

PRODUCT SPECIFICATION

Part Number
PL16K-WCW32

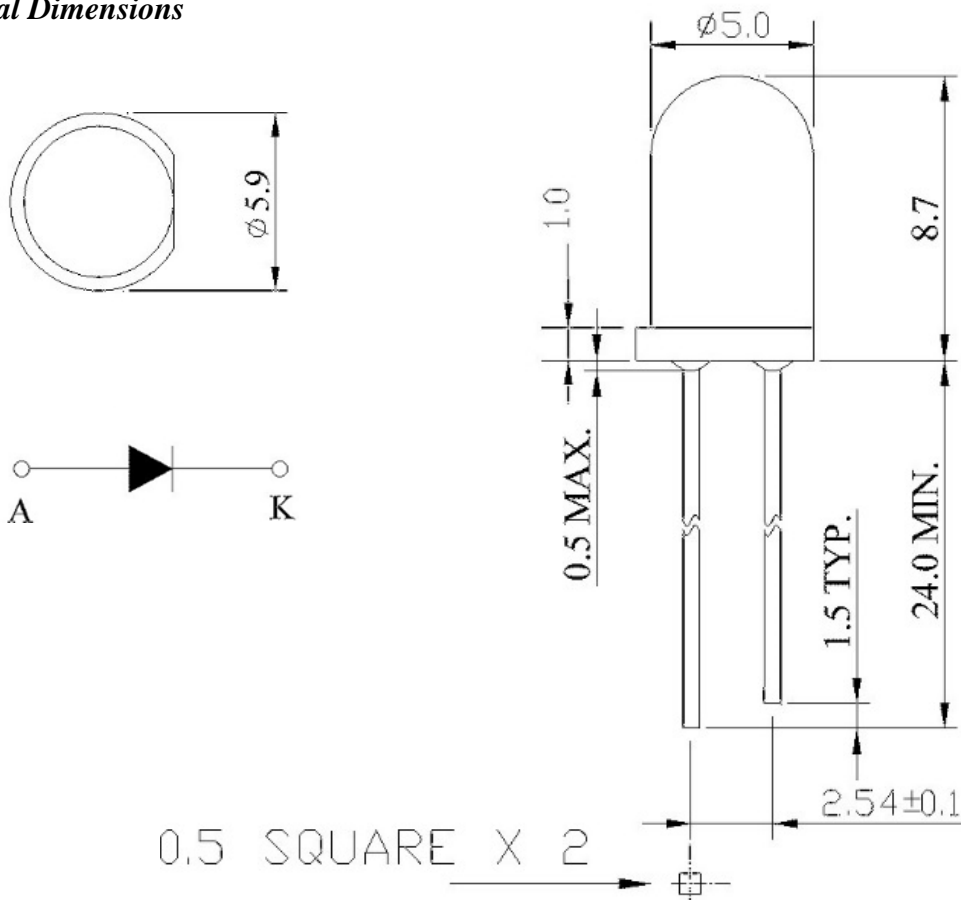
Details

- 5mm (T1 3/4) Round Thru-Hole LED Lamp
- Emitting Color: White
- Water Clear Lens
- InGaN dice used

Features

- Low power consumption
- RoHS Compliant
- Rugged and Durable
- High Efficiency

Mechanical Dimensions



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in this datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.





together we'll shine

Device Selection Guide

Model Number	Chip		Lens Type
	Material	Emitting Color	
PL16K-WCW32	InGaN	White	Water Clear

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	120	mW
Reverse Voltage	VR	5	V
DC Forward Current	IF	30	mA
Reverse (Leakage) Current	Ir	50	μA
Peak Current (duty cycle 1/10, 1KHz)	IPF	100	mA
Operating Temperature	Topr	-25~+85	°C
Storage Temperature	Tstg	-40~+100	°C
Soldering Temperature (1.6mm from body)	Tsol.	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	
Electrostatic Discharge	ESD	1000	V

Electrical and Optical Characteristics at Ta=25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	VF	--	3.2	4.0	V	IF=20mA
Luminous Intensity	Iv	5400	11000	--	mcd	
CIE Chromaticity Coordinates: X Axis	X	--	0.315	--	--	
CIE Chromaticity Coordinates: Y Axis	Y	--	0.325	--	--	
Reverse (Leakage) Current	Ir	--	--	50	μA	Vr=5V
Viewing Angle	2θ1/2	--	55	--	--	deg

