

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

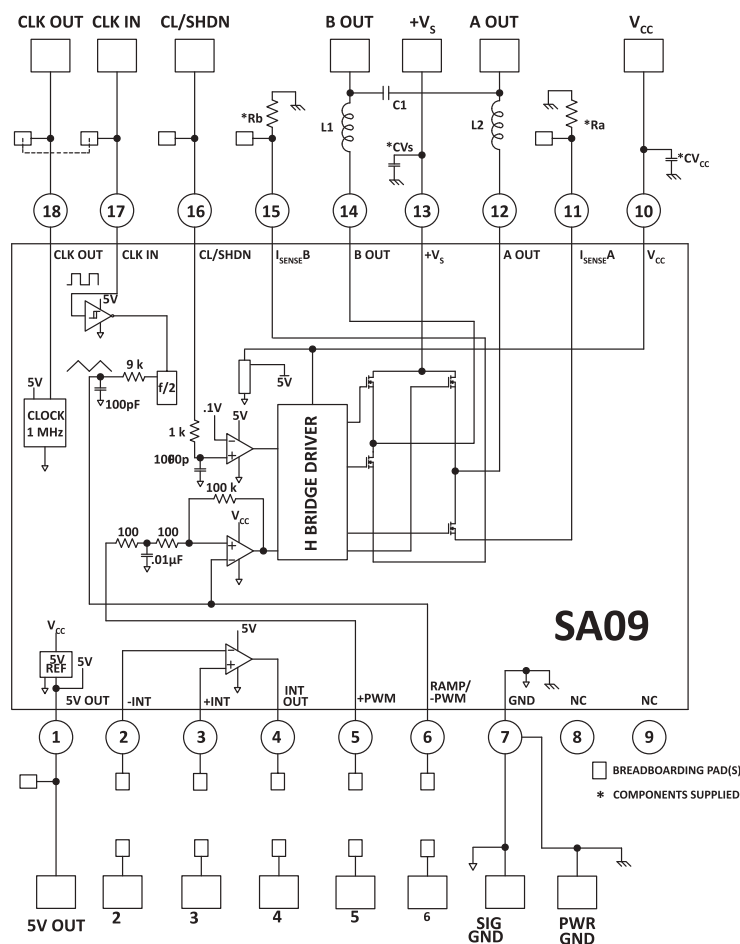


Figure 1 shows the schematic of the evaluation kit's pre-wired connections. Components supplied with the kit are marked with an asterisk (*). All other connections are made via the bread-boarding areas of the circuit board.

PARTS LIST

Reference	Manufacturer Part #	Description	QTY
<u>Printed Circuit Board</u>			
EVAL 18	EVAL18	Printed Circuit Board	1
<u>Capacitors</u>			
CVs, CVcc	1825RB105K201N	1uF,200V CAP - NOVACOP	
<u>Resistors</u>			
Ra, Rb	MP-725-0.10-1%	Resister, 0.10 Ω	2
Ra, Rb	MP-725-0.05-1%	Resistor, 0.05 Ω	2
<u>Hardware</u>			
	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 2:

