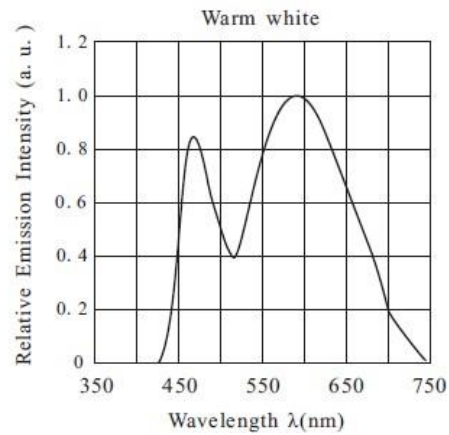
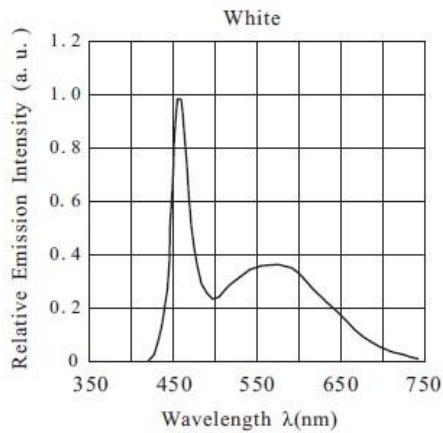


2. Absolute Ratings

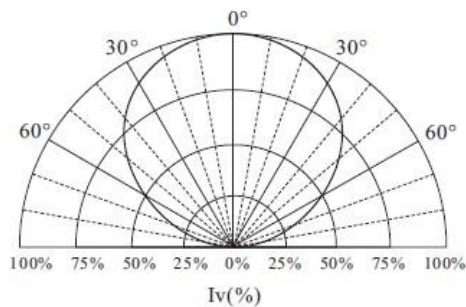
Parameter	Rating	
	White Series / Royal Blue / Blue / Green / Amber / Red	
Typical DC Forward Current (mA)	350	mA
LED Junction Temperature	125°C	
LED Operating Temperature	-40°C~110°C	
Storage Temperature	-40°C~110°C	
Soldering Temperature	Max. 260°C / Max. 10sec. (JEDEC 020c)	
ESD Sensitivity	2,000 V HBM (JEDEC-22A-114-B)	
Reverse Voltage	Not design to be driven in reverse bias (VR ≤ 5V)	
Preconditioning	Acc. to JEDEC Level 2	

TYPICAL INITIAL OPTICAL/ELECTRICAL CHARACTERISTICS

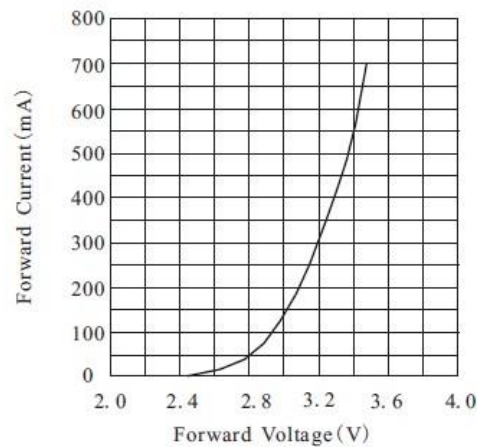
Spectrum (Ta=25°C If=350mA)



Directivity (Ta=25°C If=350mA)



Forward Current & Forward Voltage
(Ta=25°C)



3. General Characteristics

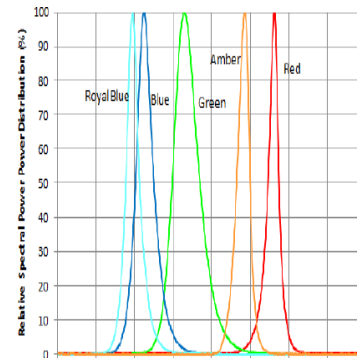
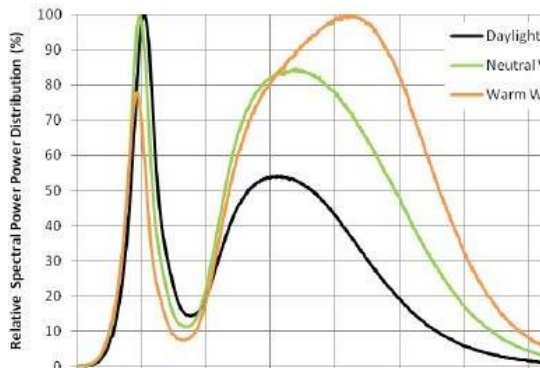
3.1 Luminous Flux and Forward Voltage at 350mA and 700mA

Part Number	colour	Luminous Flux(lm) Or Radiometric power *(mW) @350mA		Forward voltage Vf(v) @350mA	Ty p. CR I	CCT/λp	2θ _{1/2}
		Min lumen	Typ lumen				
KLHP331W	W	120	140	2.8-3.8	70	4750K-7000K	135
KLHP331NW	NW	70	80	2.8-3.8	75	3700K-4750K	130
KLHP331WW	WW	50	60	2.8-3.8	80	2600K-2700K	125
KLHP331R	Red	35	45	2.0-3.4	-	620-635	145
KLHP331A	Amber	35	45	2.0-3.4	-	580-600	145
KLHP331G	Green	45	60	2.8-3.8	-	520-535	150
KLHP331B	Blue	10	18	2.8-3.8	-	460-470	140

