

## Evaluation Kit

### APPLICABLE PARTS (SOLD SEPARATELY)

- SA09 Pin-Out

### INTRODUCTION

This easy-to-use kit provides a platform for the evaluation of PWM amplifier circuits using the SA09 pin-out. With ample breadboarding areas it is flexible enough to analyze a multitude of standard or proprietary circuit configurations. Critical connections for power supply bypassing, compensation and current limiting are pre-wired. Components not usually readily available in engineering labs are provided. External connection to the evaluation kit can be made via the terminals at the edge of the circuit board. These terminal pads are suitable for standard banana jacks or direct soldering of wires. The schematic is shown in Figure 1.

Figure 1: EK Schematic

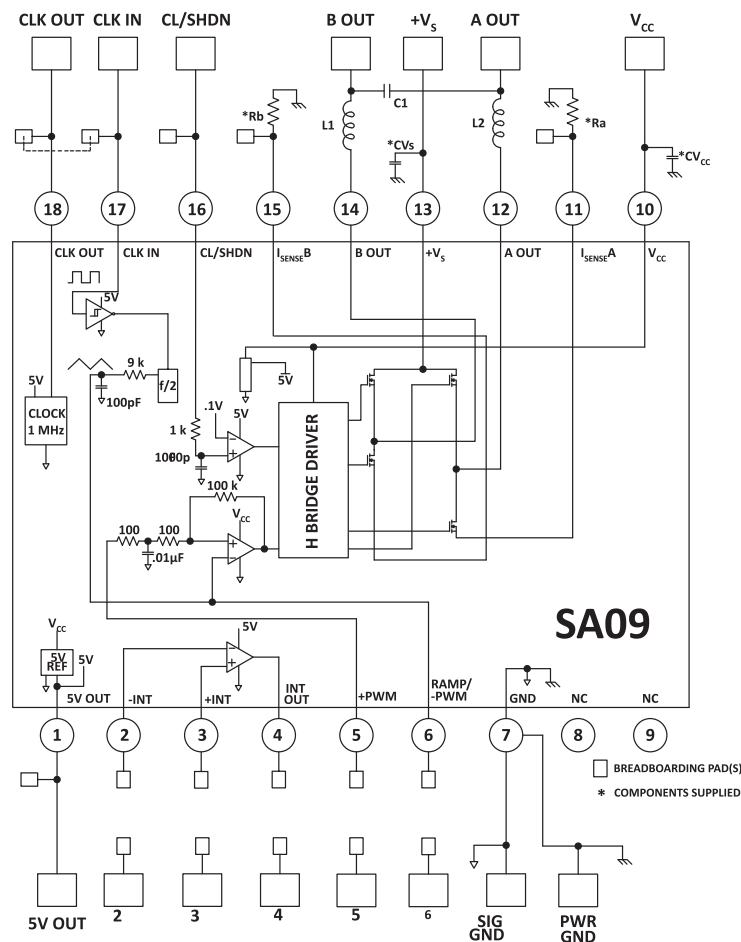


Figure 1 shows the schematic of the evaluation kit's pre-wired connections. Components supplied with the kit are marked with an asterisk (\*). All other connections are made via the bread-boarding areas of the circuit board.

## PARTS LIST

| Reference                           | Manufacturer Part # | Description                     | QTY |
|-------------------------------------|---------------------|---------------------------------|-----|
| <b><u>Printed Circuit Board</u></b> |                     |                                 |     |
| EVAL 18                             | EVAL18              | Printed Circuit Board           | 1   |
| <b><u>Capacitors</u></b>            |                     |                                 |     |
| CVs, CVcc                           | 1825RB105K201N      | 1uF,200V CAP - NOVACOP          |     |
| <b><u>Resistors</u></b>             |                     |                                 |     |
| Ra, Rb                              | MP-725-0.10-1%      | Resister, 0.10 $\Omega$         | 2   |
| Ra, Rb                              | MP-725-0.05-1%      | Resistor, 0.05 $\Omega$         | 2   |
| <b><u>Hardware</u></b>              |                     |                                 |     |
|                                     | HS21                | Heatsink                        | 1   |
|                                     | TW09                | Thermal Washer (Pack of 10 pcs) | 1   |
|                                     | CLAMP02             | Mounting Clip                   | 1   |

## BEFORE YOU GET STARTED

- SA09 amplifier is not included with the EK09 kit and must be purchased separately.
- All APEX amplifiers should be handled using proper ESD precautions.
- Always use a thermal washer between the amplifier and heatsink.
- 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.

