

PRODUCT SPECIFICATION

Part Number
PL5050A6-WCRGB1

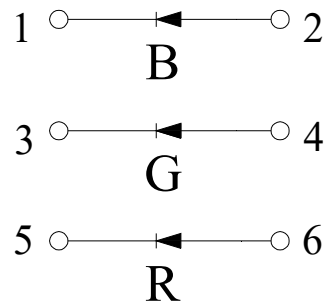
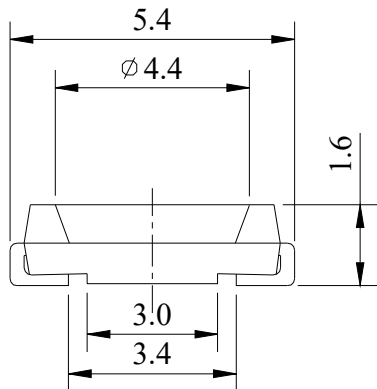
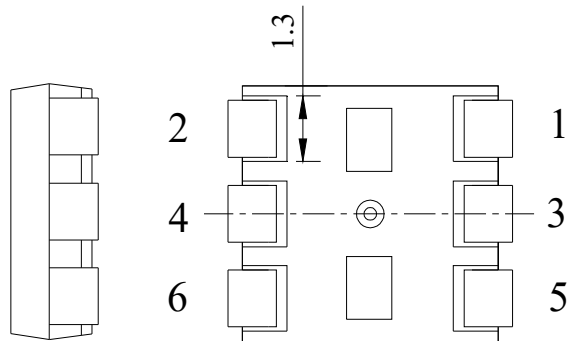
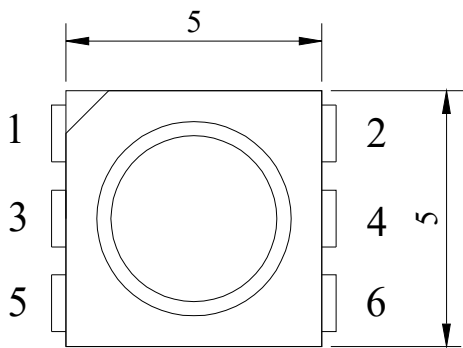
Details

- RGB Surface Mount LED
- PLCC-6 5.0 x 5.0 x 1.6mm
- 1,000 piece reels
- Emitting Color: RGB
- AllInGaP/Si & InGaN/Sapphire chip material

Features

- Rugged Package
- 120° Viewing Angle
- RoHS Compliant

Mechanical Dimensions



Notes:

1. Specifications subject to change without notice
2. Tolerance of measurement of dimensions: $\pm 0.25\text{mm}$





Device Selection Guide

Model Number	Chip		Lens Color
PL5050A6-WCRGB1	Material	Emitting Color	Water Clear
	AllnGaP/Si	Hyper Red	
	InGaN/GaN	True Green	
	InGaN/GaN	Blue	

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Color	Rating	Unit
Power Dissipation	Pd	R	75	mW
		G	108	
		B	108	
Total Power Dissipation	PDt	--	170	
DC Forward Current	IF	R	30	mA
		G		
		B		
Peak Current (1/10Duty Cycle,0.1ms Pulse Width)	IFP	--	100	mA
Reverse Voltage	VR	--	5	V
Operating Temperature	Topr	--	-40~+100	°C
Storage Temperature	Tstg	--	-40~+100	°C
Soldering Temperature	Tsld	--	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	



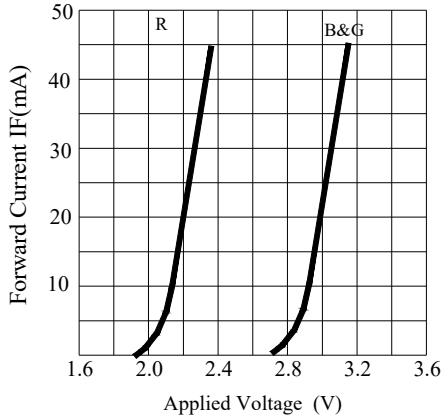
Electrical and Optical Characteristics at Ta=25 °C

Parameter	Symbol	Color	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	VF	R	1.8	2.0	2.4	V	IF=20mA
		G	2.4	3.0	3.4		
		B	2.6	3.0	3.6		
Luminous Intensity	Iv	R	600	800	--	mcd	
		G	1400	1700	--		
		B	260	430	--		
Peak Wavelength	λP	R	--	632	--	nm	
		G	--	--	--		
		B	--	--	--		
Dominant Wavelength	λD	R	--	620	--	nm	
		G	--	518	--		
		B	--	467	--		
Viewing Angle	2θ 1/2	--	--	120	--	deg	
Spectrum Line Halfwidth	Δλ	R	--	20	--	nm	
		G	--	35	--		
		B	--	26	--		
Reverse Current	IR	R	--	--	100	μA	Vr=5V
		G	--	--	50		
		B	--	--	50		

