Kingbright

PHOTOTRANSISTOR

Part Number: L-32P3C

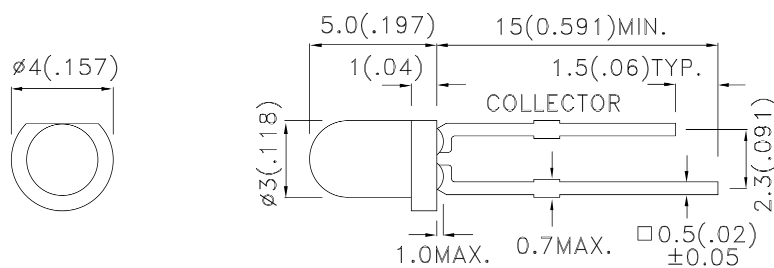
Features

- MECHANICALLY AND SPECTRALLY MATCHED TO THE INFRARED EMITTING LED LAMP.
- WATER CLEAR LENS.
- RoHS COMPLIANT.

Description

Made with NPN silicon phototansistor chips.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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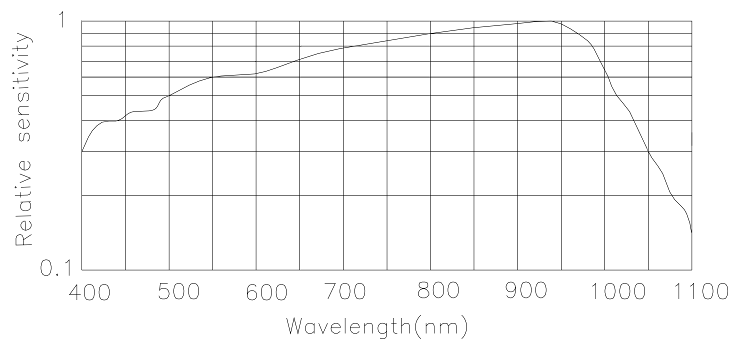
Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Min.	Typ.	Max.	Units	Test Conditions
$V_{BR\ CEO}$	Collector-to-Emitter Breakdown Voltage	30	-	-	V	I_C=100uA Ee=0mW/c㎡
$V_{BR\ ECO}$	Emitter-to-Collector Breakdown Voltage	5	-	-	V	I_E=100uA Ee=0mW/c㎡
$V_{CE\ (SAT)}$	Collector-to-Emitter Saturation Voltage	-	-	0.8	V	I_C=2mA Ee=20mW/c㎡
I_{CEO}	Collector Dark Current	-	-	100	nA	V_{CE}=10V Ee=0mW/c㎡
T_R	Rise Time (10% to 90%)	-	15	-	us	V_{CE} = 5V I_C=1mA R_L=1000Ω
T_F	Fall Time (90% to 10%)	-	15	-	us	
$I_{(ON)}$	On State Collector Current	0.1	0.5	-	mA	V_{CE} = 5V Ee=1mW/c㎡ λ=940nm
2θ1/2	Viewing Angle	-	50	-	deg	-

Absolute Maximum Ratings at TA=25°C

Parameter	Max.Ratings
Collector-to-Emitter Voltage	30V
Emitter-to-Collector Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature	-40°C To +85°C
Storage Temperature	-40°C To +85°C
Lead Soldering Temperature (>5mm for 5sec)	260°C



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LED MOUNTING METHOD

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.
(Fig. 1)

