P-tec Corp.
2405 Commerce Circle
Alamosa Co. 81101
Ph:#1-719-589-3122

PL00875W-WCWW

5W WARM WHITE HIGH POWER LED

RoHS Compliant

< Features >

*Excellent Transiting Heat from LED Chip Operating under 1500mA

*High Luminous Output

*No UV

< Typical Applications >

*Reading Lights

*Portable Flashlight

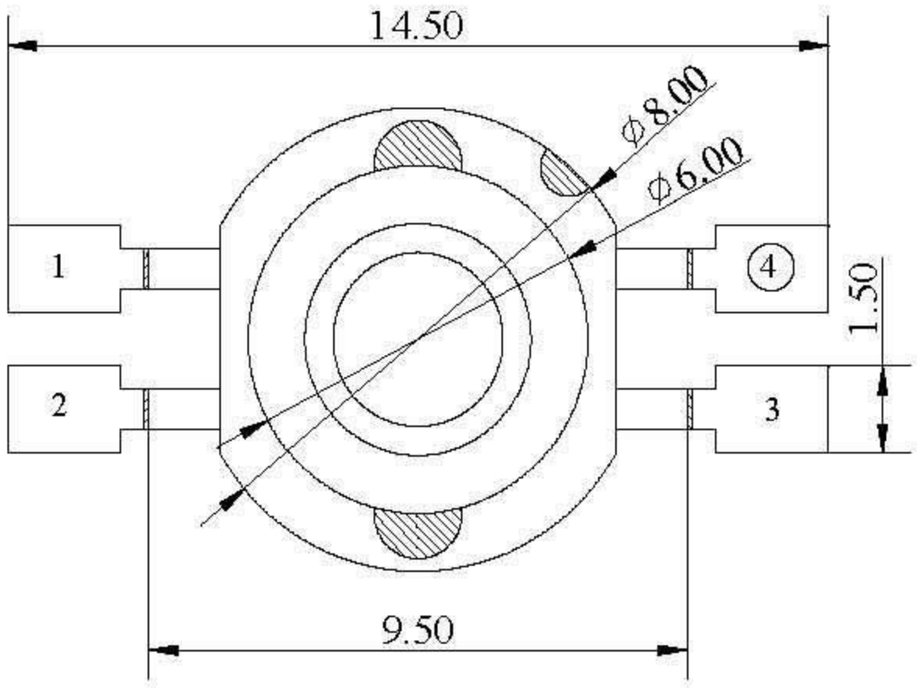
*Uplighters and Downlighters

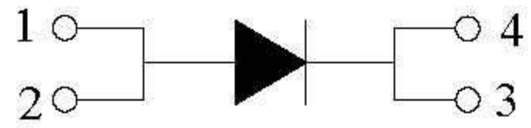
*Garden lighting

*LCD Backlights/Light Guides

*General Lighting

Package Dimensions



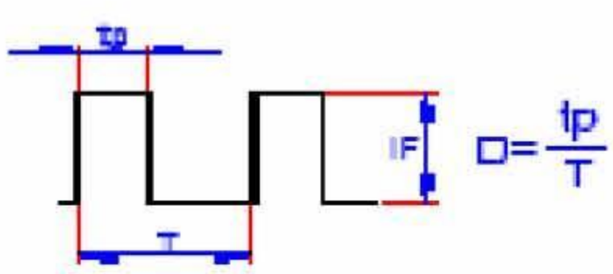


* All dimensions are in mm. *Tolerance：+/-0.25mm.

Absolute Maximum Ratings at Ta=25℃ :

Parameter	Rating	Unit
LED Junction Temperature	120	℃
Reverse Voltage	5	V
D.C. Forward Current	1500	mA
Pulsed Forward Current ; tp≦100μs,Duty cycle=0.005)*1	2000	mA
Operating Temperature Range	-40 to +75	℃
Storage Temperature Range	-40 to +105	℃
Soldering Temperature	Reflow Soldering: 260℃ for 10 sec. Hand Soldering: 350℃ for 3 sec.	
Electric Static Discharge Threshold (HBM)	6000	V

Duty Cycle :



Notes:

1、Proper current derating must be observed to maintain junction temperature below the maximum .

2、All products not sensitive to ESD damage(6000 Volts by HBM condition).

3、Be careful with a powered up current limited power supply, because of current spikes during power up and/or connection. Best practice is to connect the LED then turn up the voltage gradually. People building their own power supplies should design for minimum current spikes during power up and connection.

