Part Number: L-53P3C

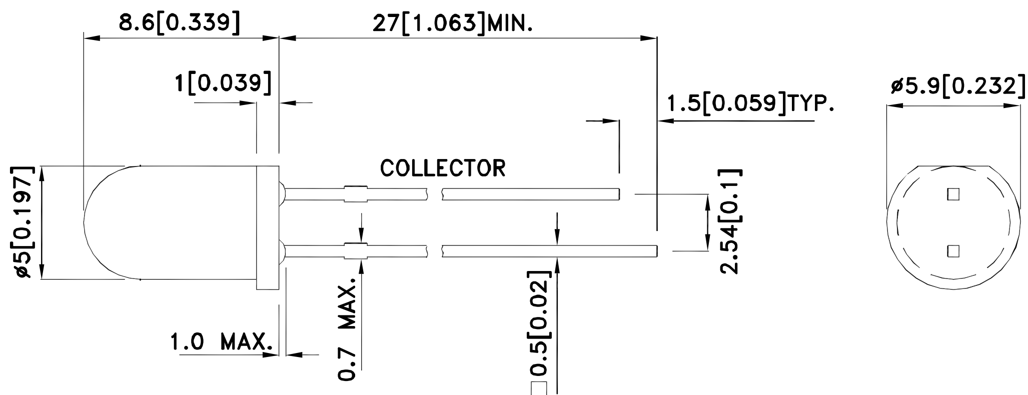
Features

- Mechanically and spectrally matched to the infrared emitting LED lamp .
- 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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior 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	0.7	3		mA	V_{CE} = 5V Ee=1mW/c㎡ λ=940nm

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

PACKING & LABEL SPECIFICATIONS **L-53P3C**

LABEL

1,000PCS / BAG

OUTSIDE LABEL

Kingbright

36K / 9# BOX

Kingbright

OUTSIDE LABEL

18K / 5# BOX

Kingbright

P/NO: L-53xxx

QTY: 1,000 pcs Q.C. Q C XX XX XX PASSED

S/N: XXXX

CODE: XXX

LOT NO:

xxxxxxxxxxxxxxxxxxxxxxxxxx

RoHS Compliant

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PRECAUTIONS

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)

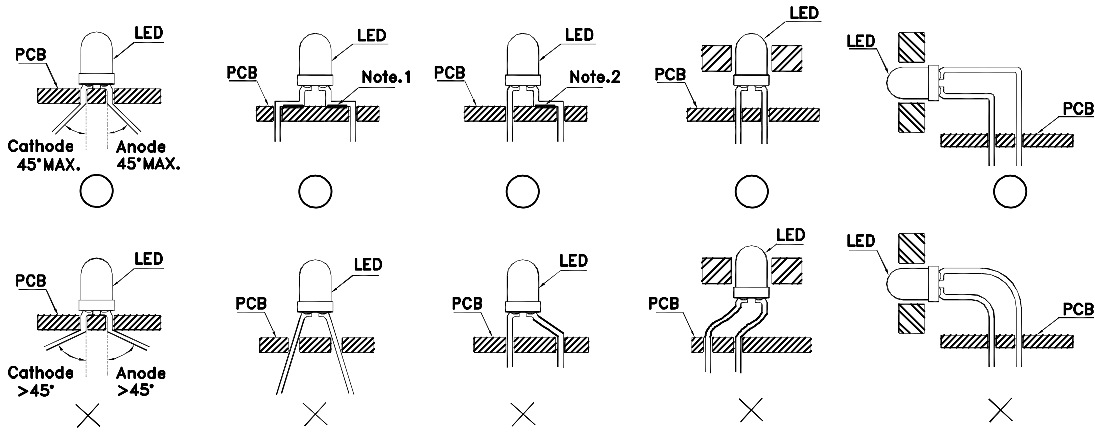

Fig.1

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

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)

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

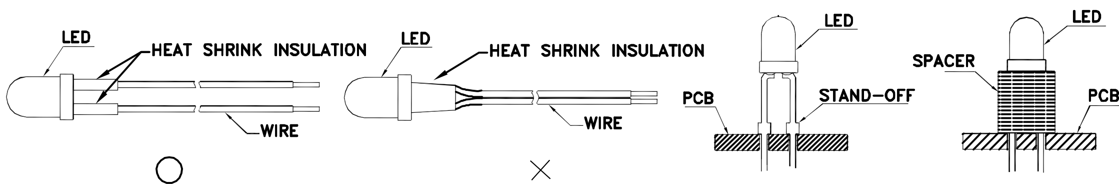

Fig. 2 Fig. 3 Fig. 4

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

5. 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)