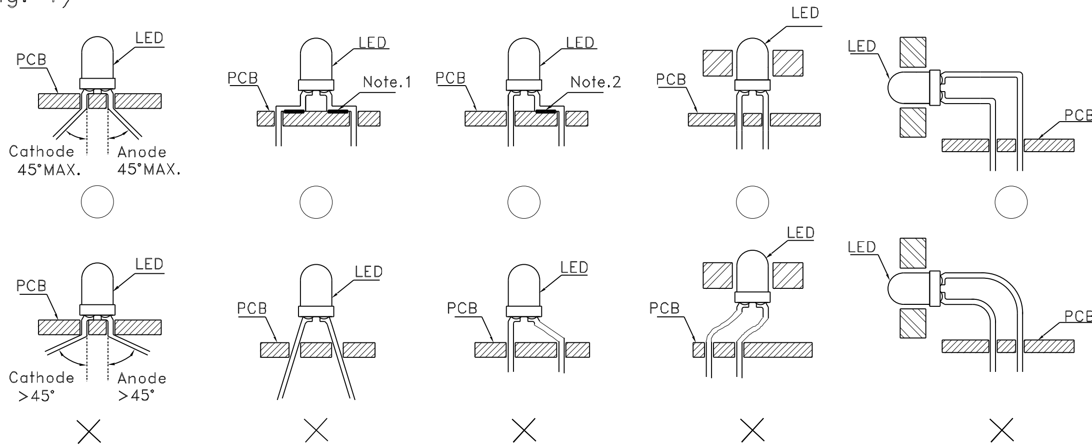

Fig.1

"○" Correct mounting method "×" Incorrect mounting method

Note 1-2 : Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

2. When soldering wire to the LED, use individual heat-shrink tubing to insulate the exposed leads to prevent accidental contact short-circuit.
(Fig. 2)

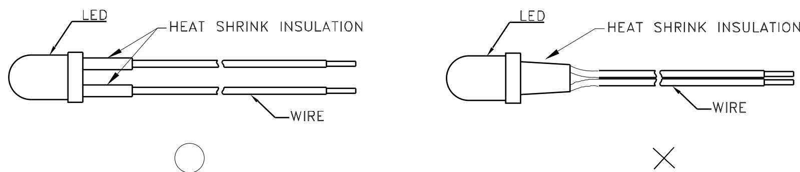

Fig. 2

3. Use stand-offs (Fig. 3) or spacers (Fig. 4) to securely position the LED above the PCB.

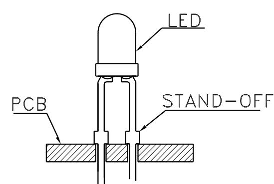

Fig. 3

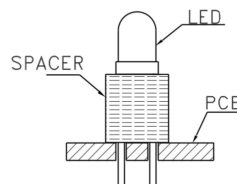

Fig. 4

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LEAD FORMING PROCEDURES

1. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)

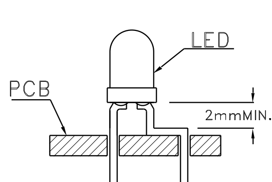

Fig. 5

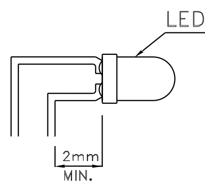

Fig. 6

2. Lead forming or bending must be performed before soldering, never during or after Soldering.
3. Do not stress the LED lens during lead-forming in order to fractures in the lens epoxy and damage the internal structures.
4. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)
5. Do not bend the leads more than twice. (Fig. 8)

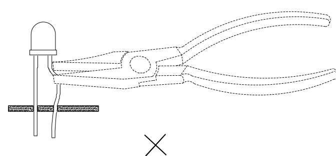

Fig. 7

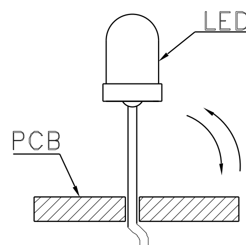

Fig. 8

6. After soldering or other high-temperature assembly, allow the LED to cool down to 50°C before applying outside force (Fig. 9). In general, avoid placing excess force on the LED to avoid damage. For any questions please consult with Kingbright representative for proper handling procedures.

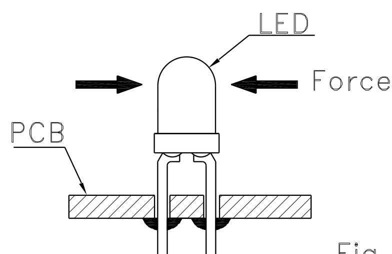

Fig. 9