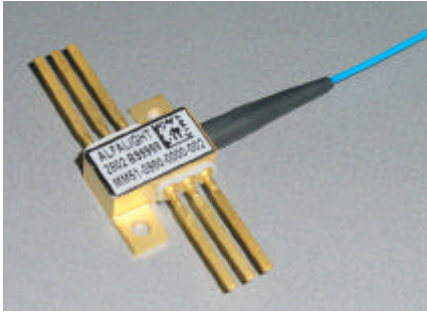




## Alfalight Technical Note TN02: Procedure for Mounting 6-Pin Butterfly Devices



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  $32\mu\text{-in}$  ( $0.8\mu\text{m}$ ) or better. The surface flatness under the package should be better than  $0.0005\text{ in.}$  ( $12\mu\text{m}$ ). 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 Alfalight 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  $0.2\text{ K/W}$  between the package and the heat sink; this can be achieved if the thermal interface is rated at  $2.5 \times 10^{-5}\text{ K-m}^2/\text{W}$  ( $0.038\text{ K-in}^2/\text{W}$ ) or better. We recommend Panasonic “PGS” (Pyrolytic Graphite Sheet) thermal interface material (Alfalight 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  $2.0\text{ in-oz}$  ( $0.015\text{ N-m}$ ). Next, the screws should be tightened to  $10\text{ in-oz}$  ( $0.070\text{ N-m}$ ). 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.