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6. Do not bend the leads more than twice. (Fig. 8)

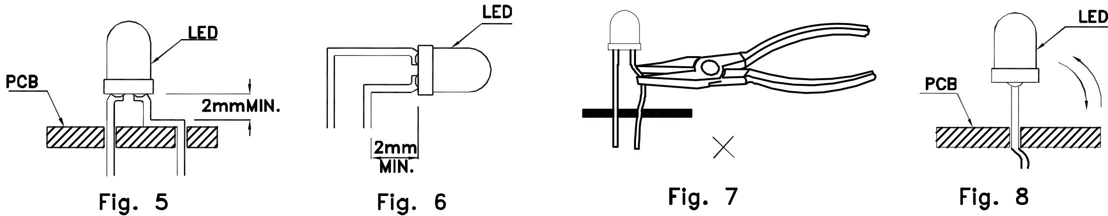
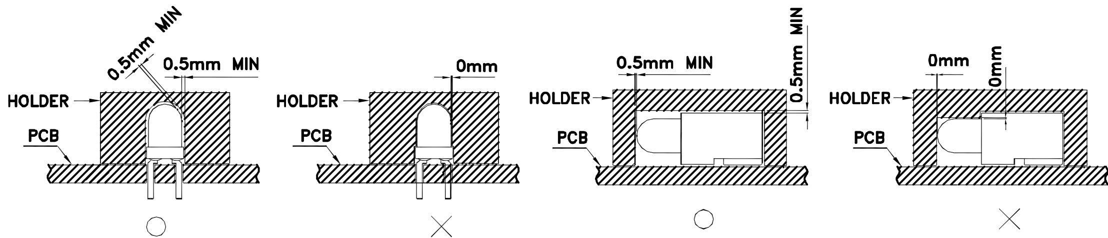
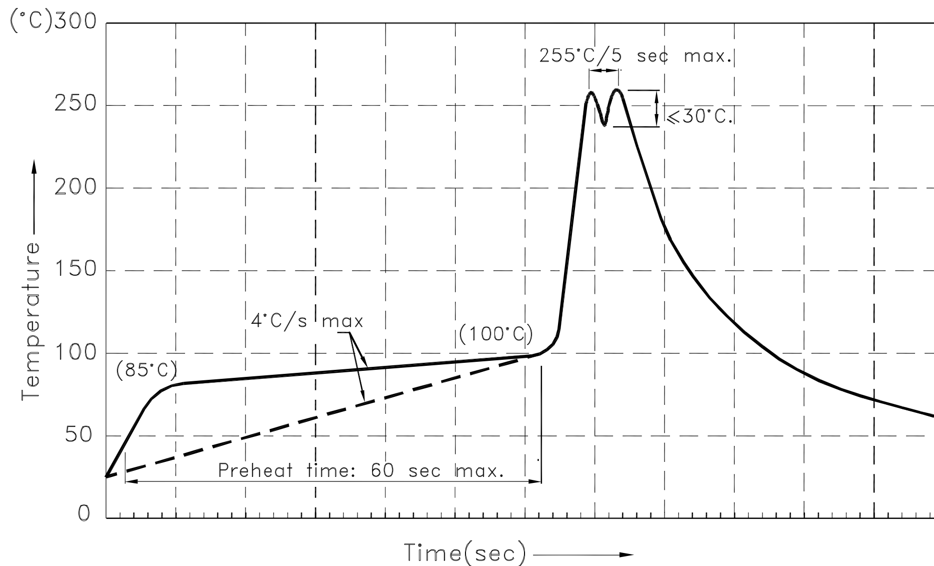


Fig. 5 Fig. 6 Fig. 7 Fig. 8

7. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



8. The tip of the soldering iron should never touch the lens epoxy.
9. Through-hole LEDs are incompatible with reflow soldering.
10. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
11. Recommended Wave Soldering Profiles:



Notes:

1.Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
2.Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
3.Do not apply stress to the epoxy resin while the temperature is above 85°C.
4.Fixtures should not incur stress on the component when mounting and during soldering process.
5.SAC 305 solder alloy is recommended.
6.No more than one wave soldering pass.