Notes: 1. Tolerance of Luminous Intensity is ±15%

2. Tolerance of Forward Voltage is ±0.1V

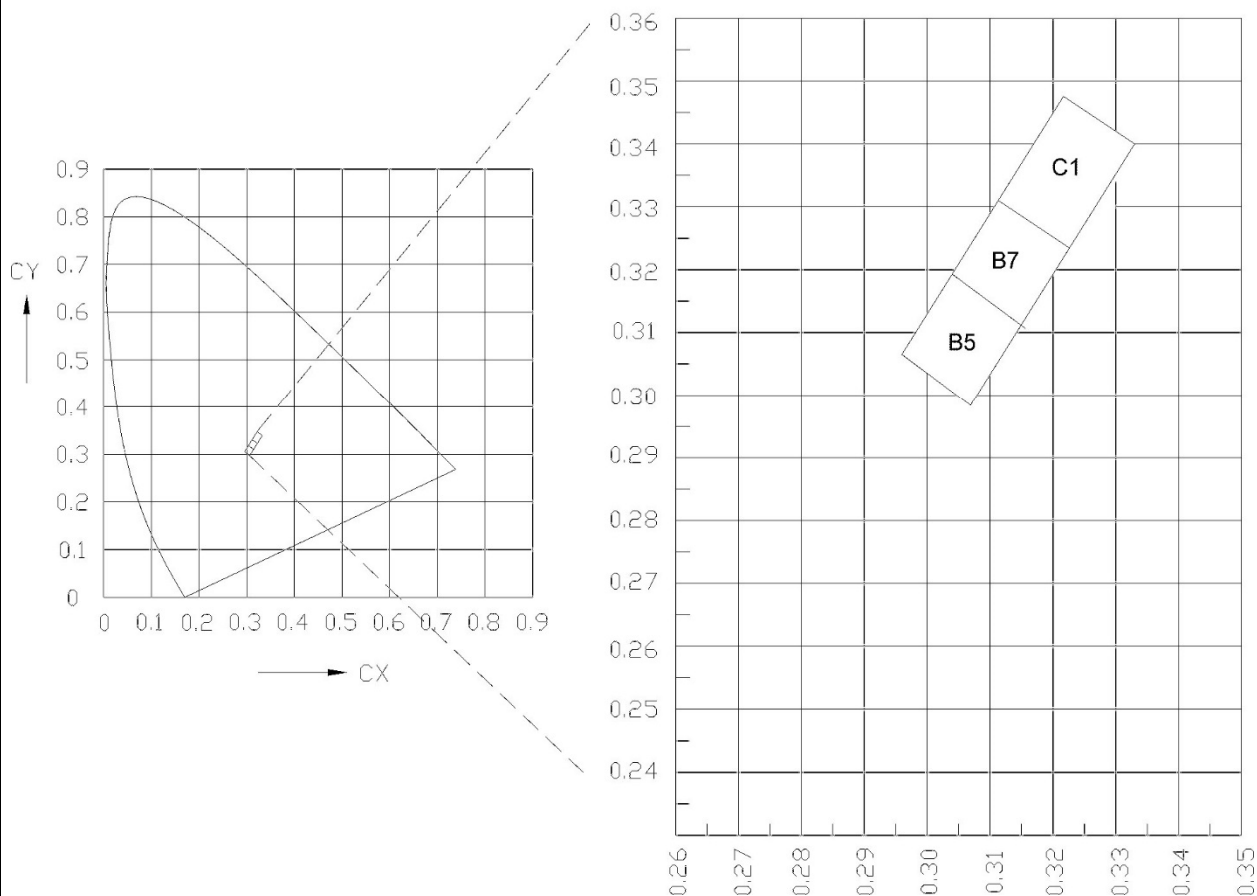
Chromaticity Coordinates Specifications for Bin Grading

- Color Ranks (IF=20mA, Ta=25°C)

<i>BIN</i>	<i>Rank</i>				
B5	X	0.296	0.304	0.315	0.307
	Y	0.307	0.319	0.311	0.298
B7	X	0.304	0.312	0.323	0.315
	Y	0.319	0.331	0.323	0.311
C1	X	0.312	0.322	0.333	0.323
	Y	0.331	0.348	0.34	0.323

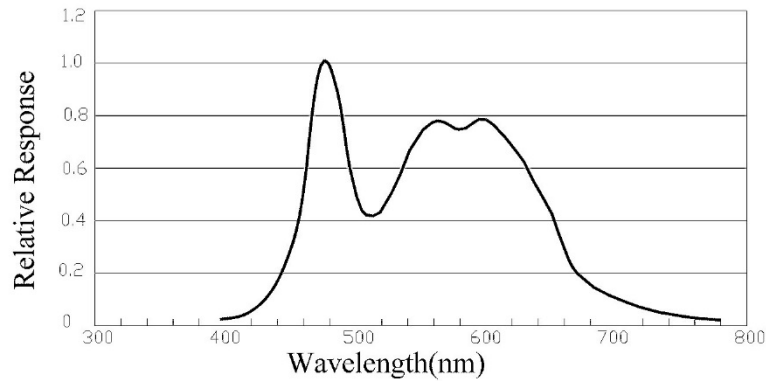
Note: X,Y Tolerance each Bin limit is ± 0.01 .

