
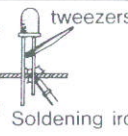
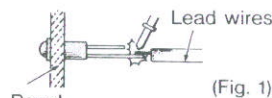


Instructions For Using LEDs (Radial lead types)

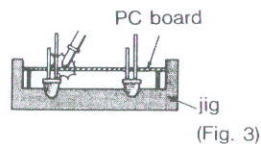
METHOD	SOLDERING CONDITIONS	REMARKS
DIP SOLDERING	Bath temperature : $260 \pm 5^{\circ}\text{C}$ Immersion time : within 5 sec	<ul style="list-style-type: none"> Solder no closer than 3mm from the base of the package. If using soldering flux, "LONCO RESIN FLUX" is recommended. 
SOLDERING IRON	Soldering iron : 30W or smaller Temperature at tip of iron : 300°C or lower Soldering time : within 3 sec	<ul style="list-style-type: none"> During soldering, take care not to press the tip of iron against the lead. To prevent heat from being transferred directly to the lead, hold the lead with a pair of tweezers while soldering. 

SOLDERING

- When soldering the leads of LEDs in a condition that the package is fixed with a panel (See Fig. 1), be careful not to stress the leads with iron tip.
- When soldering wire to the lead work with a jig (See Fig. 2) to avoid stressing the package.



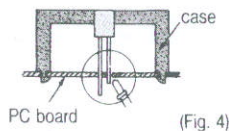
- Similarly, when a jig is used to solder the LED to the PC board, take care as much as possible to avoid stressing the leads. (See Fig. 3)



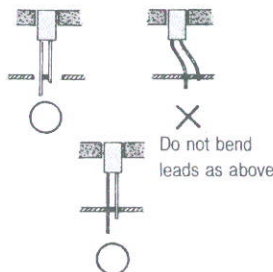
- Repositioning after soldering should be avoided as much as possible. If inevitable, be sure to preserve the soldering conditions with irons stated above: select a best-suited method that assures the least stress to the LED.
- Lead cutting after soldering should be performed only after the LED temperature has returned to normal temperature.

LED MOUNTING METHOD

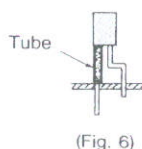
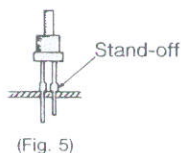
- When mounting the LED by using a case, as shown Fig. 4, ensure that the mounting holes on the PC board match the pitch of the leads correctly. Tolerance of dimensions of the respective components including the LED should be taken into account especially when designing the case, PC board, etc. To prevent pitch misalignment between the leads and board holes, the diameter of the board holes should be slightly larger than the size of the lead. Alternatively, the shape of the holes should be made oval. (See Fig. 4)



LEAD SIZE	DIAMETER OF BOARD HOLES
□ 0.4mm	$\phi 0.7 \sim 1.0\text{mm}$
□ 0.5mm	$\phi 0.8 \sim 1.0\text{mm}$
□ 0.6mm	$\phi 1.0 \sim 1.3\text{mm}$

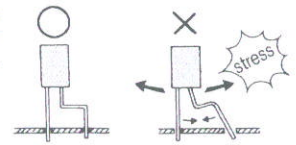
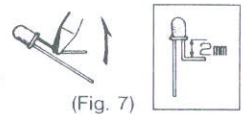


- Use LEDs with stand-off (Fig. 5) or the tube or spacer made of resin (Fig. 6) to position the LEDs.



