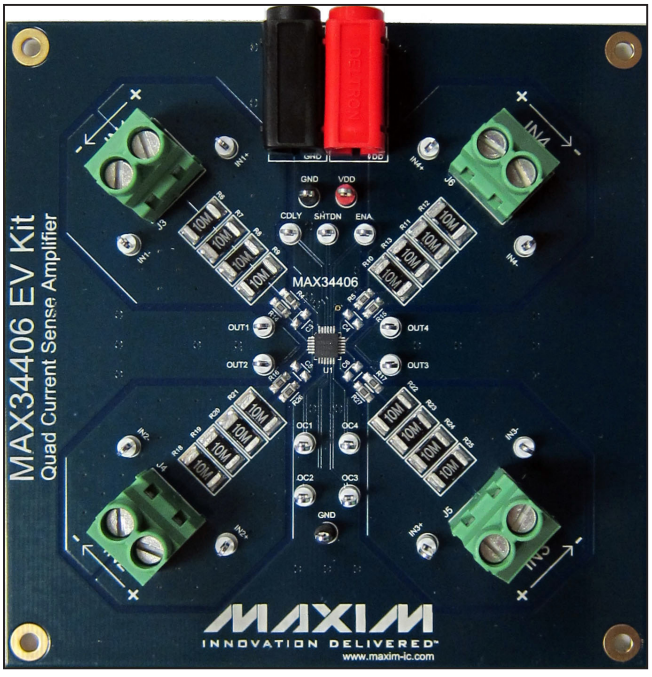
19-6126; Rev 0; 11/11

MAX34406 Evaluation Kit
Evaluates: MAX34406

General Description

The MAX34406 evaluation kit (EV kit) simplifies evaluation of the MAX34406 quad current-sense amplifier with overcurrent threshold comparators. The EV kit is fully assembled and ready for operation. It is shipped with four 10mΩ sense resistors in parallel on each channel, which creates an effective sense resistance of 2.5mΩ. The EV kit ships with the MAX34406 device installed, which provides a fixed gain of 100V/V. The 2.5mΩ sense resistance and 100V/V gain provide an overcurrent threshold of 4A on each channel. The sense resistors on the EV kit can be changed to adjust the overcurrent threshold. The PCB and the terminals on the EV kit can support currents up to 32A on each channel.

MAX34406 EV Kit Board



Features

- **Quick Evaluation of the MAX34406**
- **Fully Assembled and Tested**
- **Ready for Operation Out of the Box**
- **Configured for 4A Thresholds on Each Channel**
- **Support Currents Up to 32A on Each Channel**
- **Access to Sense Resistors for Threshold Adjustment**
- **Amplifier Filtering Can be Added**
- **Labeled Test Points for Key Signals**
- **PCB Mounting Holes**

EV Kit Contents

- **MAX34406 EV Kit Board**

Equipment Needed

The following equipment is required to use the MAX34406 EV kit:

- 3.3V to 5V (10mA) DC power supply to supply the MAX34406 bias
- 4A current source (2V to 28V) to test the full range of the current-sense amplifier
- Small flat-head screwdriver for attaching leads to the current-sense terminals

***Ordering Information* appears at end of data sheet.**

Getting Started

- Connect a 3.3V to 5V DC power supply to the red (+) and back (-) banana jacks and apply power. The DC power supply is used by the MAX34406 to power up the internal voltage reference, comparators, and logic. The power supply is not required for the current sense amplifiers and will not damage the device if it is left unconnected.
- Using a screwdriver, connect the through current to be measured to one or more of the green 2-position terminals (labeled IN1 to IN4). Be sure that the current flow is as shown on the PCB; otherwise, the current-sense amplifier will not indicate any current flow. Current flowing in the wrong direction will not damage the device.
- Apply 0 to 3A (with a common-mode voltage of 2V to 28V) through the green terminals and measure the resulting analog signal at the OUT test points near the center of the PCB (Figure 2). The OUT signals should change linearly from 0 to 750mV as the current changes from 0 to 3A.
- Applying more than 4A causes the overcurrent thresholds to fire and the SHTDN output and associated OC1 to OC4 outputs to assert. All these signals have labeled test points on the EV kit.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	0.1µF capacitor
C2	1	0.01µF capacitor
C3–C10	8	Do not populate
J1	1	Red banana jack
J2	1	Black banana jack
J3–J6	4	2-position screw terminal
R1, R3, R28, R29, R30, R31	6	10kΩ resistors
R2	1	Do not populate
R4, R5, R14, R15, R16, R17, R26, R27	8	0Ω resistors
R6–R13, R18–R25	16	10mΩ ±1% resistors
TP1–TP26	26	Test points
U1	1	Quad current-sense amplifier (24 TQFN-EP) Maxim MAX34406HETG+
—	—	PCB: MAX34406 EV Kit

