Application Note ---
Bending Terminal Leads

When bending the leads, in order to avoid excessive extend in the area where the leads enter the resinous body, use a tool that clamps the point between the package and the bending point. Improper bending will damage the die or separate the resin from the mounting frame, resulting in a degradation in electrical characteristics or a reliability problem such as poor resistance to moisture.

The leads must be bent only once and they should not be bent at an angle of more than 90°.
Leads must be formed before fixing them to a printed circuit board or to a heatsink. Never form the leads after soldering.

The load shall be restricted such that the bend starts recommended distance (X) from the body of the component part.

应用说明---弯曲端子引线

当弯曲引线时，为了避免在引线进入树脂体的区域过度延伸，使用专业成型工具成型。不恰当的弯曲会损坏零件或将树脂从安装框架中分离出来，导致电气特性退化或可靠性问题，如抗湿性差。

引线必须弯曲一次，不能弯曲超过90°。在将它们固定到印刷电路板或散热器之前必须形成引线。焊接后，负载应受到限制，使得弯曲从部件的主体开始,推荐距离为（x）。

X=2 mm for T-1, DO-41 Mini, DO-41, DO-15 CASE. X=3 mm for DO-201AD CASE.
X=4 mm for R-6 CASE.

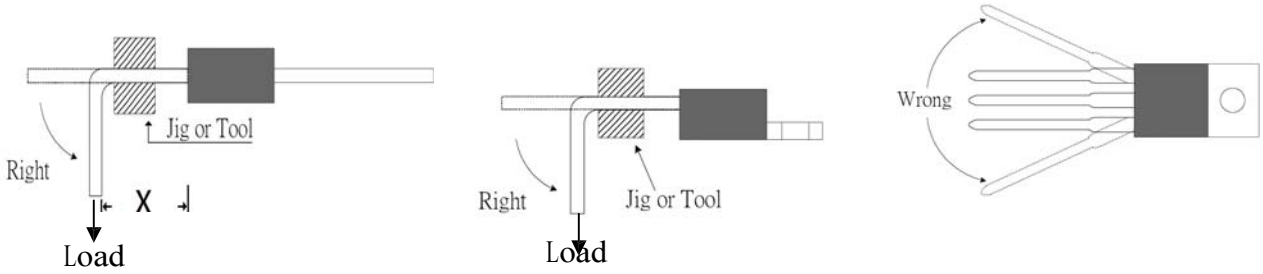


Figure.1 Bending Terminal Leads

Mounting to Heatsink

The mounting surface of a heatsink should be free from foreign materials and metallic filings, and have enough flatness and finish comparable to that of the back of diode package. Don't screw up the unit from backside (heat sink) and please face the marking surface of unit (front side) while screwing up the unit. Be sure, when mounting devices to a heatsink, that excessive torque may cause a mechanical failure of the device or a reliability problem. (ex. electrical degrade…). Also note, insufficient torque results in poorer heat transmission.

Recommended mounting hole, screw and mounting torque corresponding to our packages are shown in Table.

安装到散热器

散热器的安装表面应无异物和金属锉，并有足够的平面度和光洁度可与二极管封装的背面相比。不要从背面（散热器）拧紧装置，在拧紧装置时，请面对装置（正面）的标记面。确保，当将设备安装到散热器时，过大的扭矩可能导致设备的机械故障或可靠性问题。（电退化）。还要注意，扭矩不足导致较差的热传递。

推荐的安装孔，螺钉和安装扭矩对应于我们的下表：

Package	Mounting hole (ψ= mm)	Screw	Torque (N*m /kgf*cm)
TO-220	3.81	M3	0.50 / 5.1
TO-3P	3.05		
BRIDGE	---	M3/M5	0.50 / 5.1
ITO-220	3.18	M3	0.50 / 5.1
TO-126F	2.92	M2.5	0.50 / 5.1

Thermal compounds (greases) facilitate interface thermal conduction between device and heatsink. Recommended compounds are hydrophilic oil based. When applied, compounds should be spread evenly in a very thin layer over the whole contact area.

The contact thermal resistance Rth j-c in our data sheets are defined with the recommended mounting torque and with the thermal compound.

Soldering of Through-hole Mounting Devices

Resistance to soldering heat test is carried out under the condition shown below. Soldering should be completed at a lowest possible temperature for a shortest period.

Temp. 260±5℃

Duration 10± 1s

Figure 12 shows the Dip duration vs. Solder Temperature Rating for plastic diodes. General

requirements for manual soldering are as follows:

1. Use a soldering iron of 30 watts maximum, that is grounded or with a high insulation resistance.
2. The iron tip is kept away from any resinous body.
3. Attachment should be achieved in not more than 3 seconds.

Be sure again not to put an excessive mechanical stress on devices, such as a rough insertion of device into a through-hole, or manual reforming of leads after soldering.

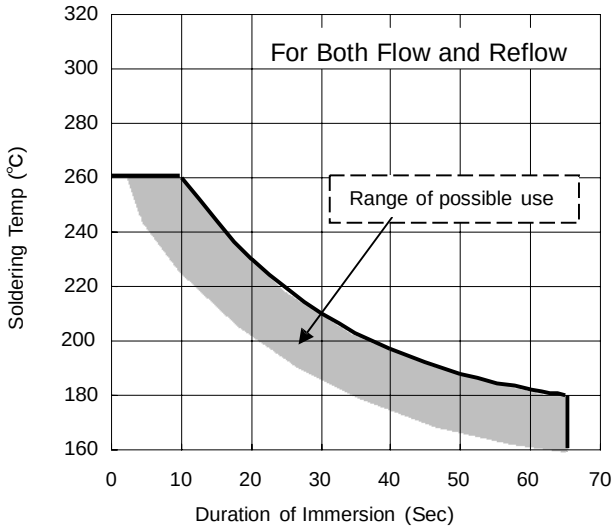
热化合物（润滑脂）促进了器件与散热器之间的界面热传导。推荐的化合物是亲水性油基。应用时，化合物应均匀地分散在接触面中。在整个接触区域上形成非常薄的层。在我们的数据表中的接触热阻RTH J-C用推荐的安装扭矩来定义。并与热化合物通孔安装装置的焊接，依下面的条件下进行焊接热试验。焊接应在尽可能在最短的时间内依确保焊接可靠性的条件下，依较低的温度完成：

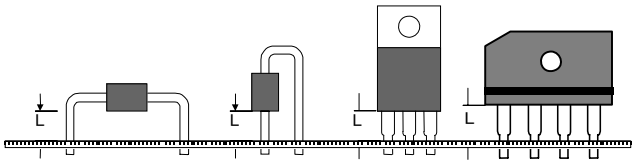
焊接时间：260±5℃
持续时间10±1s

图2显示了塑料二极管的浸渍时间对焊锡温度的额定值。手工焊接的一般要求如下：

1、使用最大功率为30瓦的烙铁，接地或具有高绝缘电阻；
2、铁尖远离任何树脂体；
3、焊接应在不超过3秒的时间内完成。

再次确保不要给设备施加过大的机械应力，例如设备粗略地插入通孔中，或在焊接后手动重新整理引线。





Product	Dimension “L”
Axial Lead	≧ 1mm
TO series/ Bridge series	Standoff spec

Table.1 Recommended distance between PCB and Mold body.

Figure.2 Rated Duration of Immersion vs. Solder Temperature