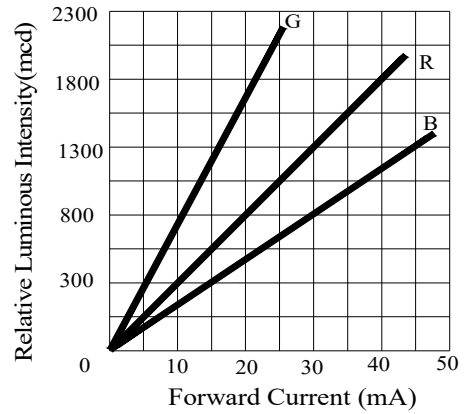
Notes: 1. Tolerance of Luminous Intensity is ±15%
 2. Tolerance of Forward Voltage is ±0.1V
 3. Tolerance of Dominant Wavelength is ±1nm

Typical Electrical / Optical Characteristic Curves

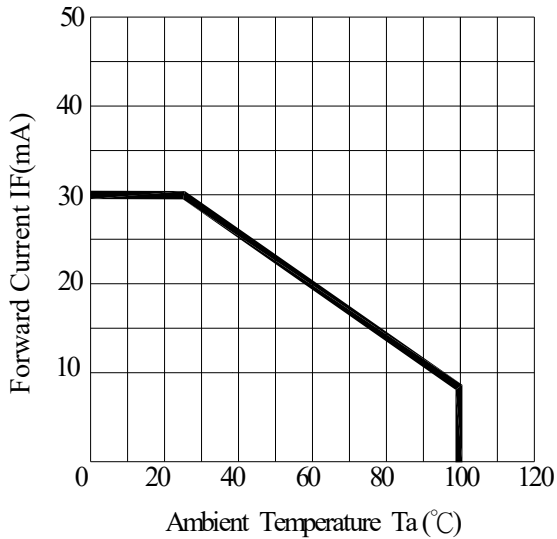
- $T_a = 25^\circ\text{C}$ Unless Otherwise Noted



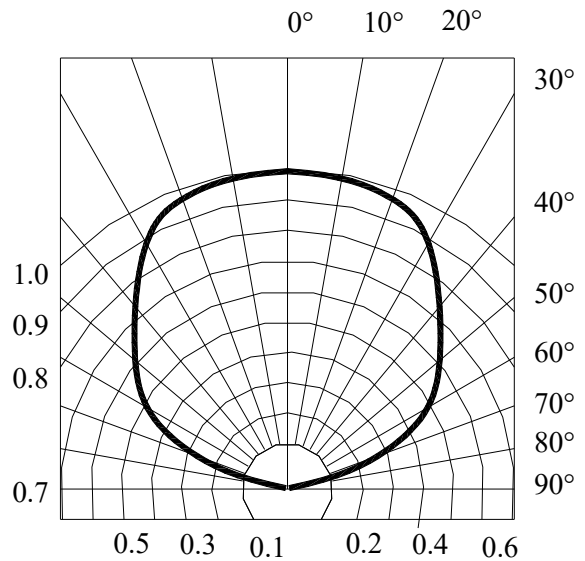
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity