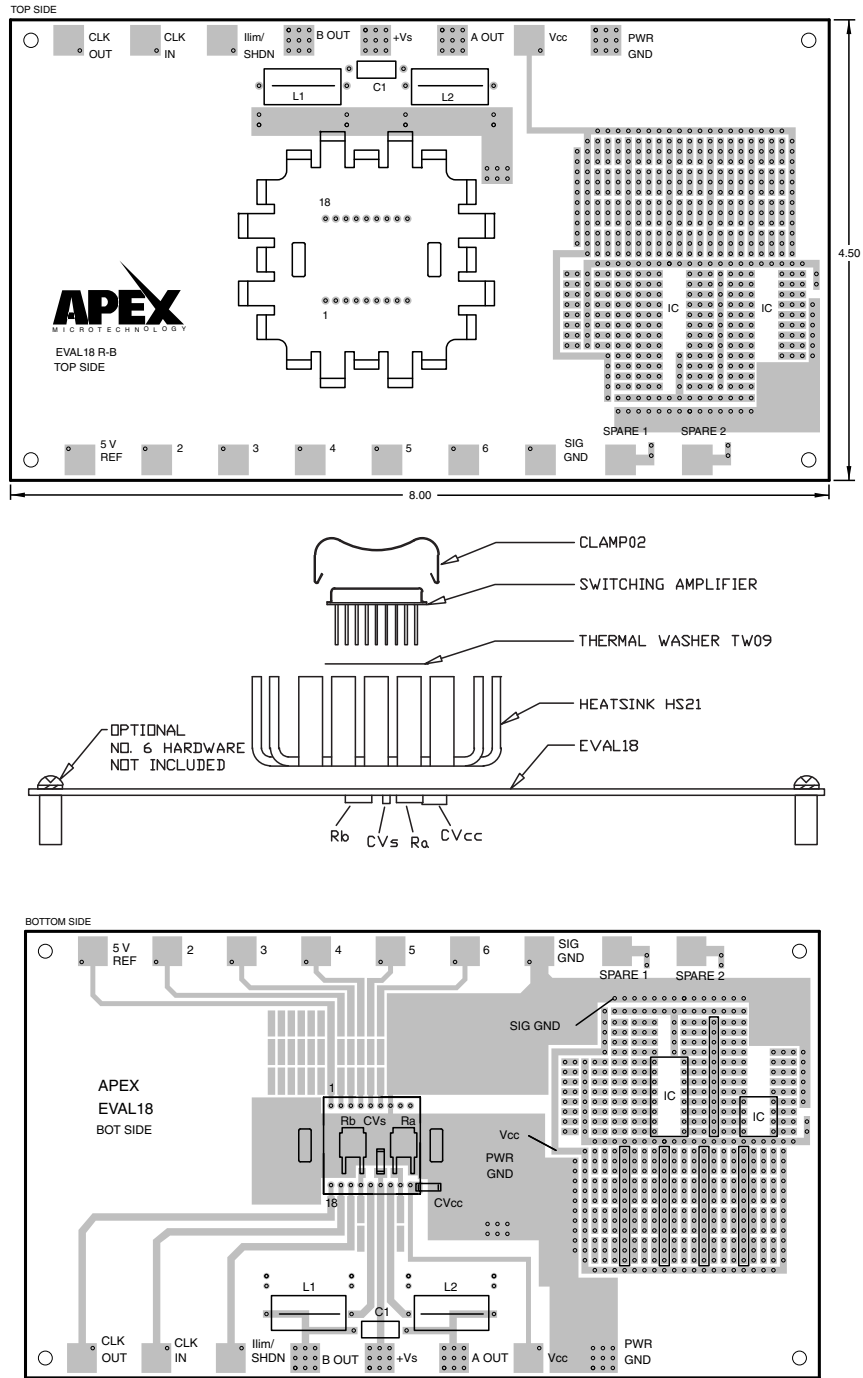
## ASSEMBLY

See Figure 3.

1. Solder the surface mount ceramic capacitors to the bottom side of the circuit board at CVs and CVcc.
2. Select a current limiting resistor from the two values provided. See the product data sheet for information on how to select a value. Apply a thin coating of thermal grease to the back of the resistors. Press the resistor body onto the circuit board foil at positions Ra and Rb and solder the leads.
3. Assemble the amplifier, thermal washer and heat sink to the circuit board as illustrated in Figure 3. As a last step push the clip through the heat sink and circuit board until it locks. Solder the amplifier pins to the bottom side of the circuit board.
4. The four holes at the corners of the circuit board are for mounting #6 standoff spacers (not included) if desired.
5. Add other components as necessary to complete your application circuit.



Figure 3: PCB



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