EK14

INTRODUCTION

The EK14 evaluation kit provides a convenient way to breadboard circuits using Apex power op amps packaged in the 12-pin SIP03 package. The amplifier may be mounted vertically with the HS20 heat sink, or horizontally. Connections are provided for required power supply bypassing, external compensation components, as well as current limit resistors. A large area for component mounting provides flexibility and makes a multitude of circuit configurations possible.

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

PARTS LIST

Part #	Description	Quantity
HS20	Heatsink	1
EVAL16	PC Board	1
MS06	Mating Socket	1
OX7R105KWN	1µF Ceramic Capacitor	2
CSR10	.15 Ω Resistor	2
TWO7	Thermal Washer	1 package

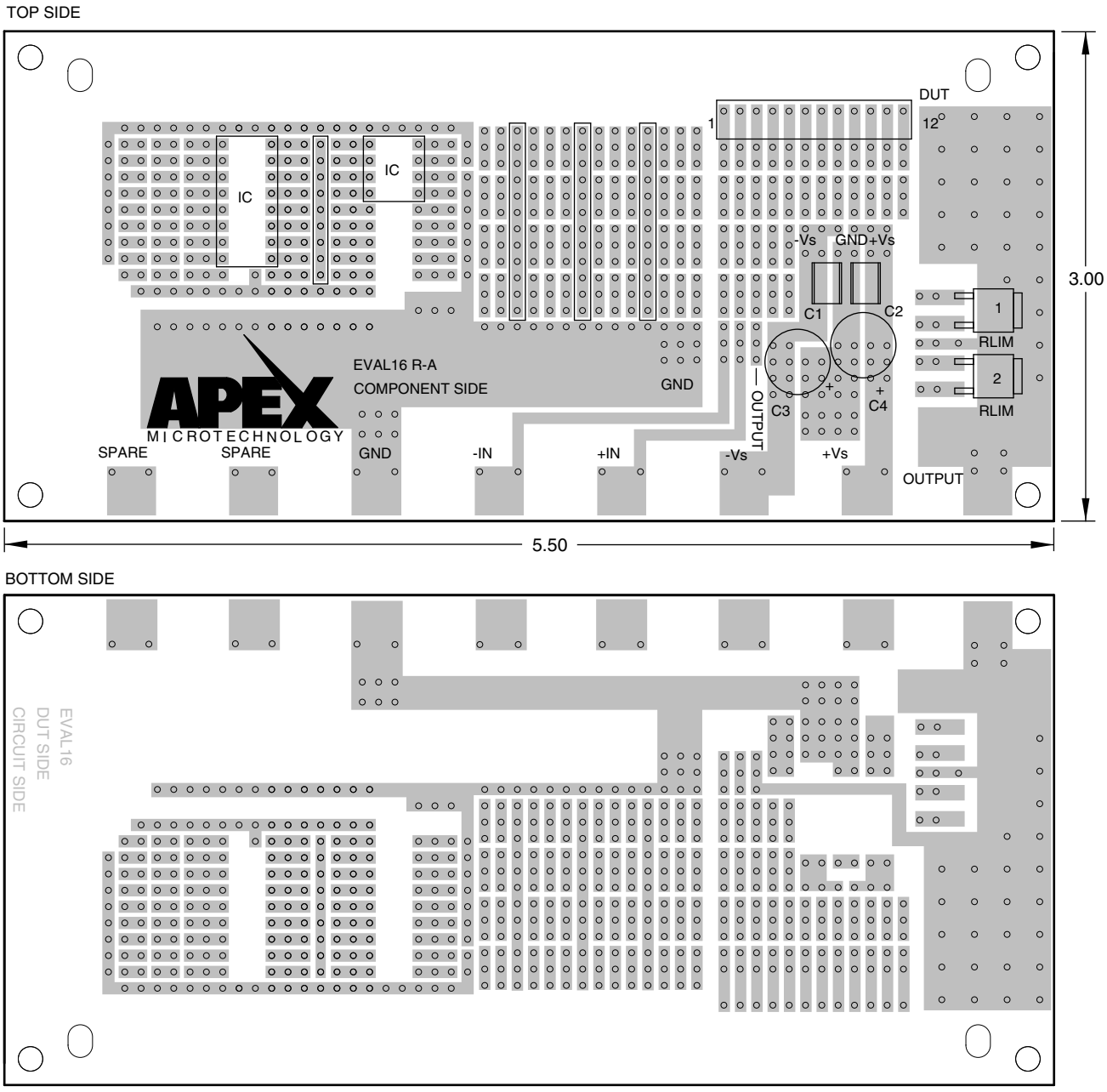
BEFORE YOU GET STARTED

- All Apex 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.

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, required compensation components and current limit resistors. See the op amp data sheet for help in selecting these components. 1uF capacitors and a .15 Ω resistor have been included with the EK12 kit but may be replaced with other components as necessary.
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. (.9 to .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).

FIGURE 1. PCB


TOP SIDE
DUT
12
1
IC
IC
-Vs
GND
+Vs
C1
C2
1
RLIM
2
RLIM
3.00
EVAL16 R-A
COMPONENT SIDE
APEX
MICROTECHNOLOGY
GND
OUTPUT
C3
C4
SPARE
SPARE
GND
-IN
+IN
-Vs
+Vs
OUTPUT
5.50
BOTTOM SIDE
EVAL16
DUT SIDE
CIRCUIT SIDE