Temperature coefficient of Vf : -3 mV/°C W,G,B,-2 mV/°C Thermal Resistance Junction to LED case: 10°C/W
Note:

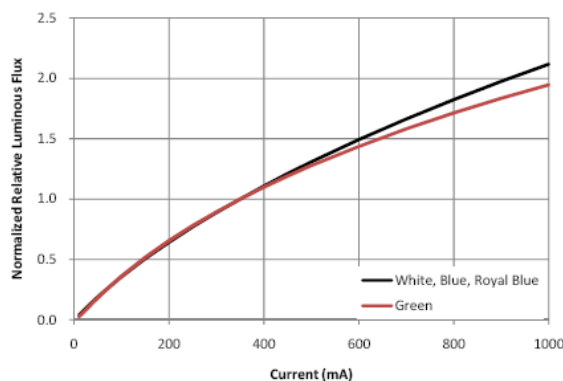
1. Luminous flux is measured with an accuracy of ±10%
2. the CCT colour correlated color temperature is measured with an accuracy of ±200K
3. The peak/dominant wavelength is measured with an accuracy of ±1nm
4. The forward voltage is measured with an accuracy of ±0.1V

5. Spectral Characteristics of White LEDs & other Colors

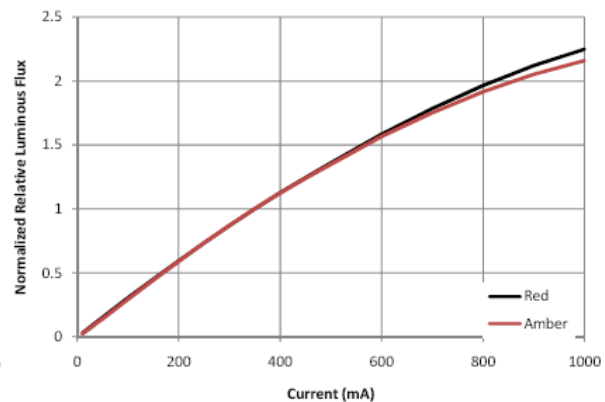


6. Typical Forward I-V Characteristics

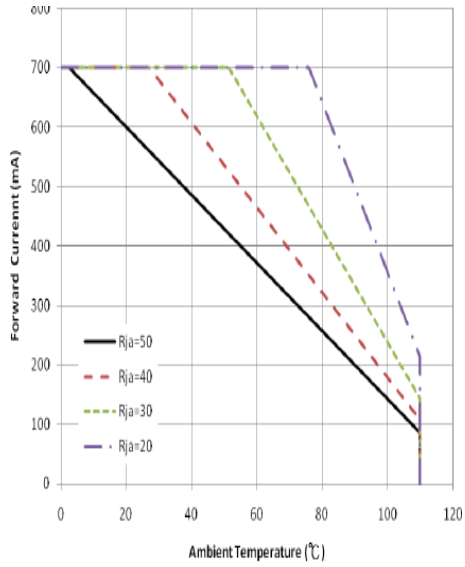
6.1 White Series/Green / Blue / Royal Blue



6.2 Amber / Red

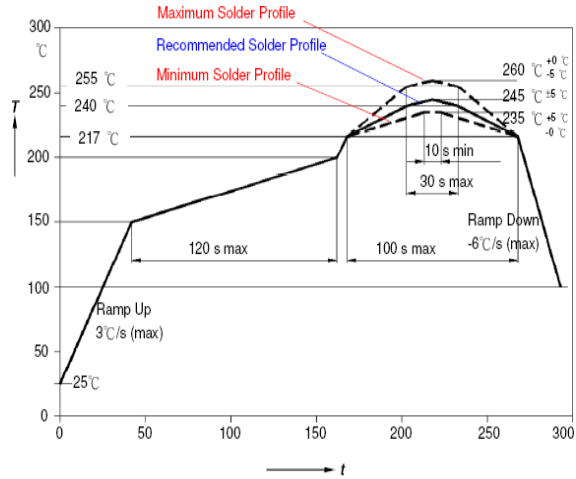


7. Current De-rating Curve



Note : R_{ja} is thermal resistance from LED junction to ambient

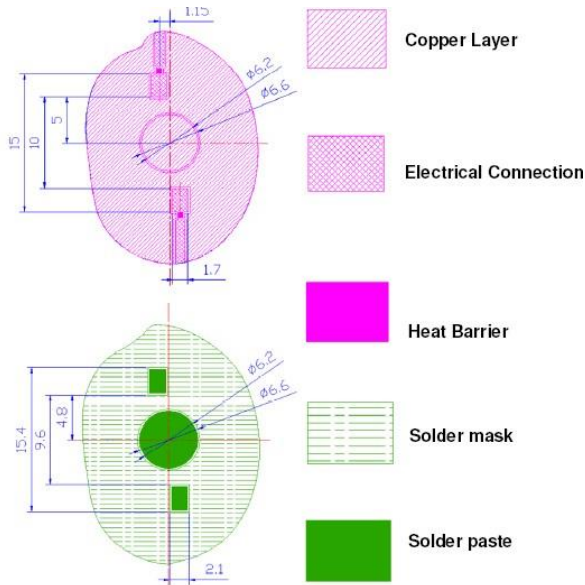
8. Recommended Soldering Profile



Failure Criteria: 1. Brightness attenuate difference <10%

2. Forward voltage difference: ±20%

10. Recommended Solder Pad Design




Note:

- 1) Drawing is not to scale
- 2) All dimensions are in millimeter

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2. All dimensions are in millimeter



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