

Guidelines for mounting the Stud type Diodes / Thyristors.

Applicability: All silicon devices of IR Case styles D08,D09,D0-30, B8 ,T0-93,T0-94, ,T0-118

Efficient use of all stud type diodes and thyristors is very sensitive to mounting process. A wrong mounting process can lead to

1. Immediate electrical failure or degrading in blocking voltage characteristics of part.
2. Due to obstacle in heat transfer process an early electrical failures in application or reduction in useful life of the part or output current.

To use the stud type diodes and thyristors we recommend following assembly instructions to prevent any damage to the Silicon devices during mounting on heat sink.

Assembly instructions

The mounting surface of the heatsink must be flat and clean (**add finishing needed**), and thermal compound must be coated on all mating surfaces between the base of the diode/ thyristor and the heatsink avoiding to spread on the thread. Care must be taken neither to exceed nor to fall short of the specified mounting torque (M). Mounting torque varies as per outline of diode and thyristor and appropriate torque value is suggested in Thermal and Mechanical specifications section of data sheet. A calibrated torque wrench or torque spanner should be used.

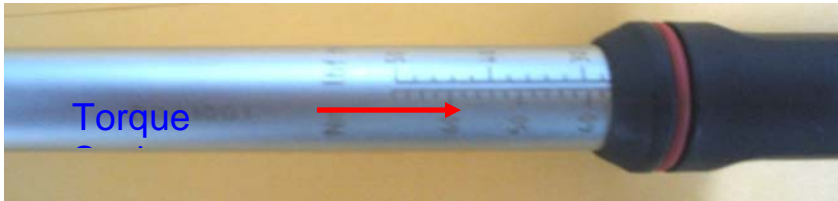
The heatsinks should be mounted so that their cooling fins are parallel to the flow of cooling air, and they should be mounted near to the air inlet so that the air is not preheated by other components.

The ceramic and glass seals for the cathode and gate connections should not be subjected to any mechanical stresses (bent of torque) during assembly. In particular, with the small thyristors soldered flexible wires should make the connections to the terminals – screw connections should not be used. During soldering the temperature of the solder should not exceed 270 °C.

Excess application of torque on the hex base of the stud part generally causes the degradation of the part due to shearing of Silicon die (chip) encapsulate inside the package. The copper bases are soft in nature and high mechanical torque is quickly transferred inside. Use of different materials for base (like Fe) masks such problems but affects the current carrying capability of the parts.

Typical recommended steps are shown on next page to better explain how to use the torque wrench or torque spanner in assembly of stud parts.

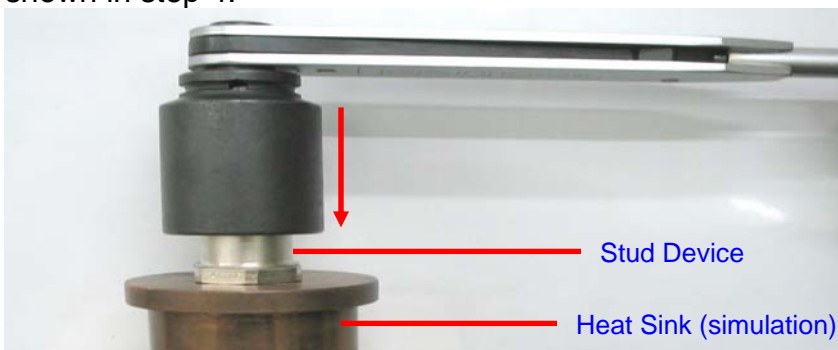
1. Ensure that ' Specified mounting Torque ' (in N-m) is set. (Ref Data sheet)



2. Fit the ' Device Holder ' to the Torque Wrench.



3. Move the device holder in direction of arrow until the cap is inserted and hex base is covered as shown in step 4.



4. Rotate torque wrench in direction of arrow until the ' Set Torque ' is reached. A '**CLICK**' sound will come after the set torque is applied on the Hex base, then '**STOP**'

