

## **Mounting Recommendations for TO-8 Packages Dissipating High Power**

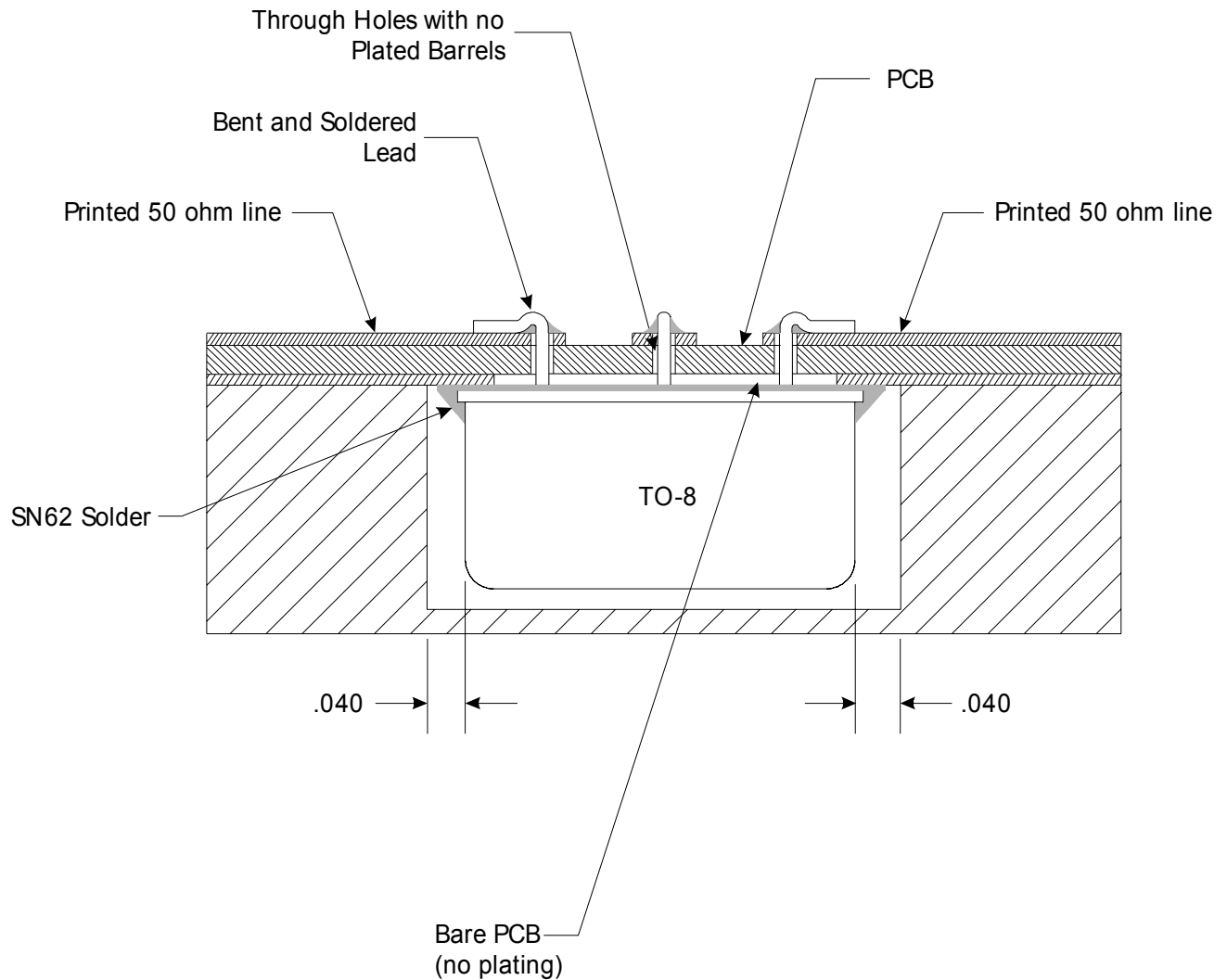
Please find attached drawings describing the recommended mounting arrangements for Spectrum's TO-8 type packaged RF Hybrids that dissipate in excess of 0.5W.

The device case should be mounted on what is normally the GROUND PLANE side of the RF PWB, and the following should be observed:

- a) The TO-8 Package should be soldered to the PWB ground plane using Sn62 solder, running a solder fillet all around the periphery of the TO-8 package header. The annular solder fillet should not be more than 20-30 mils in width.
- b) The mounting holes on the PWB for the active RF leads in the TO-8 leads should not have plated through barrels, and no annular ring should be provided around these holes on the PWB side where the component is mounted. This is required to avoid a short circuit between the active leads and GROUND.
- c) The area of the PWB GROUND PLANE side that surrounds the TO-8 package should rest on a flat metal surface, and a counterbored cavity should be provided with a diameter about 0.080" wider than the diameter of the TO-8 body (see Fig.1). This cavity clears the TO-8 case and tab, but still provides a relatively large mass of metal onto which the TO-8 package can dissipate heat through the annular area of GROUND PLANE copper that bridges the soldered area of the TO-8 case and the metal housing. The heat dissipation path is shown in Fig.2.

