

Evaluation Kit

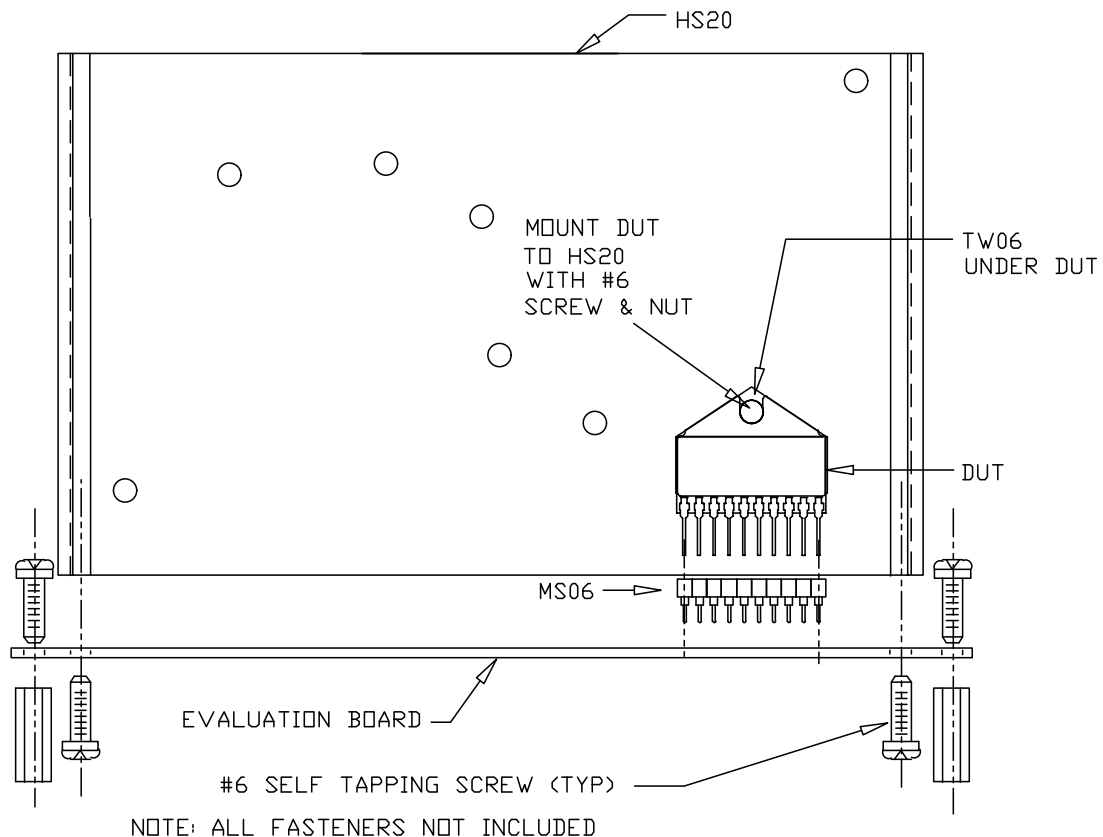
APPLICABLE PARTS (SOLD SEPARATELY)