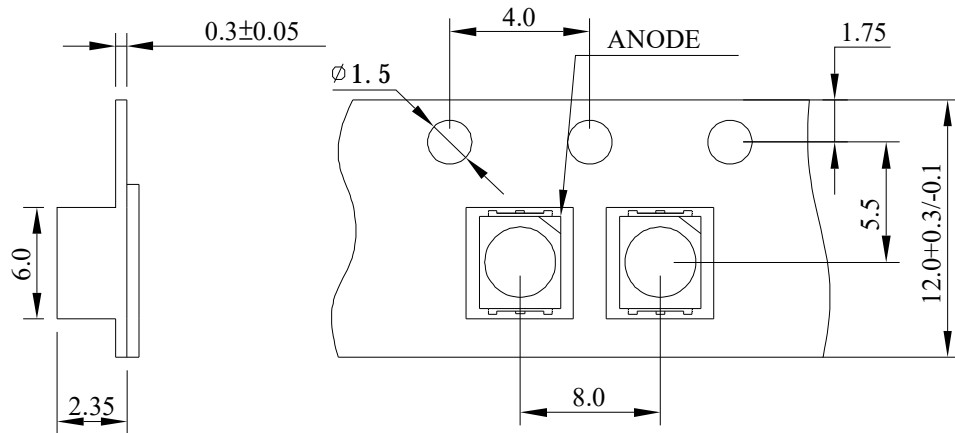


Ambient Temperature VS. Forward Current

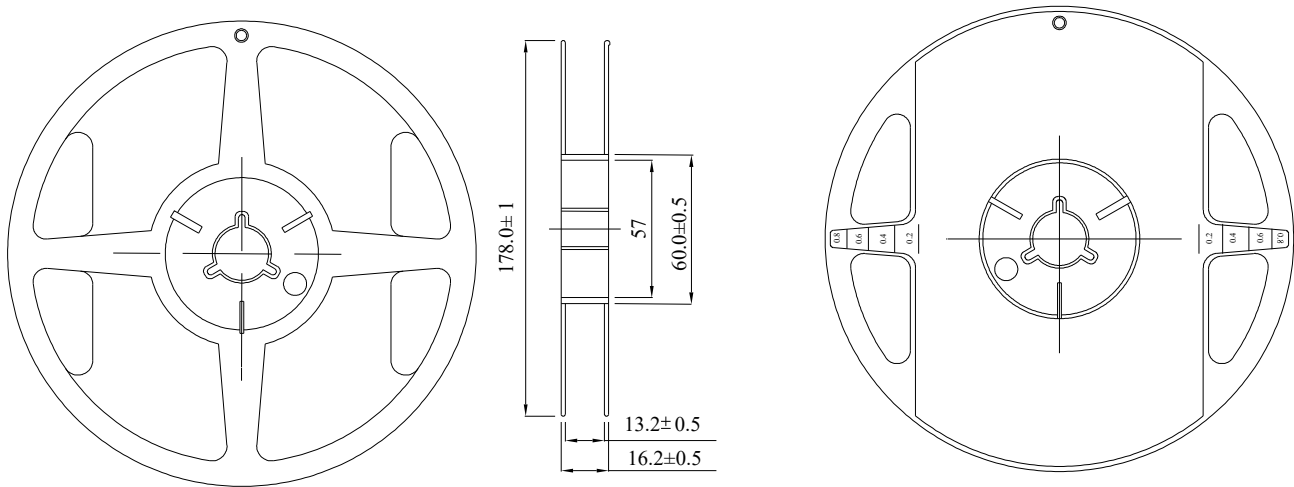


Radiation Diagram

Dimensions for Tape



Dimensions for Reel

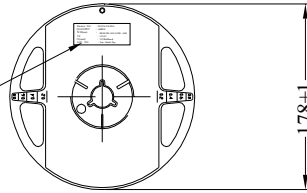


Notes: 1. All dimensions are in mm, tolerance is ± 2.0 mm unless otherwise noted.
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Package Specifications

REEL
QUANTITY: 1,000 PCS

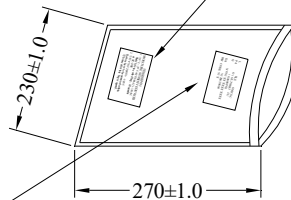
P-TEC CORP.
 PART NO :PLXXXX-XX
 Q'TY : PCS
 LOT NO :XXXXXXXXXX
 DATE :
 BIN CODE:



Mositure-sensitive label

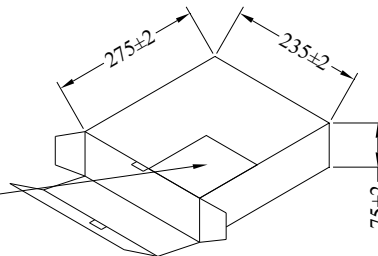
BAG
QUANTITY: 1,000 PCS

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



INSIDE BOX
QUANTITY: 4 BAGS
TOTAL: 4,000 PCS

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



Notes: 1. All dimensions are in mm, tolerance is ±2.0mm unless otherwise noted.
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Precautions in Use

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again. Fold the opened bag firmly and keep in dry environment.

Soldering

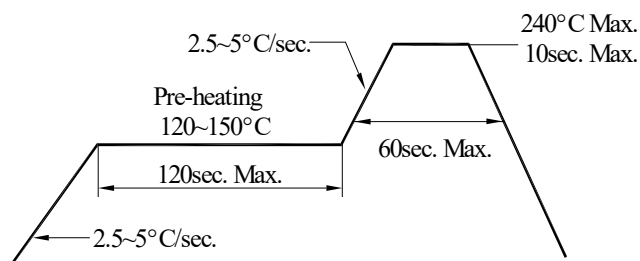
	Reflow Soldering		Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150°C	180~200°C	Temperature	350°C Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240°C Max.	260°C Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to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

*After reflow soldering rapid cooling should be avoided.

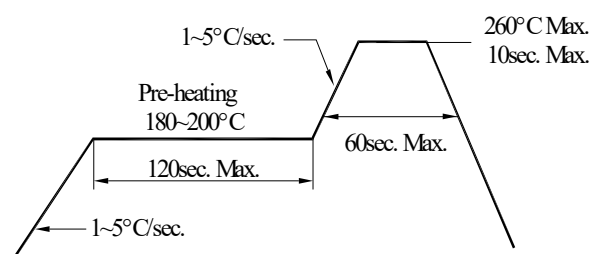
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

< 1 : Lead Solder >

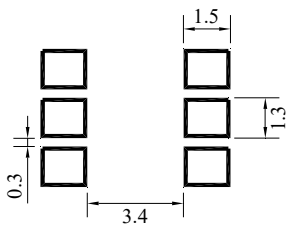


< 2 : Lead-free Solder >



[Recommended soldering pad design]

Use the following conditions shown in the figure.





PL5050A6-WCRGB1 Customer Approval Signatures	Approved By	Checked By	Prepared By

Record Of Revisions			
Rev.	Comments	Page	Date
0	Released Spec	--	03/18/2019