The circuit patterns for the Lead Soldering and for the Ground Plane sides are shown in Fig.3 for 47 mil FR-4 PCB material.

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Recommended TO-8 Package Mounting  
To Assist Heat Dissipation

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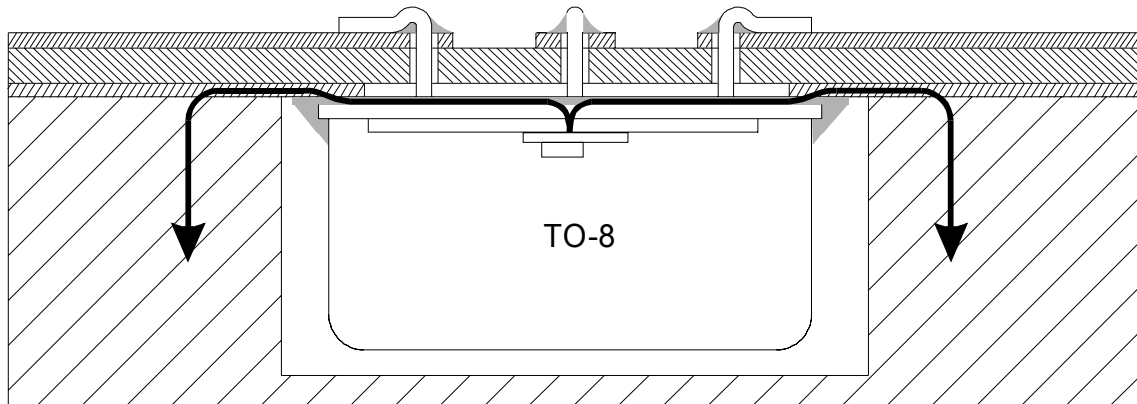


Figure 2: Heat Dissipation Path

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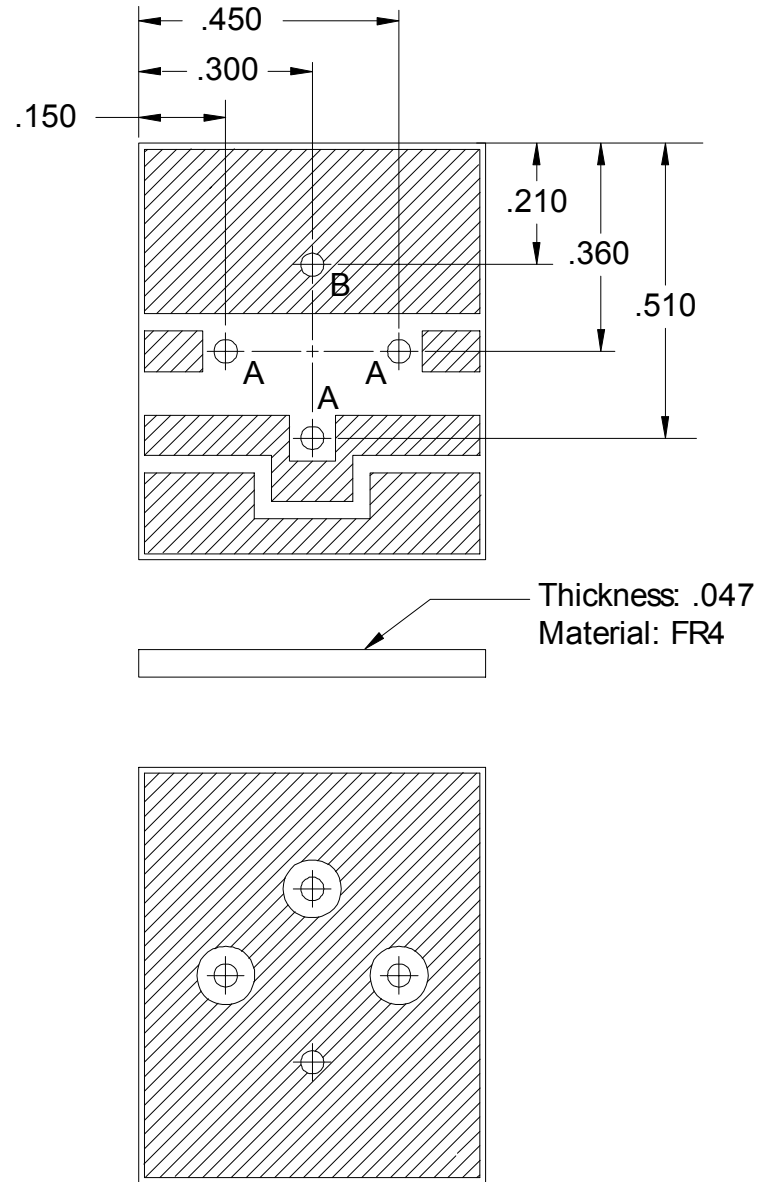


Figure 3: Lead Soldering Side Pattern and Ground Plane Pattern