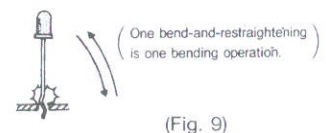
FORMED LEAD

- The lead should be bent at a point located at least 2mm away from the package. Bending should be performed with base firmly fixed by means of a jig or radio pliers. (Fig. 7)
- Forming lead should be carried out prior to soldering and never during or after soldering.
- Form the lead to ensure alignment between the leads and the hole on board, so that stress against the LED is prevented. (Fig. 8)

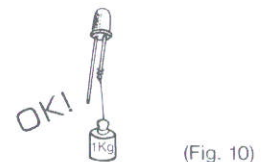


LEAD STRENGTH

- Bend strength**
Do not bend the lead more than twice. (Fig. 9)

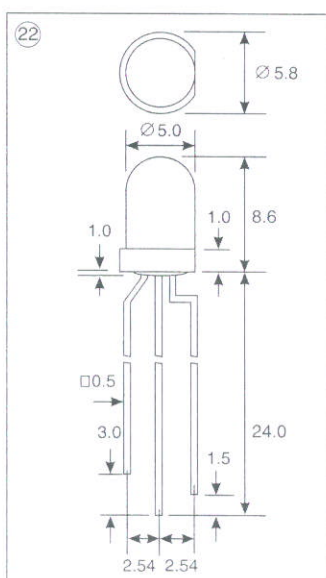
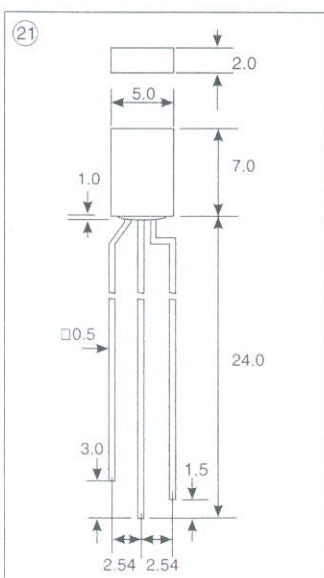
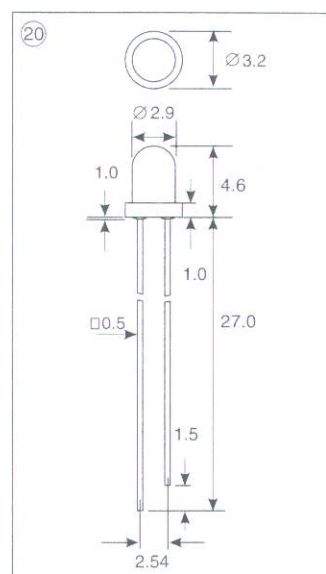
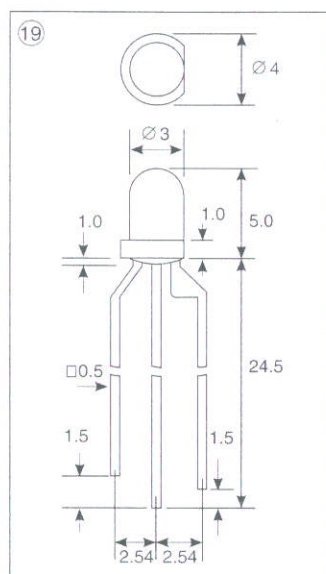
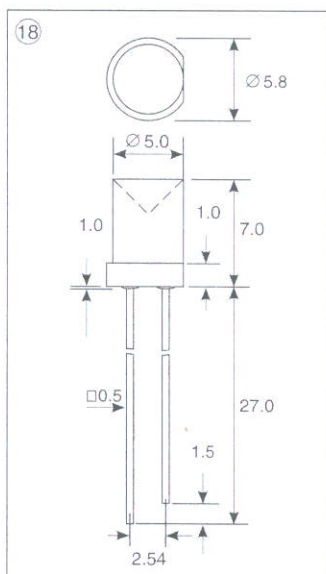
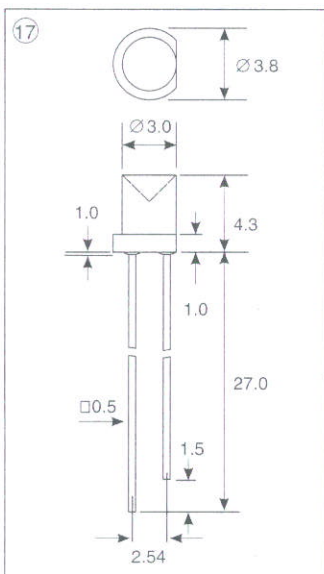
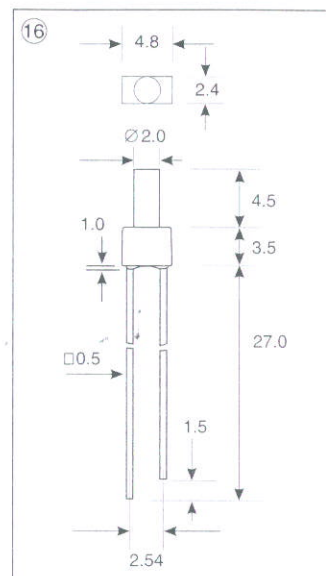
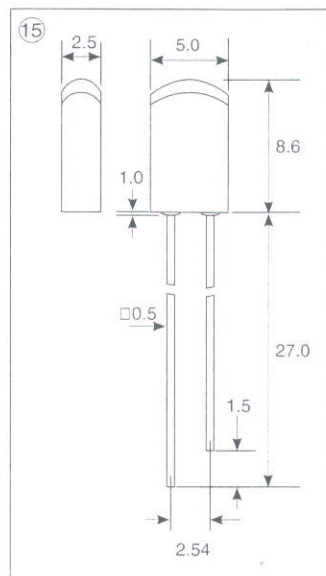
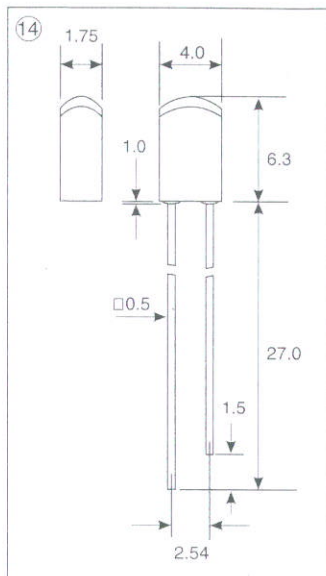
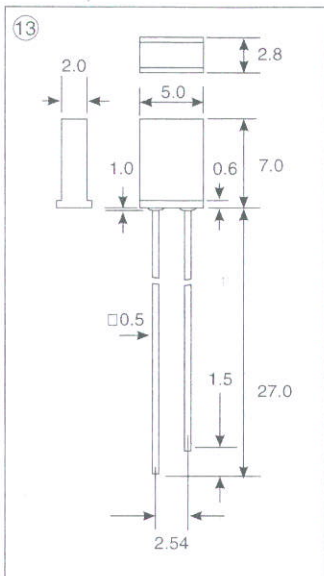