4、For best results the customer needs to provide proper control of the thermal path ,protect against electrical overstress conditions, and ensure that emitters are properly attached to the mcpcb/heat sink.

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Characteristics at If=1500mA ,Vr=5V (Ta=25°C)：

Parameter		Symbol	Values			Units
			Min.	Typ.	Max.	
Luminous Flux	FULL	Φv	113	150	248	lm
	Rank V		113	--	147	
	Rank W		147	--	191	
	Rank X		191	--	248	
Forward voltage	FULL	VF	2.7	3.3	4.25	V
	Rank V01		2.7	--	3.0	
	Rank V02		3.0	--	3.25	
	Rank V03		3.25	--	3.5	
	Rank V04		3.5	--	3.75	
	Rank V05		3.75	--	4.0	
	Rank V06		4.0	--	4.25	
Correlated Colour Temperature	FULL	CCT	2700	3200	3700	° K
	Rank W		2700	--	3200	
	Rank X		3200	--	3700	
Thermal Resistance Junction to Case		$R\theta_{J-C}$	--	10	--	℃/W
Temperature Coefficient of Forward Voltage		$\triangle V_F/\triangle T$	--	-2	--	mV/℃
Reverse Current		I_R	--	--	50	μA
Viewing angle at 50% IV		2θ 1/2	--	120	--	Deg.

Notes：

1.Flux is measured with an accuracy of ±15%.

2.Forward voltage is measured with an accuracy of ±0.15V.

3.CCT selection acc.to CCT groups and an accuracy of ±300° K.

Typical Electrical/Optical Characteristic Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

