PRODUCT SPECIFICATION

Part Number

PL16-CDB01

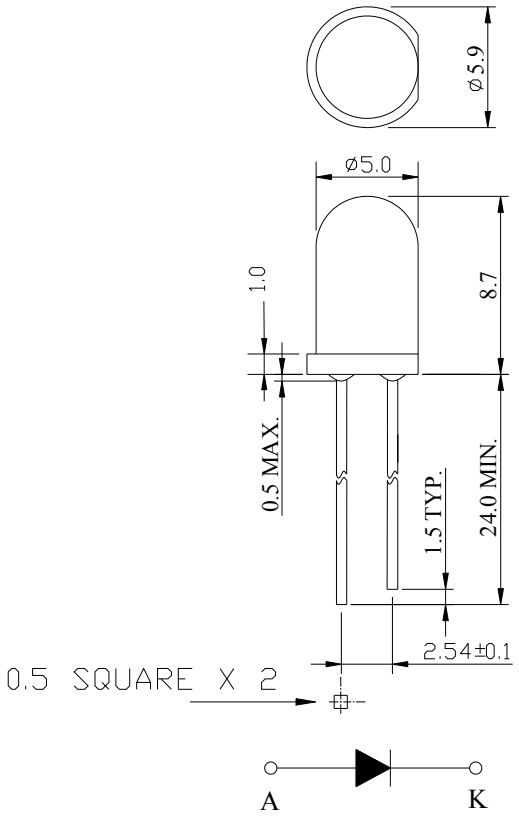
Details

- 5mm Round Thru Hole LED
- Emitting Color: Blue
- GaN/SiC chip material

Features

- RoHS Compliant
- Rugged and Durable

Mechanical Dimensions



Notes:
1. All dimensions are in millimeters unless otherwise noted
2. Tolerance is±0.25mm unless otherwise noted
3. Specifications subject to change without notice

Device Selection Guide

Part Number	Chip		Lens Color
	Material	Emitting Color	
PL16-CDB01	GaN/SiC	Blue	Blue Diffused

Absolute Maximum Ratings at Ta=25℃

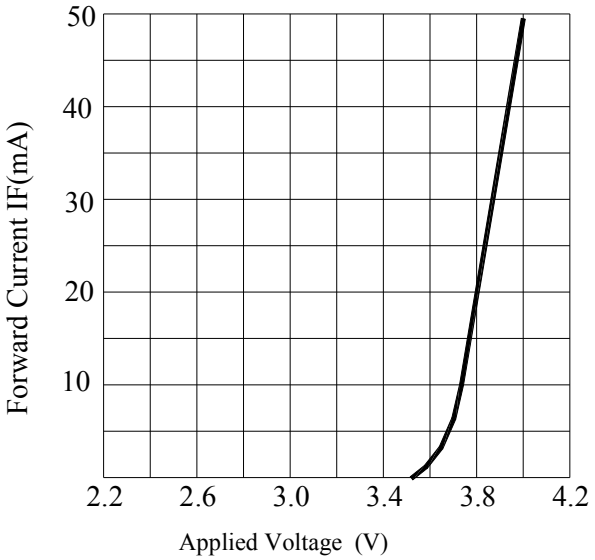
Parameter	Symbol	Rating	Unit
Power Dissipation	P_D	135	mW
Reverse Voltage	VR	5	V
DC Forward Current	IF	30	mA
Reverse (Leakage) Current	Ir	50	μA
Peak Current (duty cycle 1/10, 1KHz)	I_{PF}	100	mA
Operating Temperature	Topr	-25~+85	℃
Storage Temperature	Tstg	-40~+100	℃
Soldering Temperature (1.6mm from body)	Tsol.	Dip Soldering : 260℃ for 5 sec. Hand Soldering : 350℃ for 3 sec.	
Electrostatic Discharge	ESD	1000	V

Electrical and Optical Characteristics at Ta=25℃

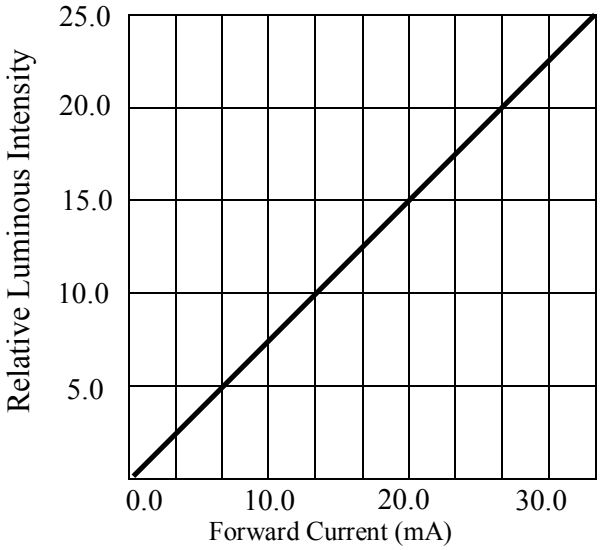
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	VF	--	3.8	4.5	V	IF=20mA
Luminous Intensity	Iv	7.5	15.0	--	mcd	IF=20mA
Dominant Wavelength	λd	--	466	--	nm	IF=20mA
Reverse (Leakage) Current	Ir	--	--	50	μA	Vr=5V
Viewing Angle	2θ1/2	--	60	--	--	deg
Spectrum Line Halfwidth	Δλ	--	65	--	--	IF=30mA

Notes: 1.Tolerance of Luminous Intensity is ± 15%.
2.Tolerance of Forward Voltage is ±0.1V.
3.Tolerance of Dominant Wavelength is ±1nm.

