

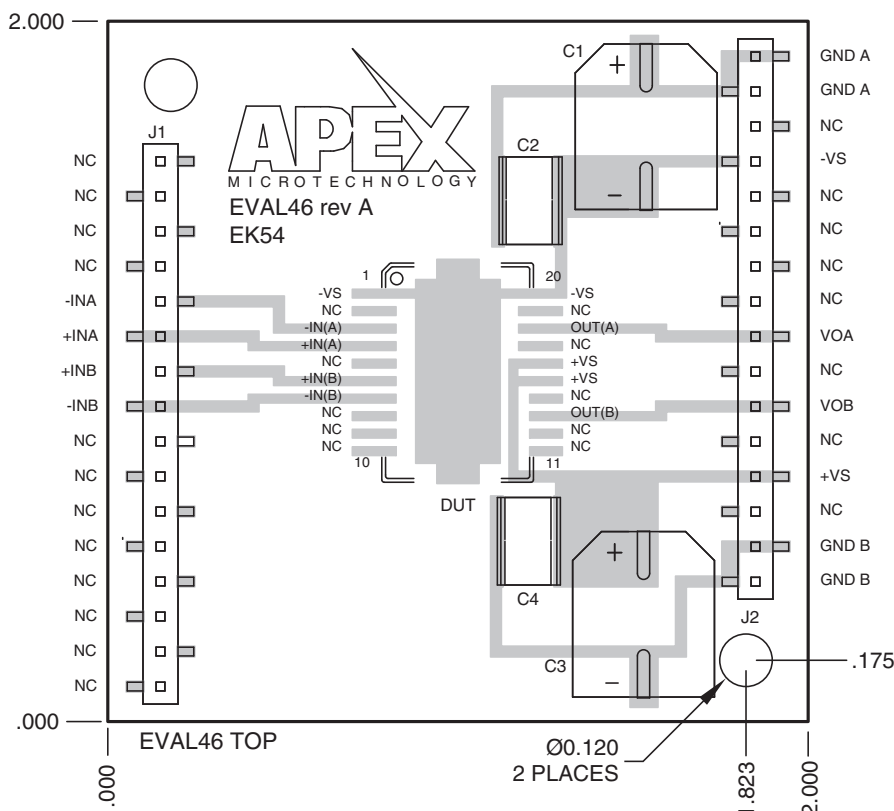
INTRODUCTION

Fast and easy breadboarding of circuits using the PA60DK is possible with the EK54 evaluation kit. The EK54 includes both the universal EVAL36 board and the EVAL46 substrate. The use of EVAL36 and EVAL46 allows for a large area of breadboarding space to work with while allowing a surface mount substrate for the PA60DK. The PA60DK amplifier may be surface mounted directly to the EVAL46, a thermally conductive but electrically isolated substrate. The PA60DK is soldered to a DUT foil footprint area the size of the heatslug as shown in Figure 1. The metal substrate is cost effective and can allow the PA60DK to dissipate power up to the datasheet rating.

Part#	Description	Quantity
EVAL36	Universal PC Board	1
EVAL46	Evaluation substrate, PA60DK	1
TSM-116-01-T-SV	Terminal Strip, 16 PIN	2
SSW-116-01-T-S	Socket Strip, 16 PIN	2
PCE2055CT-ND	CAP, 47uF, 50V	2
OX7R105KWN	Cap, 200V, 1uF, Ceramic	2
*031606	5V, 10mA, 3.4°C/W heatsink with fan, AAVID	1

* Parts are not supplied. Parts are application dependant.
Suggested part numbers are provided.

Figure 1



BEFORE YOU GET STARTED

- All Apex amplifiers should be handled using ESD precaution.
- Review the Apex product datasheet and operating conditions.
- Always provide the appropriate heat sinking. Power dissipation must be considered to ensure maximum junction temperature (T_J) is not exceeded.
- Always use adequate power supply bypass capacitors, Apex recommends at least 10 μ F per amp of output current.
- Do not change connections while the circuit is powered
- In case -Vs is disconnected before +Vs, a diode between -Vs and ground is recommended to avoid damage.
- Initially set all power supplies to the minimum operating levels allowed in the product datasheet.
- Check for oscillations up to and above the unity gain bandwidth of the amplifier.

ASSEMBLY

The PA60DK is a surface mount device and should be assembled to the EVAL46 substrate using surface mount processes. Solder paste may be dispensed or screen-printed on the DUT pads. The heat slug on the back of the PA60DK provides maximum heat dissipation capabilities when soldered to the foil footprint area. The PA60DK should be reflowed to the substrate using a solder reflow furnace. If this is not available, a heat plate capable of solder reflow temperatures may be used.

Once the amplifier is mounted on the top of the substrate, the heat sink fan or selected heat sink can then be mounted to the back of the substrate. A heat sink is not supplied with the kit, but several options are available through AAVID Thermal Product, Inc. High thermal conductive thermal grease should be used when mounting the heat sink fan or heat sink to the evaluation board.

Review Figure 2 on next page for other possible assembly methods to construct this evaluation kit.

Figure 1: Mechanical drawing of the EVAL36. The top part shows a perspective view of the board with components labeled: EVAL36, PCE-2055CT-ND, OX7R105KWN, TSM-116-01-T-SV, SSW-116-01-T-S, EVAL46, and DETAIL A. A callout for DETAIL A shows a fan labeled 031606 (NOT INCLUDED) with "BOT. SIDE" indicated. The bottom part shows a top-down view of the board with dimensions: 4.50, 2.90, 0.90, 0.00 on the vertical axis and 0.00, 2.40, 3.90, 5.00 on the horizontal axis. The top-down view includes a central component labeled EVAL46 rev A, KMS4, and APEX MICROTECHNOLOGY.