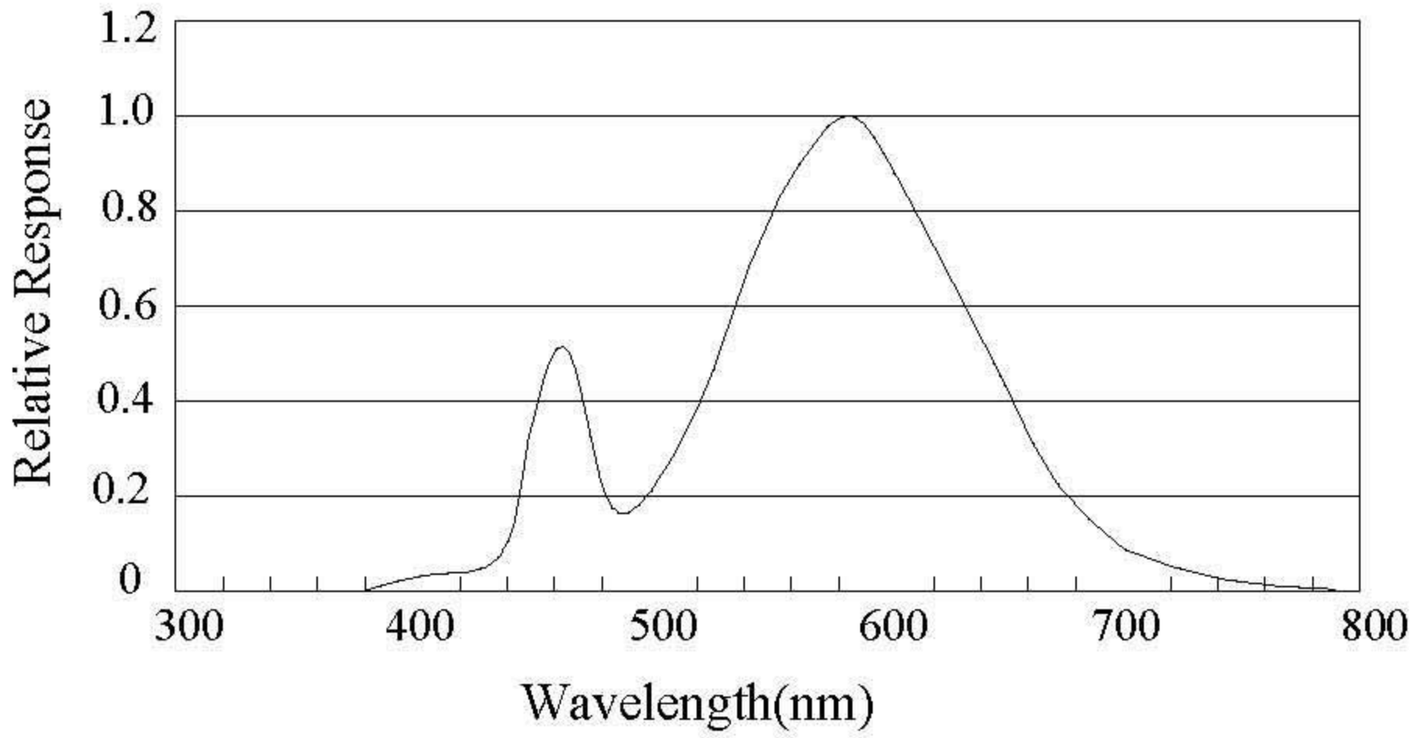
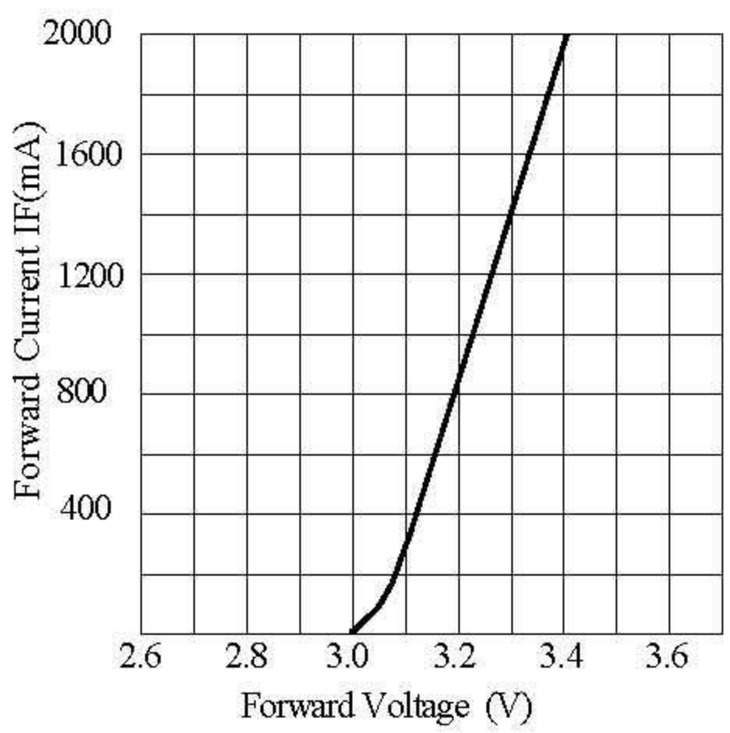
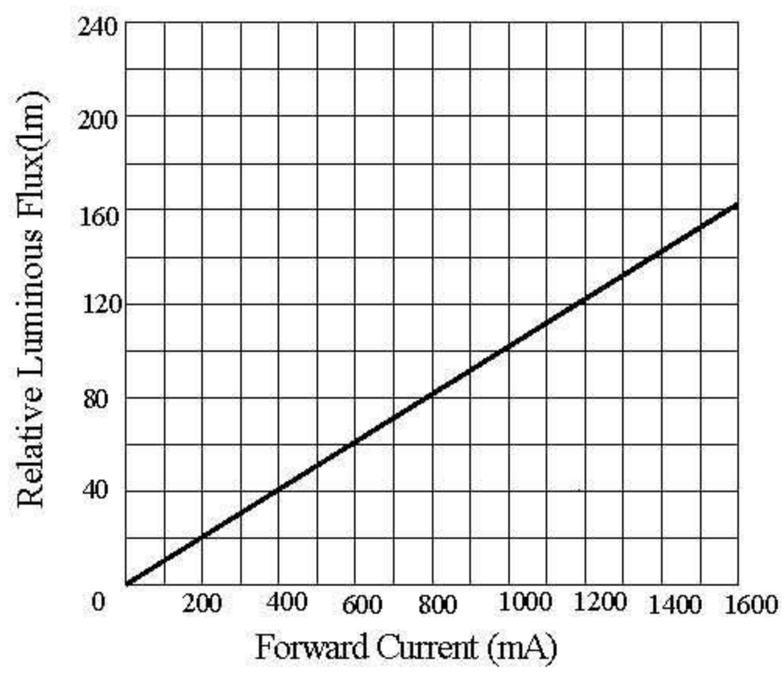


