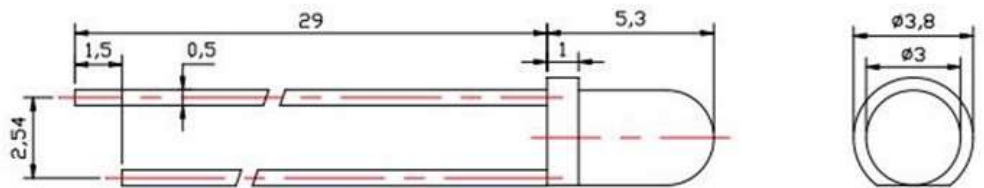


## 3mm through-hole LED: Overview

### PRODUCT SIZE



#### Through-hole LED Features:

- \* Dimension of Lens: 3mm;
- \* Wavelength 620-630nm;
- \* Lens type: Red diffused;
- \* High reliability and high radiation intensity;

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	60	mW
Pulse Forward Current	IFP	100	mA
Forward Voltage	IF	25	mA
Reverse Voltage	VR	5	V
Junction Temperature	Ti	100	°C
Operating Temperature	Topr	-40 ~ +80	°C
Storage Temperature Range	Tstg	-40 ~ +80	°C
Soldering Temperature	Tsol	260	°C
Electro-Static-Discharge(HBM)	ESD	1000	V

\* Pulse forward current condition: Duty 1% and pulse width=10us.

\* Soldering condition: Soldering condition must be completed with 3 seconds at 260°C

Parameter	Symbol	Min	Typ	max	Unit	Test Conditin
Forward Voltage	VF	1.8	2.0	2.4	V	IF=20mA
Luminous Intensity	IV	200		400	mcd	IF=20mA
Peak Wavelength	$\lambda P$		633		nm	IF=20mA
Dominant Wavelength	$\lambda D$	620	625	630	nm	IF=20mA
Half Width	$\Delta\lambda$		18		nm	IF=20mA
Viewing Half Angle	$2\theta_{1/2}$		40		deg	IF=20mA
Reverse Current	IR			5	uA	VR=5V

\*Luminous Intensity is measured by ZWL600.

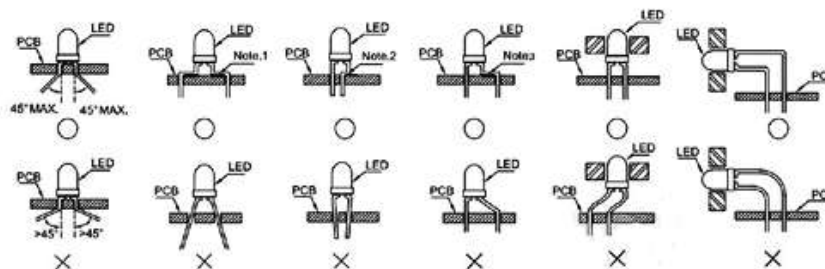
\* $\theta_{1/2}$  is off-axis angle at which the luminous intensity is half the axia luminous intensity;

### Storage Conditions:

1. avoid continued exposure to the condensing moisture environment and keep the product away from rapid transitions in ambient temperature;
2. LEDs should be stored with temperature  $\leq 30^{\circ}\text{C}$  and relative humidity  $< 60\%$ ;
3. Product in the original sealed package is recommended to be assembled within 72 hours of opening;
4. Product in opened package for more than a week should be baked for 6-8 hours at  $85-10^{\circ}\text{C}$ ;

### 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; Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits;



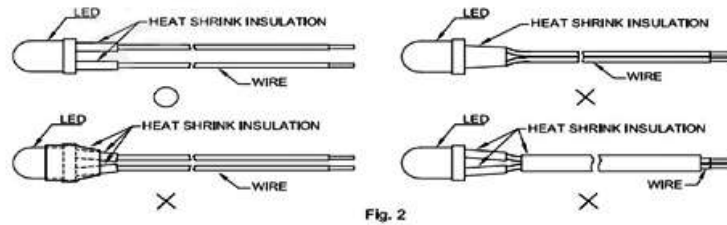
Noted:

- o Correct mounting method;
- x Incorrect mounting method;

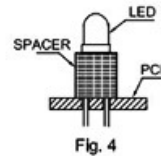
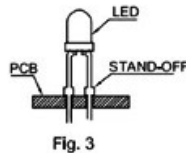
2. When soldering wires to the LED, each wire joint should be separately insulated with heat-shrink tube to prevent short-circuit contact.

Do not bundle both wires in one heat shrink tube to avoid pinching the LED leads;

Pinching stress on the led leads may damage the internal structures and cause failure;



3. Use stand-offs(Fig 3)or spacers(Fig 4)to securely position the LED above the PCB;
  4. Maintain a minimum of 3mm clearance between the base of the LED lens and the first lead bend
  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;



## Lead Forming Procedures

1. Lead Forming Procedures;
2. Do not bend the leads more than twice
3. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering(Fig 8);
4. The tip of the soldering iron should never touch the lens epoxy;
5. Through-hole LEDs are incompatible with reflow soldering;
6. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat please check with Best LED for compatibility

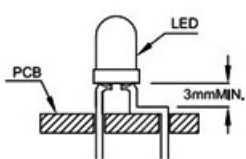


Fig. 5

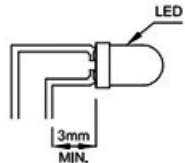


Fig. 6

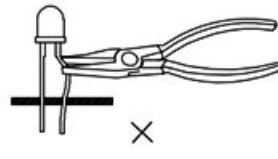


Fig. 7

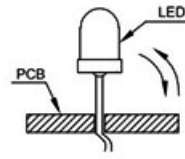
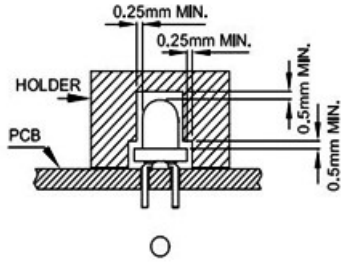
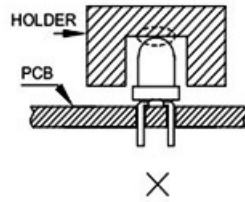


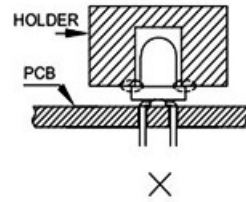
Fig. 8



O



X



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