- Tensile strength**
If the force is 1kg or less, there will be no problem. (At room temperature)



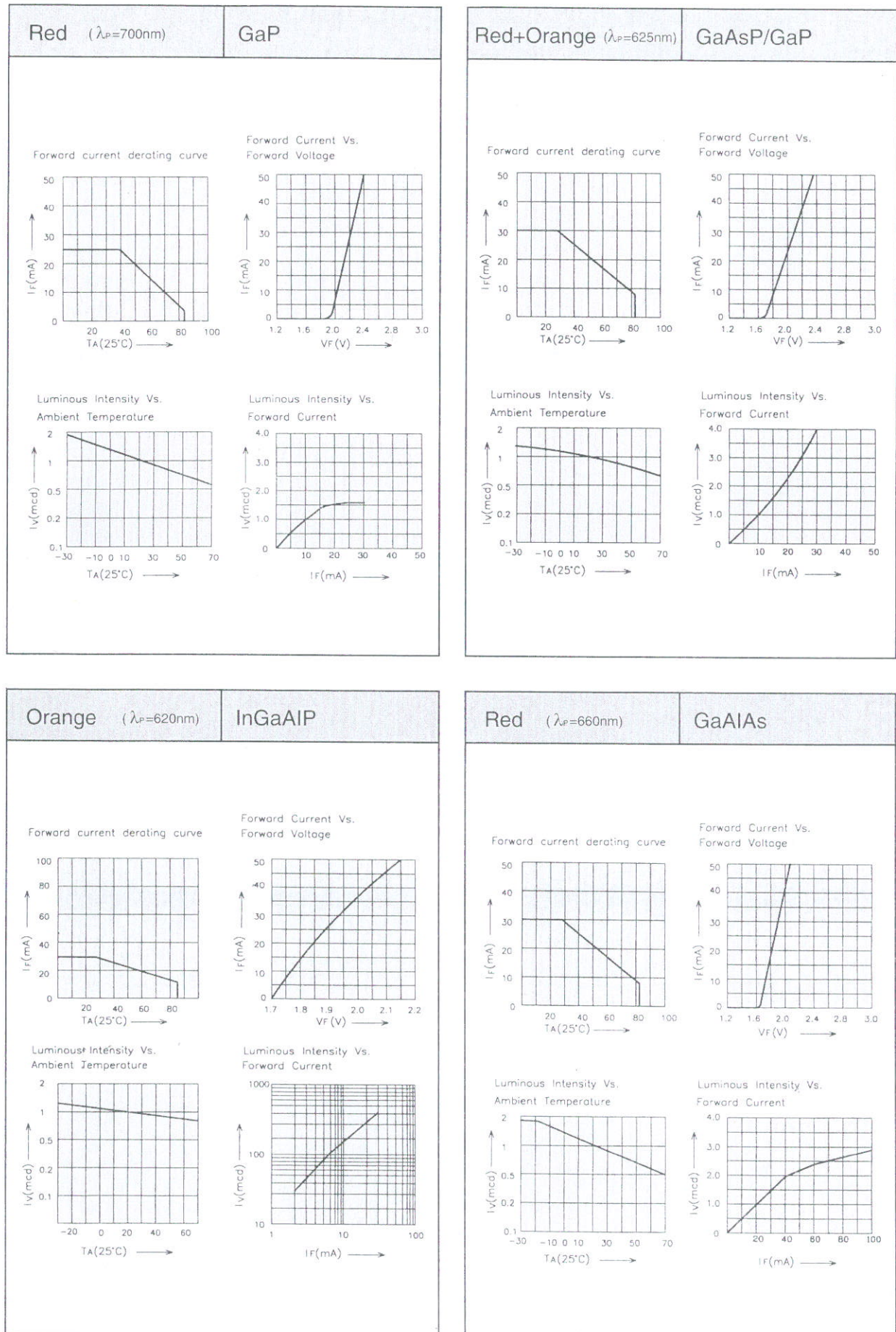
HANDLING PRECAUTIONS

Although rigid against vibration, the LEDs may be damaged or scratched if dropped. So take care when handling.



Units : mm
Tolerance : $\pm 0.25\text{mm}(0.01")$

Technical Data

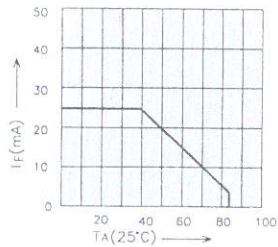


Technical Data

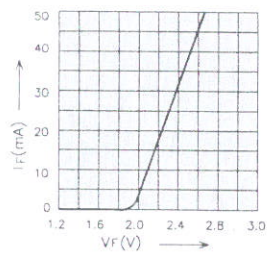
Green ($\lambda_p=565\text{nm}$)

