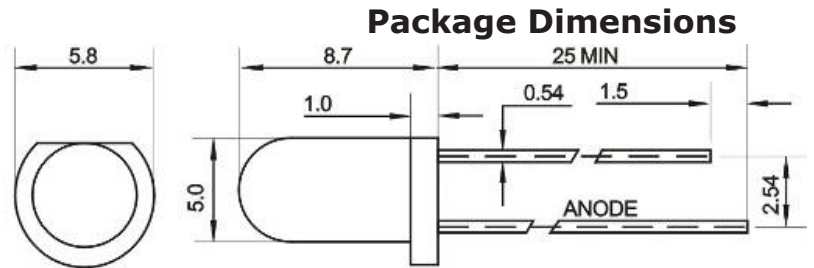




**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

## ARL-5013PGC-B

UNIT:mm



### Package Dimensions

### Features

- Electricity control IC embedded
- Fancy, fun, hottest in the market.
- Lens size with 5mm / 8mm / 10mm options
- Viewing Angles 40°..
- Operating voltage range : 3V-5V DC.
- Blinking frequency : 1.8Hz
- Frequency tolerance : ±20%
- RoHS compliant

### Applications

- Toys / sports utilities
- Miniature key chains
- Effect Lights.
- Display / decoration lights .
- Electronic displays and signals
- Interior decoration lights.
- Indicator lights.
- Solar energy lights / garden lights

### Usage Notes

Surge will damage the LED  
When using LED, it must use a protective resistor in series with DC current about 20mA

### Description

- New trend creations
- Low energy consumptions
- Low maintenance costs
- High application design flexibility
- High reliability

### Device Selection Guide

Part No.	Chip		Lens Color
	Material	Emitted Color	
ARL-5013PGC-B	InGaN	Green	White clear

### Absolute Maximum Rating (T<sub>a</sub> = 25°C)

Parameter	Symbol	Absolute Maximum Rating	Units
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FPM</sub>	100	mA
Forward Current	I <sub>FM</sub>	30	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	100	mW
Operating Temperature	Topr	-40 ~ +80	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	Tsol	260	°C

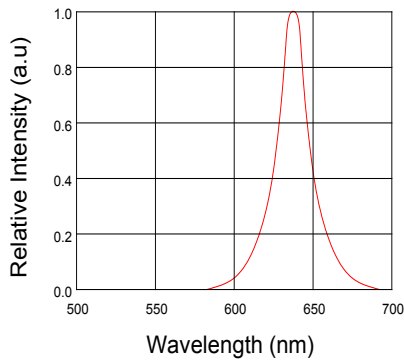
## Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Min	Typ.	Max.	Units	Test Conditions
Luminous Intensity	I <sub>v</sub>		10000	12000	mcd	IF=20mA (Note 1)
Viewing Angle	2θ <sub>1/2</sub>	---	40	---	Deg	(Note 2)
Peak Emission Wavelength	λ <sub>p</sub>	520	525	530	nm	IF=20mA
Spectral Line Half-Width	λ	15	20	25	nm	IF=20mA
Turn on time	Duty		1/20		ms	IF=20mA
Blinking Frequency	Fled		1.8		Hz	IF=20mA
Forward Voltage	V <sub>F</sub>	3.0	---	5.0	V	IF=20mA
Reverse Current	I <sub>R</sub>	---	---	10	μA	VR=5V

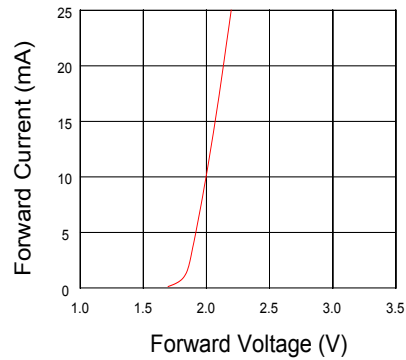
- Notes:** 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.  
 2. θ<sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

## Typical Electro-Optical Characteristics Curves

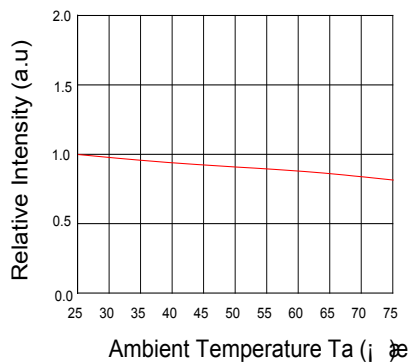
Relative Intensity VS. Wavelength



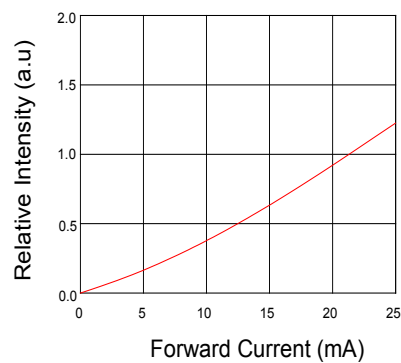
Forward Current VS. Forward Voltage



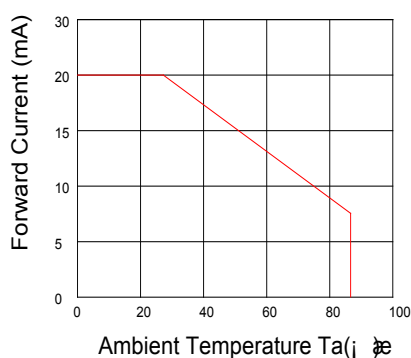
Relative Intensity VS. Ambient Temp



Forward Current VS. Relative Intensity



Forward Current VS. Ambient Temp.



Radiation Characteristics