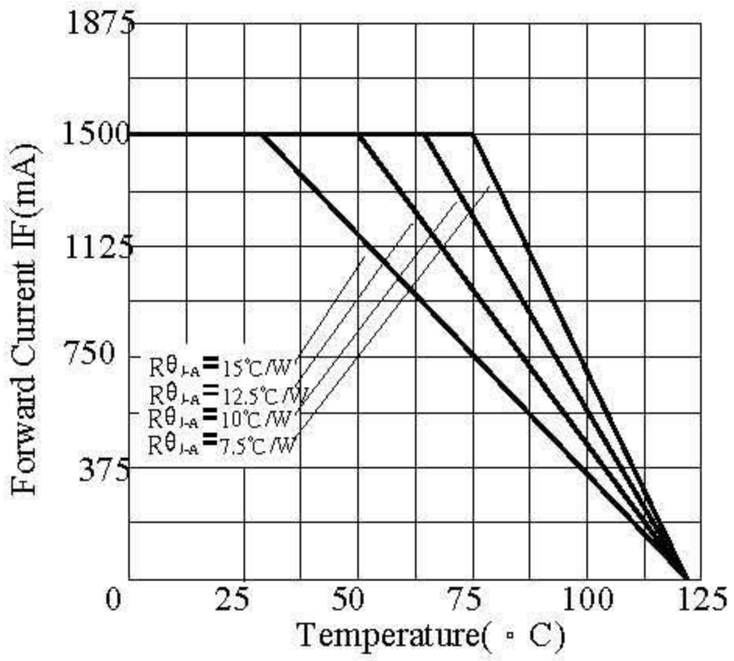
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



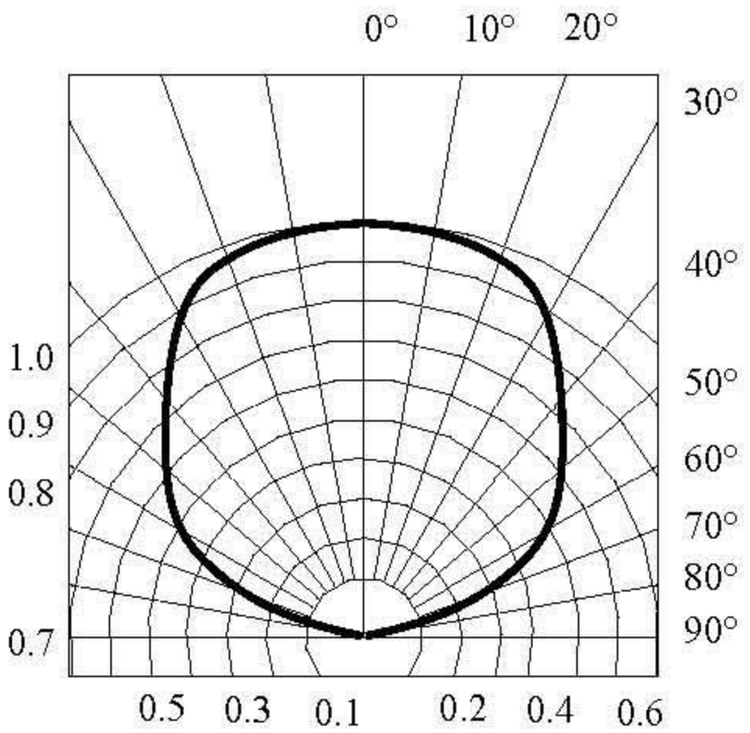
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

PRECAUTION IN USE

Storage

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Use within 7 days after opening of sealed vapor/ESD barrier bags.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5℃ for 24 hours.

Fold the opened bag firmly and keep in dry environment.