GaP

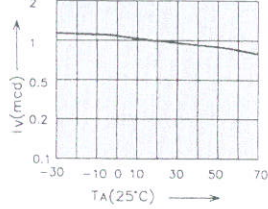
Forward current derating curve



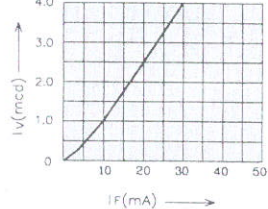
Forward Current Vs. Forward Voltage



Luminous Intensity Vs. Ambient Temperature



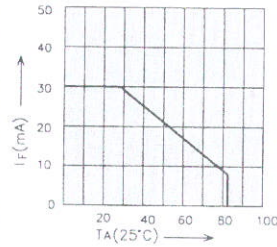
Luminous Intensity Vs. Forward Current



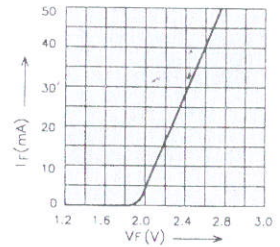
Yellow ($\lambda_p=590\text{nm}$)

GaAsP/GaP

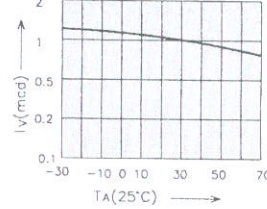
Forward current derating curve



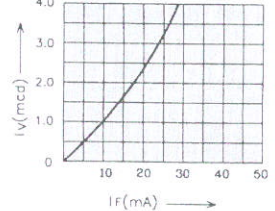
Forward Current Vs. Forward Voltage



Luminous Intensity Vs. Ambient Temperature



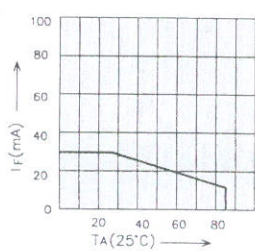
Luminous Intensity Vs. Forward Current



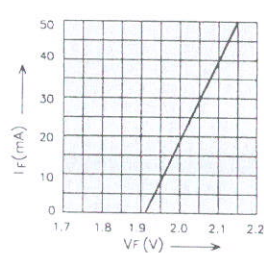
Yellow ($\lambda_p=595\text{nm}$)

InGaAlP

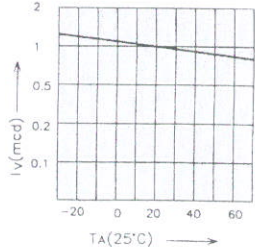
Forward current derating curve



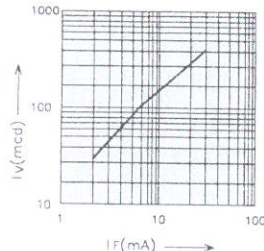
Forward Current Vs. Forward Voltage



Luminous Intensity Vs. Ambient Temperature



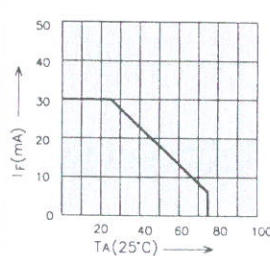
Luminous Intensity Vs. Forward Current



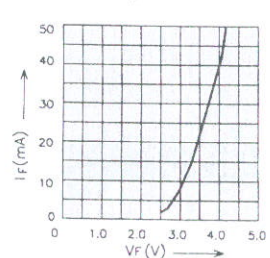
Blue ($\lambda_p=430\text{nm}$)

GaN

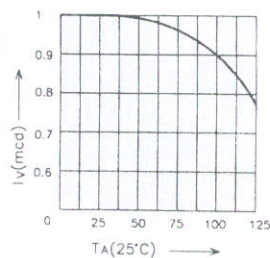
Forward current derating curve



Forward Current Vs. Forward Voltage



Luminous Intensity Vs. Ambient Temperature



Luminous Intensity Vs. Forward Current