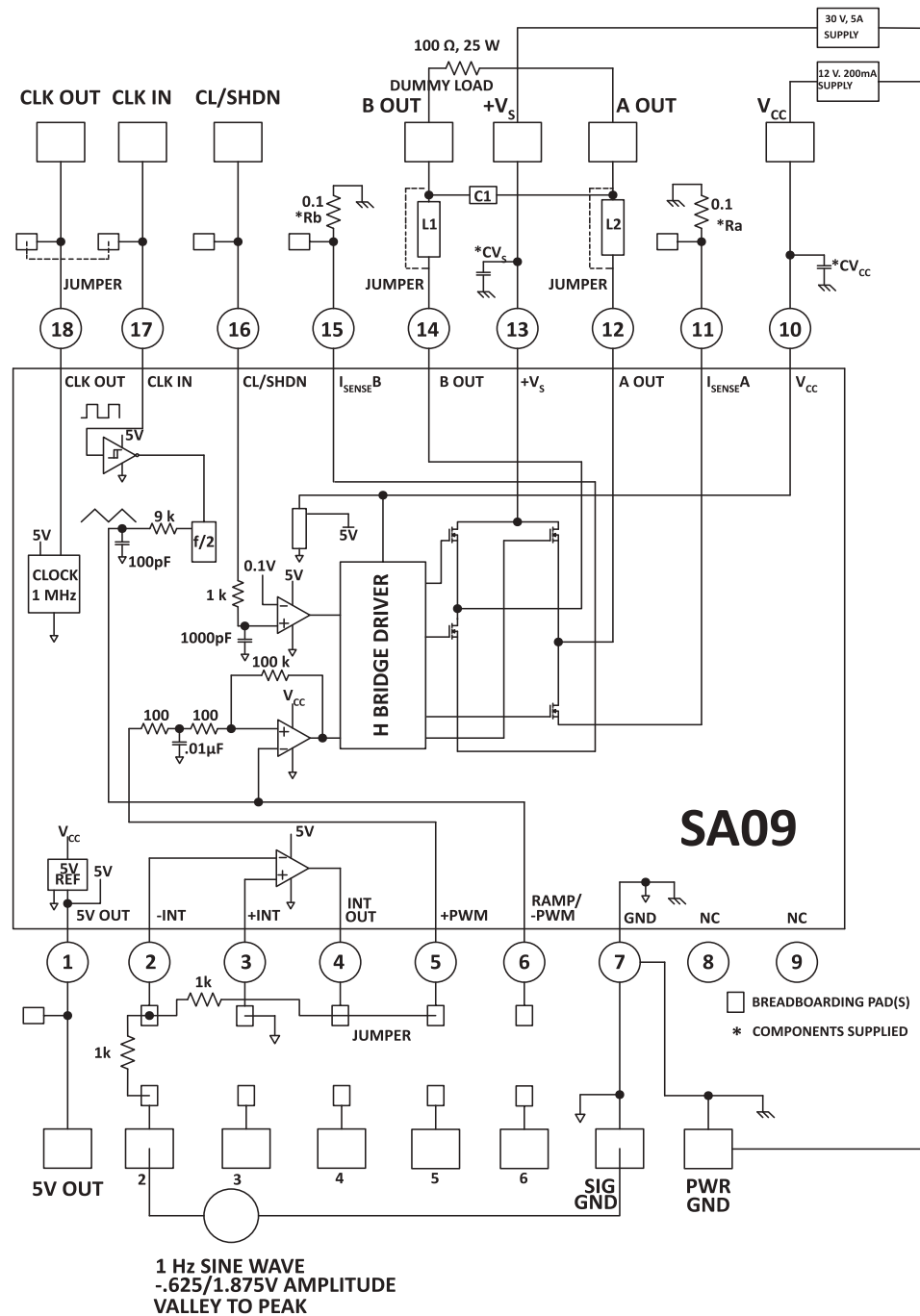
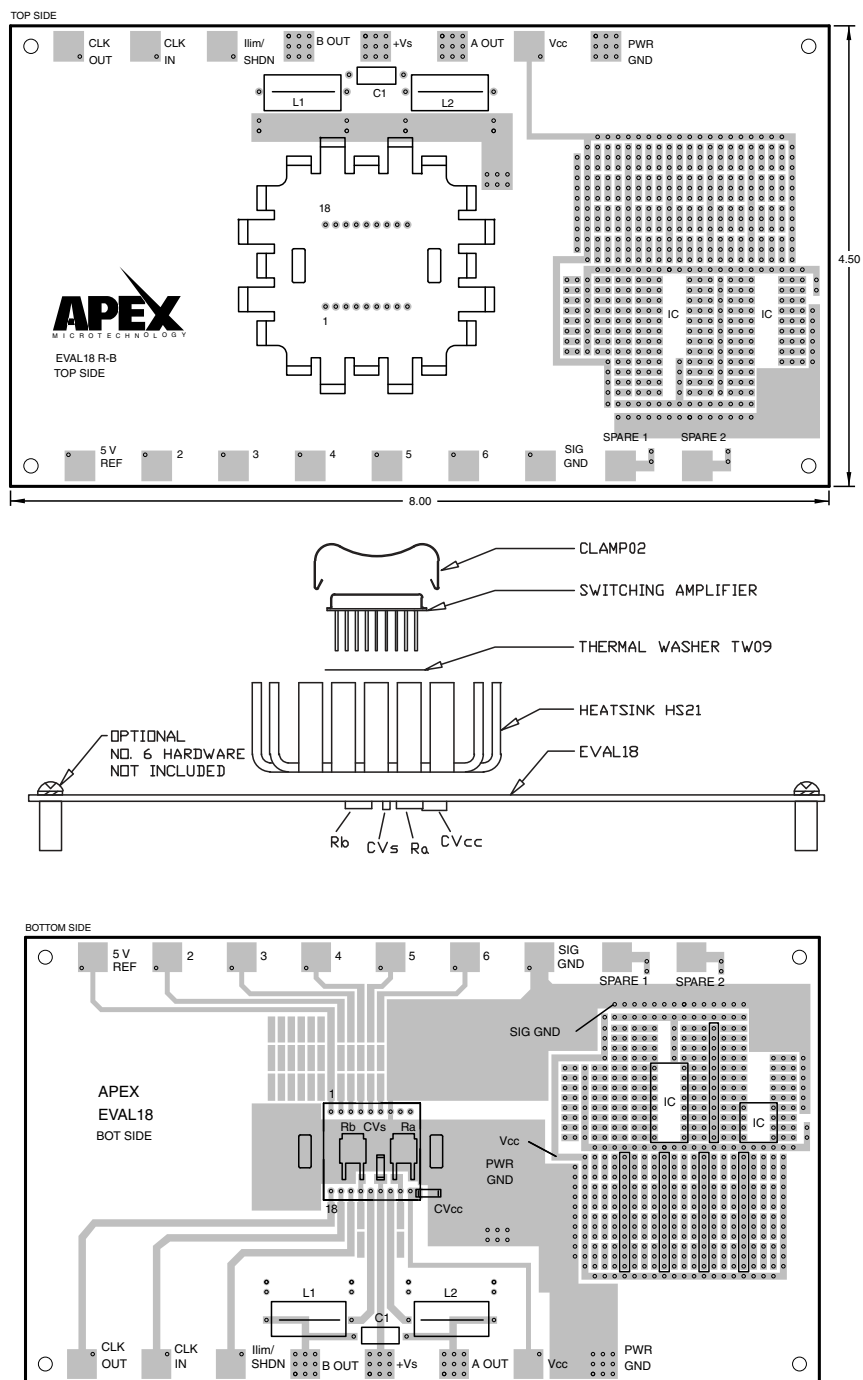