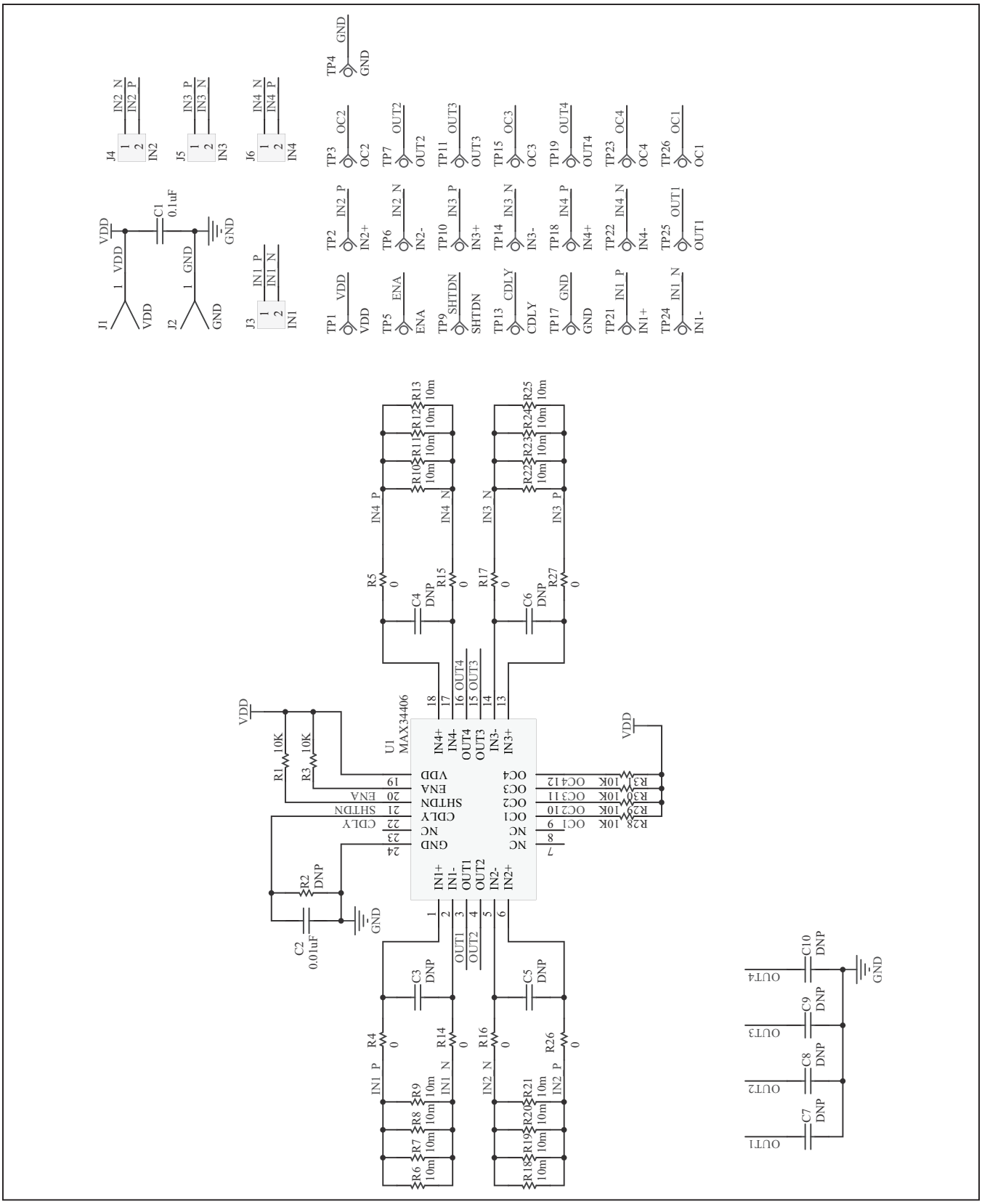


Figure 1. MAX34406 EV Kit Schematic

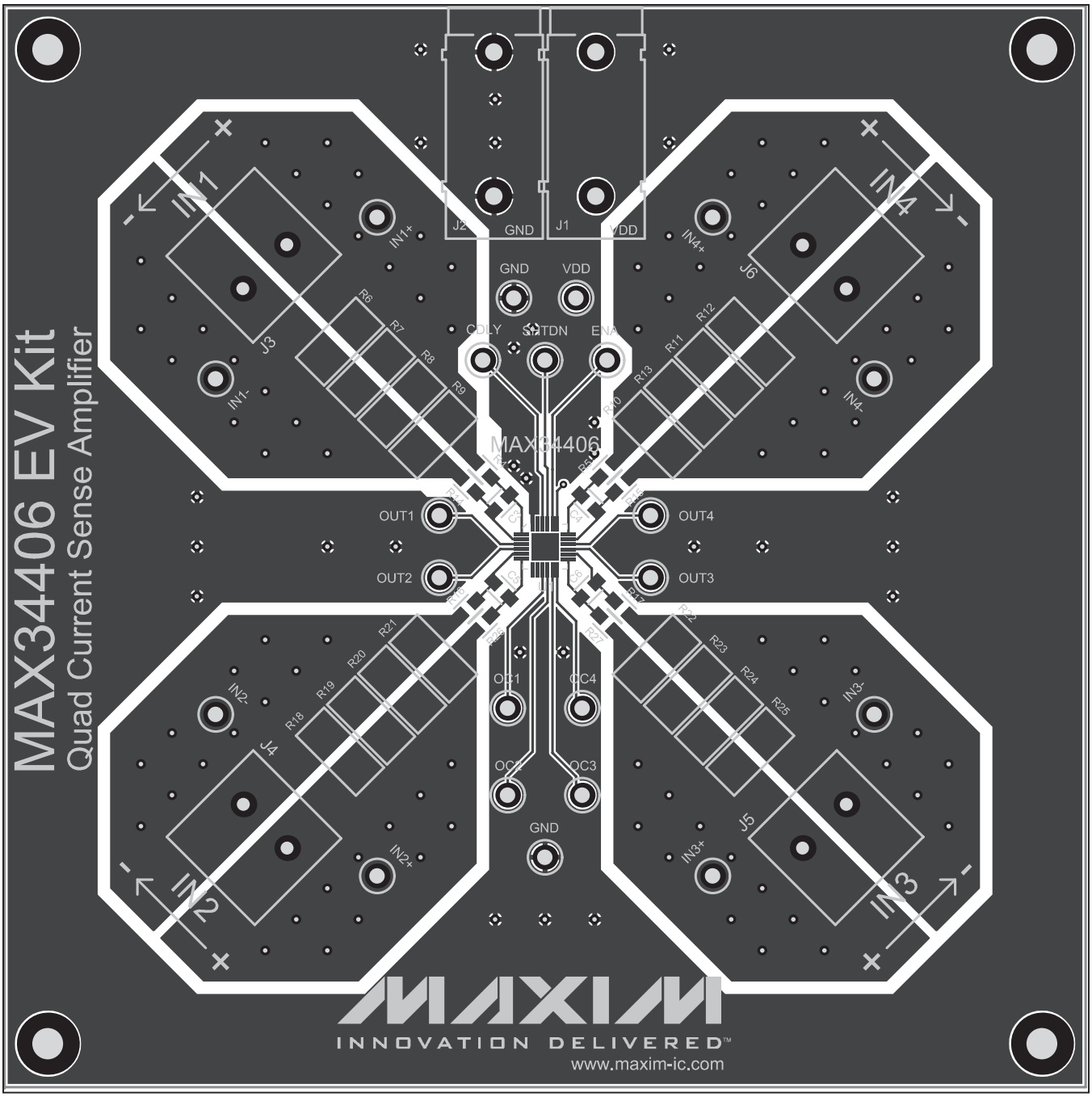


Figure 2. MAX34406 EV Kit PCB Top Drawing