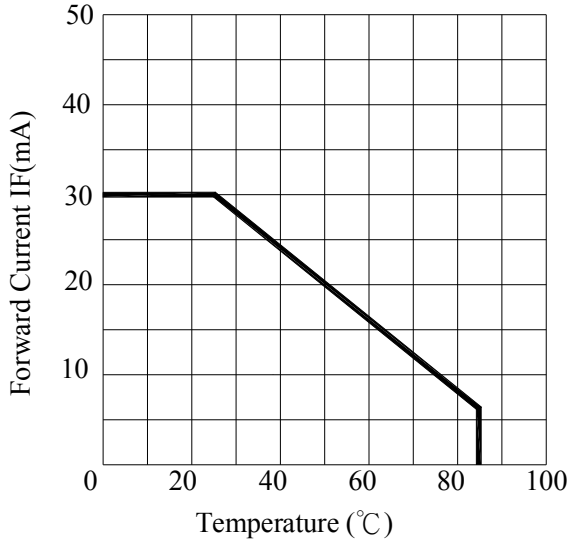
Typical Electrical / Optical Characteristic Curves



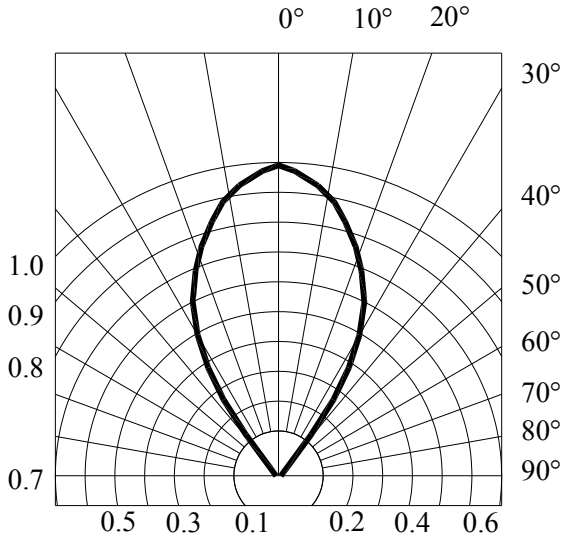
FORWARD CURRENT VS.APPLIED VOLTAGE



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℃.

At a temperature exceeding this limit, the coefficient of liner 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, avoided 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℃ max. (Backside of PCB), Within 60 seconds.

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

(3) Hand soldering: 350℃ 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.

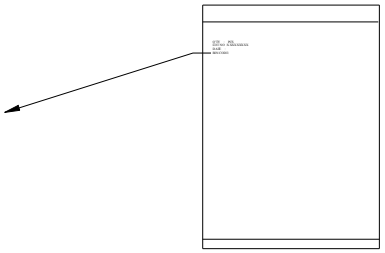
Baking temperature: 120℃ max. Baking time: Within 60 seconds.

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

Packaging Specifications

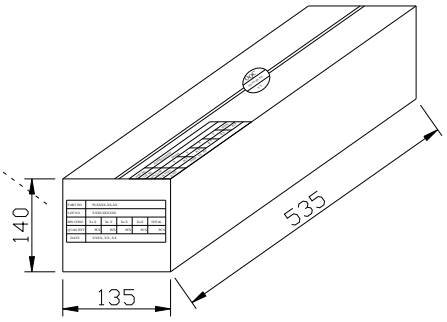
PLASTIC PACKAGE
QUANTITY: 200 PCS

P-TEC CORP. PART NO :LTXXXX-XX Q'TY : PCS LOT NO :XXXXXXXXX DATE : BIN CODE:



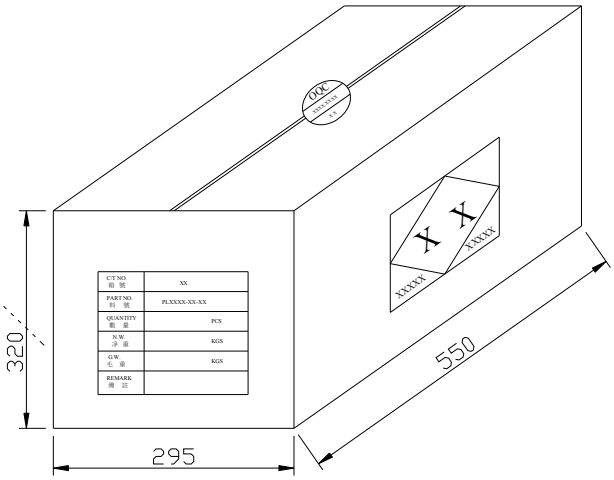
INNER BOX
QUANTITY: 40 PACKETS
TOTAL: 8,000 PCS

PART NO.	PLXXXX-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	PLXXXX-XX-XX
QUANTITY 數 量	PCS
N.W. 淨 重	KGS
G.W. 毛 重	KGS
REMARK 備 註	



PL16-CDB01 Customer Approval Signatures	Approved By	Checked By	Prepared By

Record Of Revisions			
Rev.	**Comments**	**Page**	**Date**
0	Released Spec	--	7/30/2018