Figure 2 shows a suggested simple test circuit that you can build to gain a familiarity with the evaluation kit as well as the amplifier. At the A OUT or B OUT pads relative to power ground you should observe a square wave with a frequency of approximately 500kHz, 30V p-p which is being modulated from approximately 0 to 100% duty cycle at a rate of 1 Hz.

Figure 3: PCB



NEED TECHNICAL HELP? CONTACT APEX SUPPORT!

For all Apex Microtechnology product questions and inquiries, call toll free 800-546-2739 in North America. For inquiries via email, please contact apex.support@apexanalog.com. International customers can also request support by contacting their local Apex Microtechnology Sales Representative. To find the one nearest to you, go to www.apexanalog.com

IMPORTANT NOTICE

Apex Microtechnology, Inc. has made every effort to insure the accuracy of the content contained in this document. However, the information is subject to change without notice and is provided "AS IS" without warranty of any kind (expressed or implied). Apex Microtechnology reserves the right to make changes without further notice to any specifications or products mentioned herein to improve reliability. This document is the property of Apex Microtechnology and by furnishing this information, Apex Microtechnology grants no license, expressed or implied under any patents, mask work rights, copyrights, trademarks, trade secrets or other intellectual property rights. Apex Microtechnology owns the copyrights associated with the information contained herein and gives consent for copies to be made of the information only for use within your organization with respect to Apex Microtechnology integrated circuits or other products of Apex Microtechnology. This consent does not extend to other copying such as copying for general distribution, advertising or promotional purposes, or for creating any work for resale.

APEX MICROTECHNOLOGY PRODUCTS ARE NOT DESIGNED, AUTHORIZED OR WARRANTED TO BE SUITABLE FOR USE IN PRODUCTS USED FOR LIFE SUPPORT, AUTOMOTIVE SAFETY, SECURITY DEVICES, OR OTHER CRITICAL APPLICATIONS. PRODUCTS IN SUCH APPLICATIONS ARE UNDERSTOOD TO BE FULLY AT THE CUSTOMER OR THE CUSTOMER'S RISK.

Apex Microtechnology, Apex and Apex Precision Power are trademarks of Apex Microtechnology, Inc. All other corporate names noted herein may be trademarks of their respective holders.