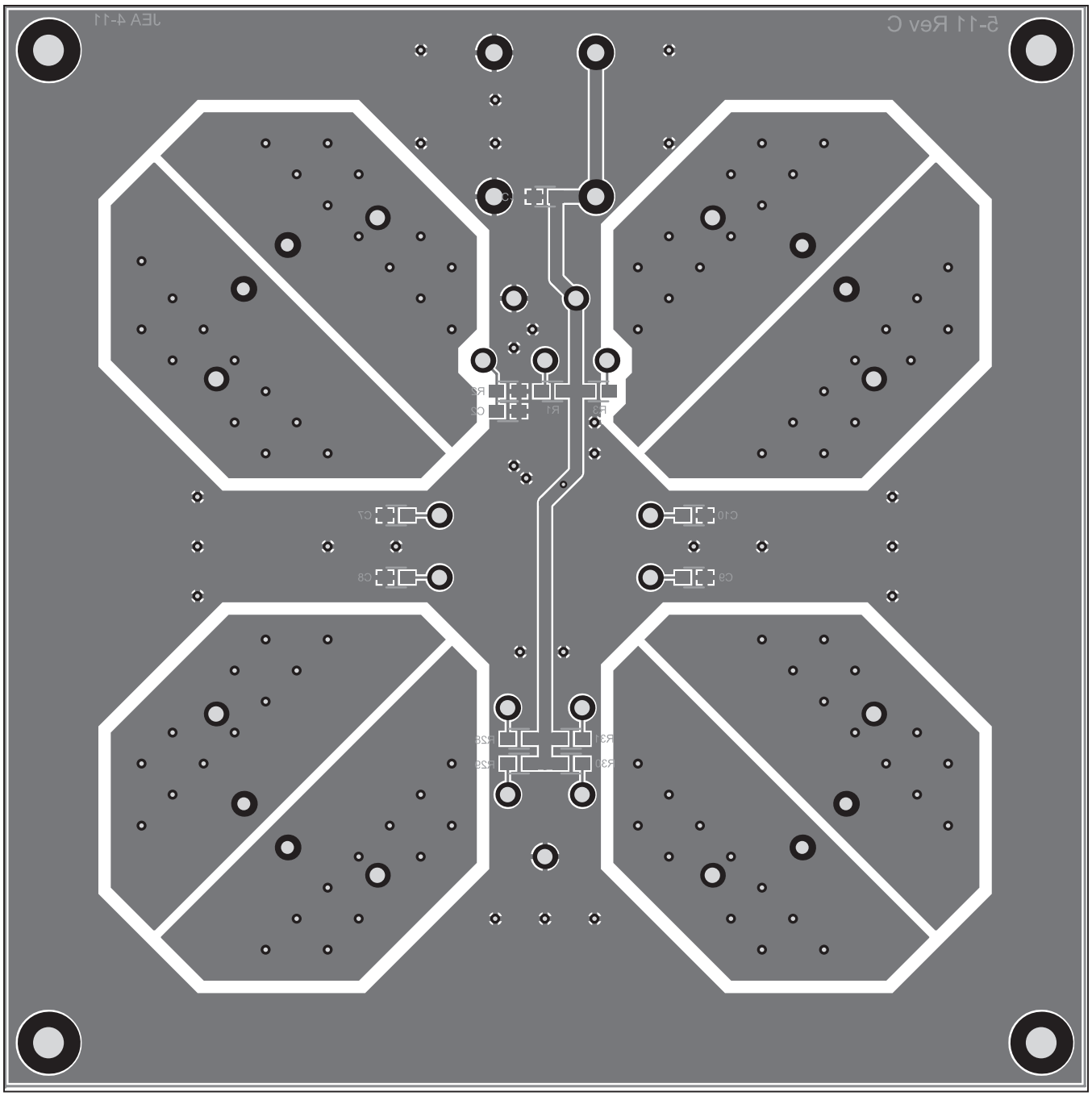


Figure 3. MAX34406 EV Kit PCB Bottom Drawing

Ordering Information

PART	TYPE
MAX34406EVKIT#	EV Kit

#Denotes a RoHS-compliant device that may contain lead(Pb) under the RoHS requirements.

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/11	Initial release	—