

Mounting of Flanged Microwave Devices

There are several methods of mounting flanged microwave devices to a heatsink or metal base plate. The following listing describes Res-Net's preferred methods and should be followed closely in order to insure a good degree of reliability.

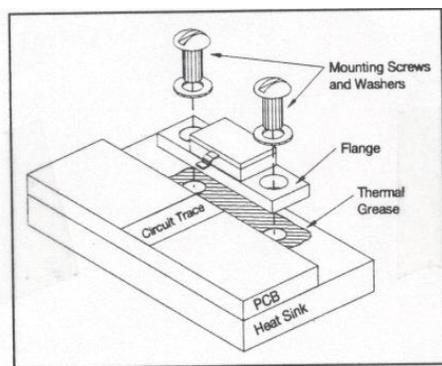
It is important to have very close contact with the bottom of the device flange and the heatsink surface or metal base plate surface. Be certain that there are no burrs, scratches, or non-flat surface imperfections prior to mounting. The mounting surface flatness should be less than or equal to .001 inch. Thermal compound is highly recommended. The maximum "spread" thickness of this compound should not exceed .002 inches. The compound serves the purpose of increasing the intimate contact between the device and the heat sink surface.

It is also necessary to provide a strain relief "loop" or "S" style bend on the solder tab(s) in order to lower the mechanical stress (metal fatigue) that can occur from thermal cycling. Before making this loop, the application frequency of the device should be checked to insure that an increase in inductance (due to increased tab length) will not have a detrimental effect on the circuit. The mounting diagram shown in Figure 1 shows the suggested stress loop. Care should be taken to avoid an upward pressure on the tab(s) against the edge of the cover. This can result in shear forces with potential damage/destruction to the tab(s).

When soldering the tab(s), you may use 60/40 or 63/37 solder to make the connection. A small application of flux is acceptable but the residue should be removed upon completion of the soldering. Use a temperature controlled iron with the temperature set to approximately 210 Deg. C. Spot welding of the tab(s) is also acceptable provided that the tab(s) does not receive excessive heat.

When mounting the device to the heat sink or metal base plate, use the chart provided below for the proper torque setting based on the size of the screw used.

FIGURE 1



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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