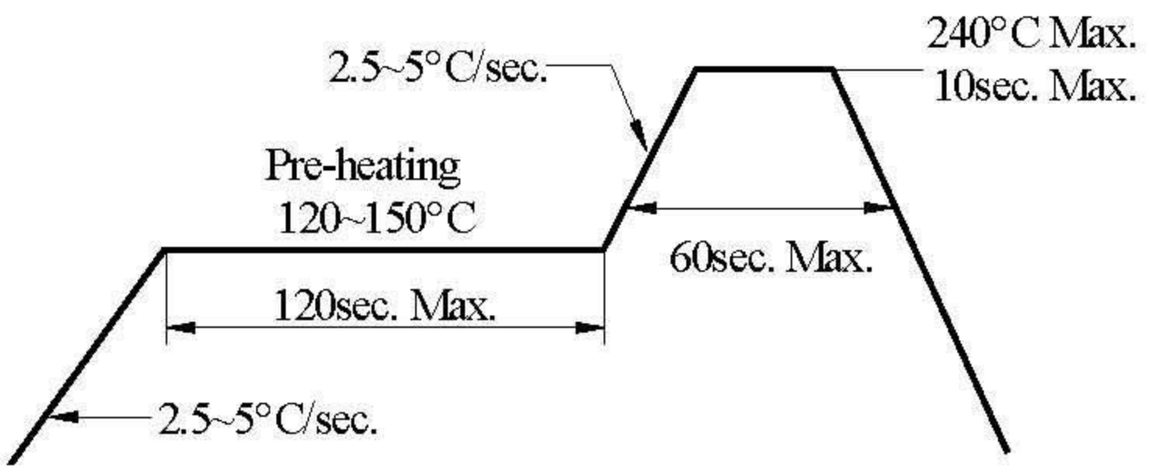
Soldering

Reflow Soldering			Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150℃	180~200℃	Temperature	350℃ Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240℃ Max.	260℃ Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature-profile 1	refer to Temperature-profile 2		

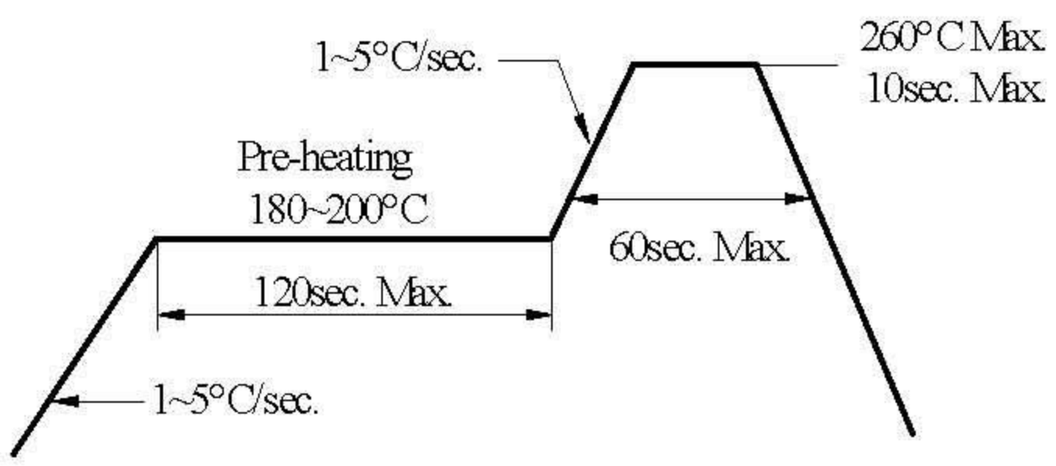
***After reflow soldering rapid cooling should be avoided.**

[Temperature-profile (Surface of circuit board)]
Use the conditions shown to the under figure.

<1 : Lead Solder>

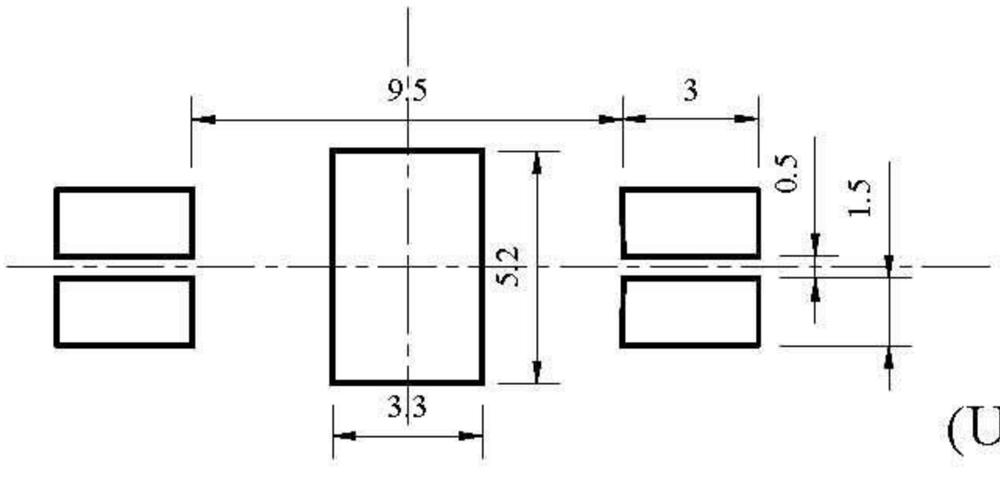


<2 : Lead-free Solder>



[Recommended soldering pad design]

Use the following conditions shown in the figure.



(Unit:mm)