# AH100 Amplifier Series
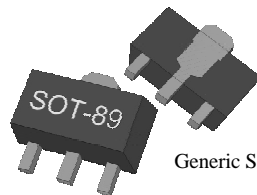# Mounting & Thermal Considerations

The AH100 amplifier series are half-watt, high linearity amplifiers packaged in SOT-89 surface mount packages. When mounting a device from the AH100 series, it is important to address the mounting details to ensure the reliability of the device. The AH100 series is normally biased between 6V – 9V, and draws approximately 200mA. At worst case, about 1.8W of power will be dissipated through the device. The following conditions describe in detail the mounting configuration that will effectively dissipate the heat.

1. It is critical that the device have at least 2 screws from the ground plane to the actual chassis of the system in which this board will be placed. This will transfer the heat generated by the device.

2. Shown in the recommended mounting configuration are 41, 25mil diameter holes under the device, 10, 51mil diameter vias, and 2 screw holes as close as possible to the device. By making the thickness of the copper 1oz., the 41 vias under the device should fill during plating, and thus create a good thermal contact to the ground plane. All the vias help in both dissipating the heat and creating a good RF ground for the device.

3. Using a 2-56 socket head is recommended because both the head and the screw are small. The small socket head allows the 2-56 screw to get as close to the device as possible. Even though a 2-56 screw is relatively small it provides a sufficient thermal path from the ground plane to the chassis. Split washers should be used to prevent the screw from compressing the PC board.

4. On the bottom side of the board, it is important to have an exposed ground plane, so that when the board makes contact with the chassis, the ground plane will allow for adequate heat transfer. To ensure optimal heat transfer, it is important to not to cover the ground plane with solder mask, where the ground plane makes contact with the chassis.

MOUNTING CONFIGURATION
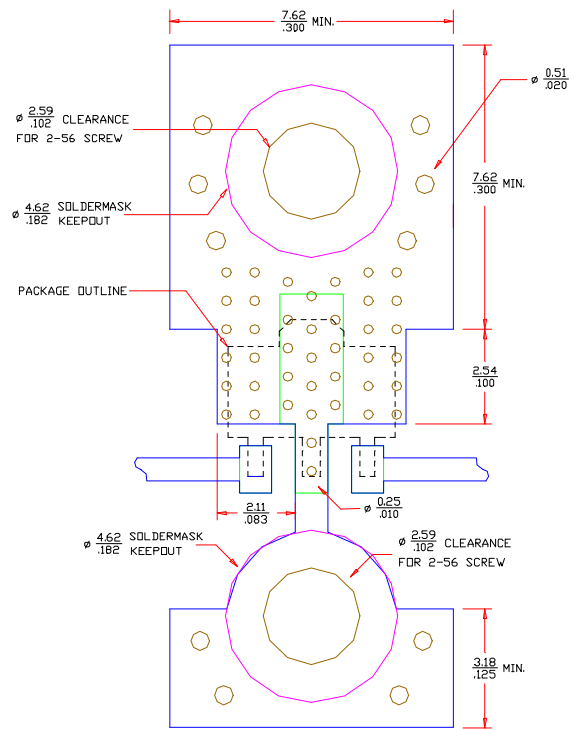
Recommended Mounting Configuration

Generic SOT-89 Package