COMPOUND PHOTONICS

# Compound Photonics Technical Note TN02: Procedure for Mounting 6-Pin Butterfly Devices

This device should not be operated unless properly attached to a heat sink. Failure to adequately cool the device will cause immediate and permanent damage.

The heat sink should be made of copper, aluminum or another material with similar, or better, thermal conductivity. The surface finish should be 32µ-in (0.8µm) or better. The surface flatness under the package should be better than 0.0005 in. (12µm). The heatsink must be capable of removing heat from the package such that the case temperature of the package does not exceed its maximum operating temperature. The case temperature limits for all Compound Photonics packages are specified as the maximum temperature on the base of the package.

Use of a thermal interface material between the package and the heat sink is strongly recommended. A good quality thermal grease or thermal interface pad can be used. Typically, it is desirable to achieve less than 0.2 K/W between the package and the heat sink; this can be achieved if the thermal interface is rated at 2.5 x $10^{-5}$ K-$m^2$/W (0.038 K-$in^2$/W) or better. We recommend Panasonic "PGS" (Pyrolytic Graphite Sheet) thermal interface material (Compound Photonics P/N ALP-03789) for its superior performance.

The package can be mounted with two NC#2-56 or M2x 0.4 screws. First, the screws must be tightened to a torque of 2.0 in-oz (0.015 Nm). Next, the screws should be tightened to 10 in-oz (0.070N-m). The package can be permanently distorted, damaged internally or the mounting flanges may break if the screws are over-tightened or tightened unevenly. The screw threads should be locked to prevent loosening over time.