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Application Note for the Mounting of High Power Flange Devices

When mounting High Power Flange Devices in a circuit, there are several key issues that should be taken into account.

Heat Sink Design: The heat sink the device is mounted to must be designed to maintain the temperature (design) while it is dissipating the power (heat) given it by the device. (The derating specifications are given in the applicable data sheets.)

Flatness of mating surfaces: Flatness of the heat sink and of the mounting area of the device (flange) should be 0.001” maximum. The idea is to have the best possible contact between the heat sink and the device.

Thermal Compound: To fill any microscopic voids or air gaps the use of thermal compound is recommended to a thickness of 0.002” maximum.

Stress Relief on Tab: Although it is not always possible in High Frequency applications a small loop for stress relief on the solder tab is recommended. This reduces any mechanical stress on the joints.

Apply a small amount of thermal compound to the mounting area of the flange of the device. Spread it completely on the flange using a razor blade or other smooth tool.

When seating the device, align the tab/tabs over the corresponding area on the circuit board. Screw down the device using the recommended torque for the appropriate screw size in the table below. Aeroflex-KDI recommends the use of a lock washer and a flat washer in the installation. See ***Figure 1***

Solder the tab/tabs using SN62 (179Deg.C eutectic) solder and a small amount of RMA flux. After all the solder is complete all of the flux must now be removed using a cleaning agent.

Thread Size	Torque Setting
2-56	4 inch-pounds
4-40	6 inch pounds
6-32	8 inch pounds
8-32	12 inch pounds
10-32	18 inch pounds

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REV. 3/11/09

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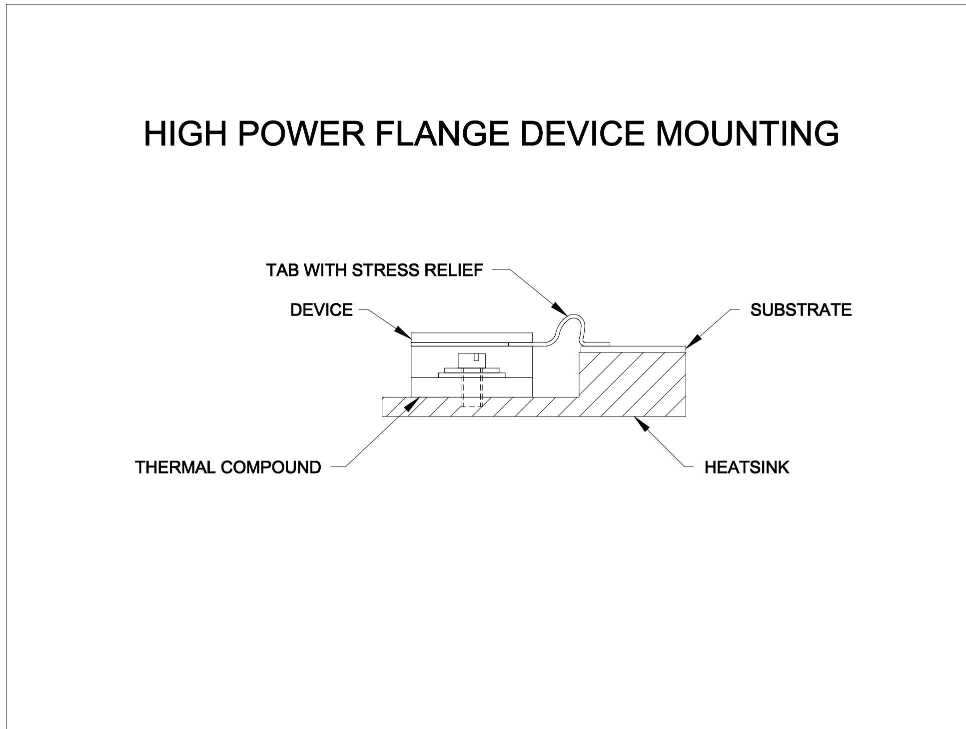

Figure 1

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