

LASER DIODES IN THE TO-18 PACKAGE

- The package must be screwed down to a heatsink which can dissipate the heat generated by the laser. For best results, the heatsink should be made from a good heat conductor such as copper or aluminum.
- The surface of the heatsink should be machined flat and smooth where it contacts the base of the laser package to allow for efficient heat transfer. Also, this surface must be flat so that the package is not distorted when the screw is tightened.
- If an aluminum heatsink plate is used, the aluminum should not be anodized in the area where the base of the laser contacts the heatsink plate. A thick anodized layer is a good thermal insulator.
- The threaded stud of the TO-18 package can be screwed into a threaded hole in the heatsink plate. Alternatively, the threaded stud can be inserted through a clearance hole in a thin plate, and an 8-32 threaded nut can be used to clamp the laser.
- *****IMPORTANT***** The entire base and thread of the TO-18 package are made from pure copper for efficient heat transfer. The copper is very soft, and the thread must be tightened firmly, but not excessively. Excessive force will strip out the threads, and the laser will be ruined.
- The laser chip is mounted 1.0 mm inside the front of the package.