Chromaticity Coordinates & Bin Grading Diagram

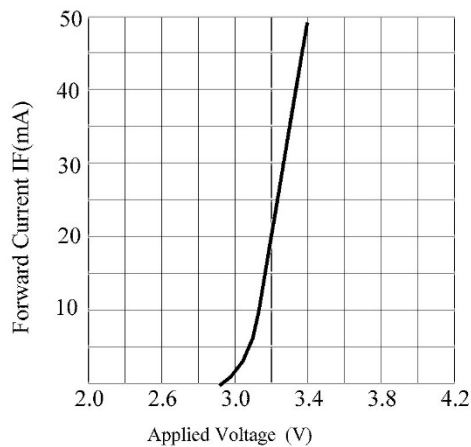


Typical Electrical / Optical Characteristic Curves

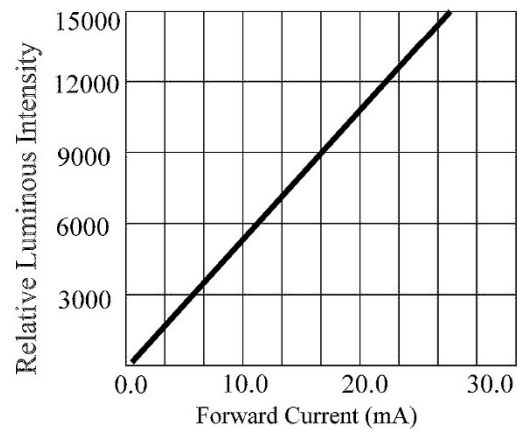
- (Ta = 25°C Unless Otherwise Noted)



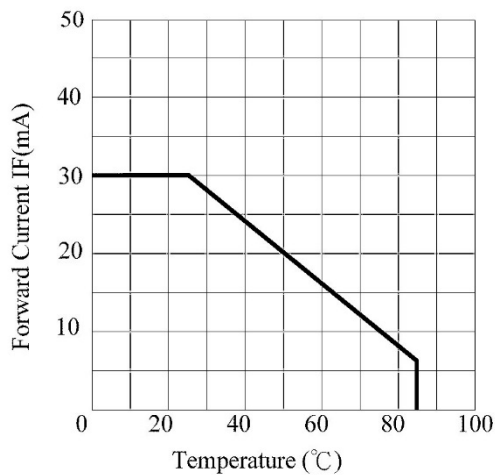
WHITE LED SPECTRUM VS. WAVELENGTH



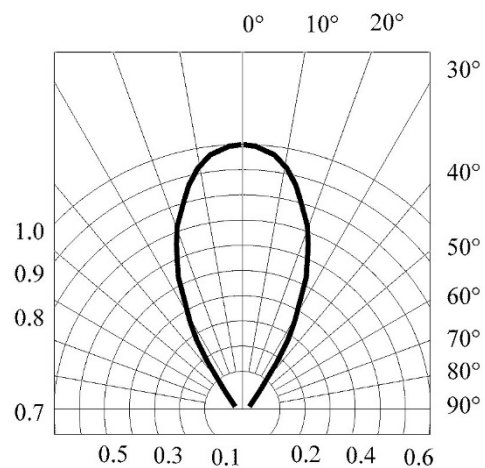
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions for Use

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C.

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

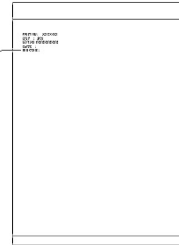
Baking temperature: 120°C max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Packing Dimensions

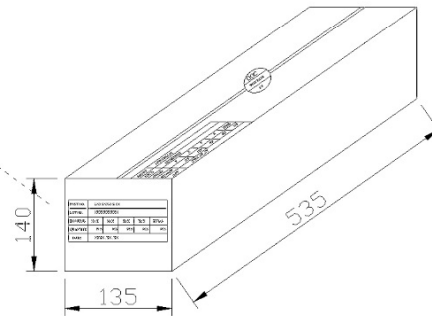
PLASTIC PACKAGE
QUANTITY: 200 PCS

P-tec Corporation
PART NO :XXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXX
DATE :
BIN CODE:



INNER BOX
QUANTITY: 40 PACKETS
TOTAL: 8,000 PCS

PART NO.	XXXX-XX-XX				
LOT NO.	XXXXXXXXXX				
BIN CODE	Xx X	Xx X	Xx X	Xx X	TOTAL
QUANTITY	PCS	PCS	PCS	PCS	PCS
DATE	XXXX, XX, XX				



OUTER CARTON
QUANTITY: 4 BOX
TOTAL: 32,000 PCS

C/T NO. 箱 號	XX
PART NO. 料 號	XXXX-XX-XX
QUANTITY 數 量	PCS
N.W. 淨 重	KGS
G.W. 毛 重	KGS
REMARK 備 註	