- SA60
- SA160 Pin-Out

INTRODUCTION

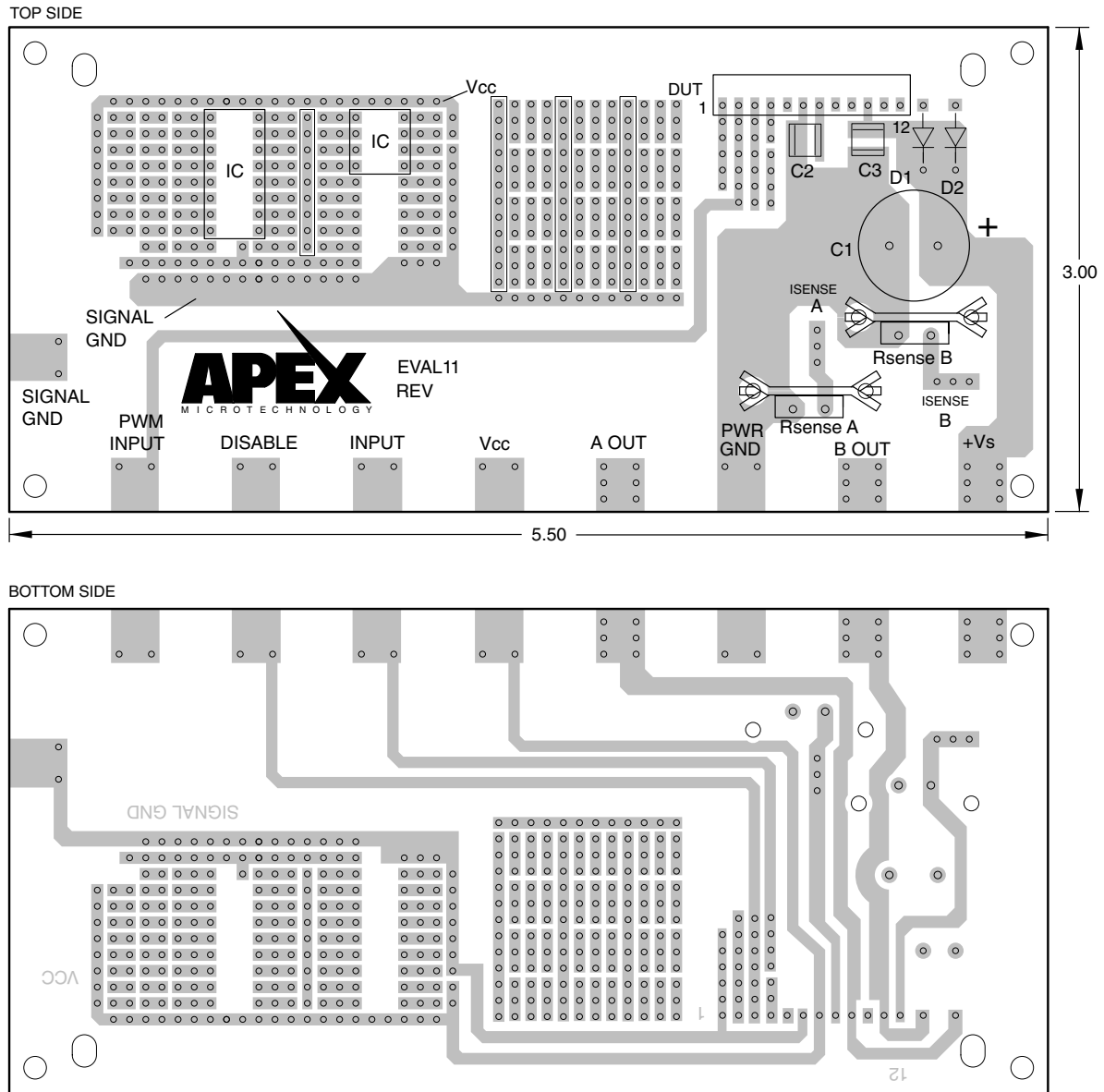
Fast and easy breadboarding of circuits using the SA60/SA160 are possible with the EK06 evaluation kit. The amplifier may be mounted vertically with the HS20 heat sink, or horizontally. Connections are provided for required power supply bypassing recommended protection components, as well as optional current sense resistors. A large area for component mounting provides flexibility and makes a multitude of circuit configurations possible.

Figure 1: Assembly Diagram for EK06



Note: SA60 Not Recommended for new design in.

Figure 2: PCB Board



PARTS LIST

Reference	Manufacturer Part #	Description	QTY
<u>Printed Circuit Board</u>			
EVAL11	EVAL11	Printed Circuit Board	1
<u>Capacitors</u>			
C2, C3	OX7R105KWN	1uF, Ceramic Capacitor	2
<u>Resistors</u>			
Rsense A, Rsense B	MP930-0.10-1%	0.1Ω, 1%	2
<u>Hardware</u>			
	HS20	HEATSINK	1
	HS22	HEATSINK	2
	TW07	THERMAL WASHER (PACK OF 10 PCS)	1
	MS06	MATING SOCKET	1

BEFORE YOU GET STARTED:

- All Apex Microtechnology amplifiers should be handled using proper ESD precautions.
- Always use the heat sink and thermal washers included in this kit.
- Always use adequate power supply bypassing.
- Do not change connections while the circuit is powered.
- Initially set all power supplies to the minimum operating levels allowed in the device data sheet.
- Check for oscillations.
- Power ground and signal ground must be separated to avoid switching noise in the DUT.

CAUTION

Use the supplied thermal washers or thermal grease between the power amplifier and the heat sink

ASSEMBLY

1. On the silk screen side of the evaluation board, insert and solder the MS06 mating socket in DUT holes 1 – 12. Be sure each one is fully seated.
2. Solder components for your circuit. Be sure to include proper bypassing. See the SA60/SA160 data sheet for help in selecting these components. 1uF capacitors and a 0.10Ω resistor have been included with the EK06 kit but may be replaced with other components as necessary. C1, not provided, should be selected for the voltage required by the application. See Apex Microtechnology Application Note 30 for guidelines in selecting this bypass capacitor. If current sense resistors are not used, the I SENSE traces on the EVAL11 board must be shorted to power ground in place of the resistors.
3. Place the TW07 thermal washer on the heat sink over the mounting hole for the DUT. Place a #6 screw through the mounting hole and thread a #6 nut onto the screw at the back of the heat sink. Do not tighten. Note that there are two sets of mounting holes on the HS20). Holes on one edge allow room between the DUT and evaluation board for the MS06 socket. The holes on the other edge are for direct through hole mounting of the DUT to the evaluation board. It is recommended that you use the MS06.
4. Mount the DUT to the HS20 by sliding under the head of the #6 screw and on top of the thermal washer. Tighten the nut to the specified 8 to 10 in-lbs. (0.9 to 0.13 N*M). Do not over torque.
5. Install leads of the DUT into the MS06 on the evaluation board. Use #6 self-tapping screws to secure the evaluation board to the HS20 heat sink as shown in the assembly diagram (Figure 1).

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