

# MAXIM

## MAX3750 Evaluation Kit

### General Description

The MAX3750 evaluation kit (EV kit) simplifies evaluation of the MAX3750/MAX3751 port bypass ICs. It provides impedance transformation networks that allow interface with standard 50Ω test equipment.

This fully assembled and tested EV kit includes a jumper to facilitate signal flow selection, and a calibration circuit that allows accurate jitter measurement.

### Component List

DESIGNATION	QTY	DESCRIPTION
C1–C10, C13–16	14	0.1μF, 25V min, 10% ceramic capacitors
C11	1	2.2μF, 25V min, 10% ceramic capacitor
C12	1	33μF ±10%, 16V min tantalum capacitor
J1	1	3-pin header (0.1" center)
J2–J13	12	SMA connectors (edge mount)
L1	1	56nH inductor
None	1	Shunt for J1
R1, R2, R4, R5, R7, R8, R10, R11, R13, R14, R16, R18	12	43.2Ω, 1% resistors
R3, R6, R9, R12, R15, R17	6	178Ω, 1% resistors
VCC, GND	1	2-pin headers
U1	1	MAX3750CEE or MAX3751CEE (16 QSOP)
None	1	MAX3750/MAX3751 circuit board
None	1	MAX3750/MAX3751 data sheet

### Features

- ◆ Interfaces with 50Ω Systems
- ◆ Fully Assembled and Tested
- ◆ Calibration Circuit for Accurate Jitter Measurement

### Ordering Information

PART	TEMP. RANGE	IC PACKAGE
MAX3750EVKIT	0°C to +70°C	16 QSOP

**Note:** To evaluate the MAX3751, order the MAX3750EVKIT and a sample of the MAX3751.

### Component Supplier

SUPPLIER	PHONE	FAX
AVX	803-946-0690	803-626-3123

**Note:** Please indicate that you are using the MAX3750 or MAX3751 when contacting this component supplier.

### Quick Start

To evaluate the MAX3750 or MAX3751 input-to-output signal path:

- 1) Connect a differential signal source to the input at IN+, IN-. Set the signal amplitude to 500mVp-p. The input signal can have a data rate up to 1Gbps for the MAX3751 and 2.1Gbps for the MAX3750.
- 2) Connect OUT+ and OUT- through 50Ω matched impedance cables to a 50Ω oscilloscope.
- 3) Connect a +3.3V supply to the VCC terminal, and a ground to the GND terminal.
- 4) Shunt pins 1 and 2 on J1 to select the IN to OUT signal path.
- 5) Ensure that the differential signal at the oscilloscope is between 425mV and 690mV.

Evaluates: MAX3750/MAX3751

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## Input and Output Impedance Conversion

For convenient interface with standard test equipment, the MAX3750 EV kit is equipped with impedance transforming resistive networks on its inputs (50Ω to 75Ω) and outputs (75Ω to 50Ω). The impedance transforming networks also introduce signal attenuation. The input signal is attenuated by a factor of 0.64, and the output signal is attenuated by a factor of 0.43. For example, a differential signal of 600mV applied to the input terminals of the MAX3750 EV kit will produce a differential input signal of 381mV across the IC's input pins. If a differential signal of 225mV is observed at the output terminals of the EV kit, then the actual output of the IC is a differential signal of 600mV.

Table 1. Connections, Adjustments, and Controls

CONTROL	SHUNT BETWEEN PINS	SELECT
J1	1-2	Connects IN to OUT
	2-3	Connects LIN to OUT

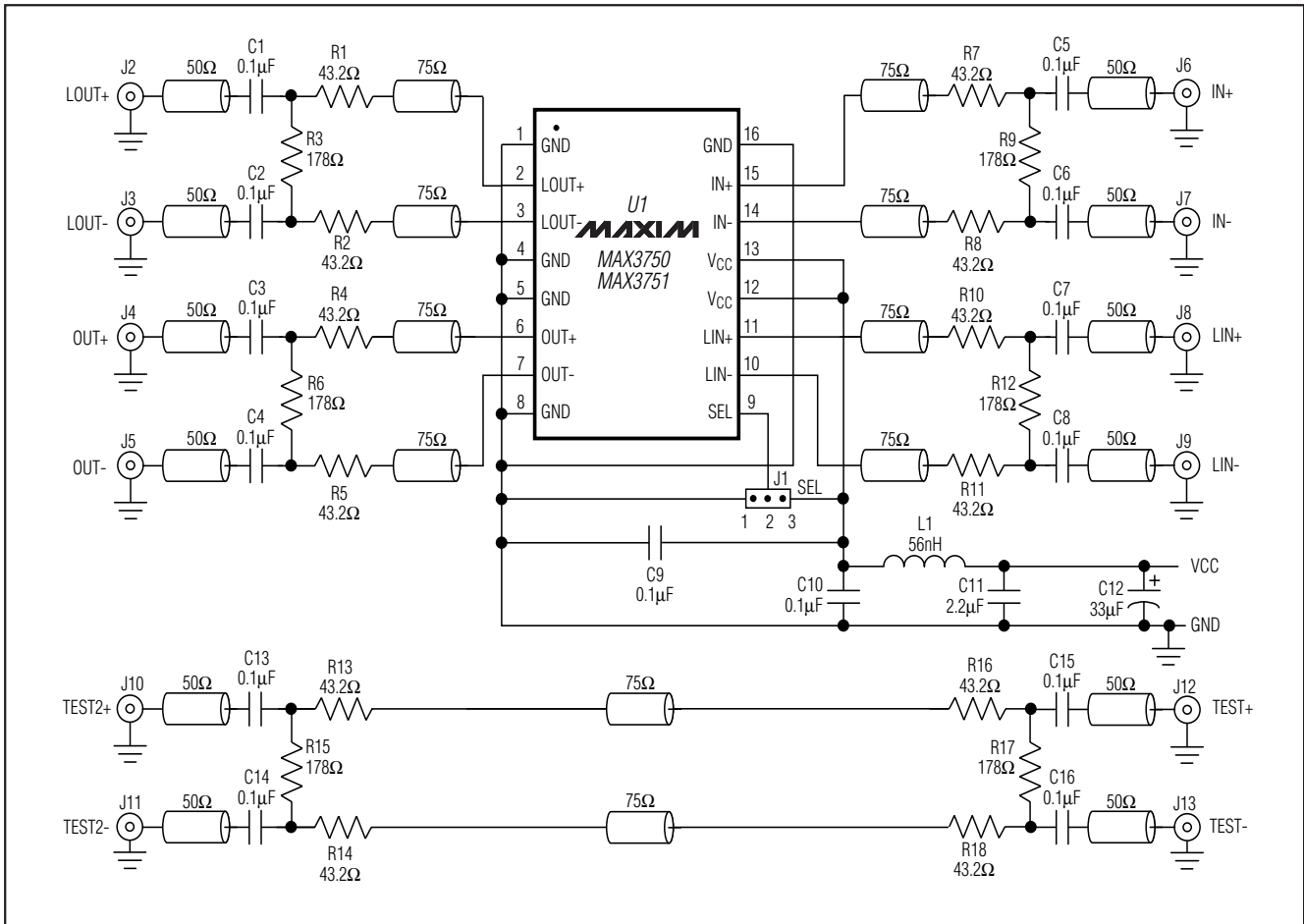


Figure 1. MAX3750 EV Kit Schematic

# MAX3750 Evaluation Kit

**Evaluates: MAX3750/MAX3751**

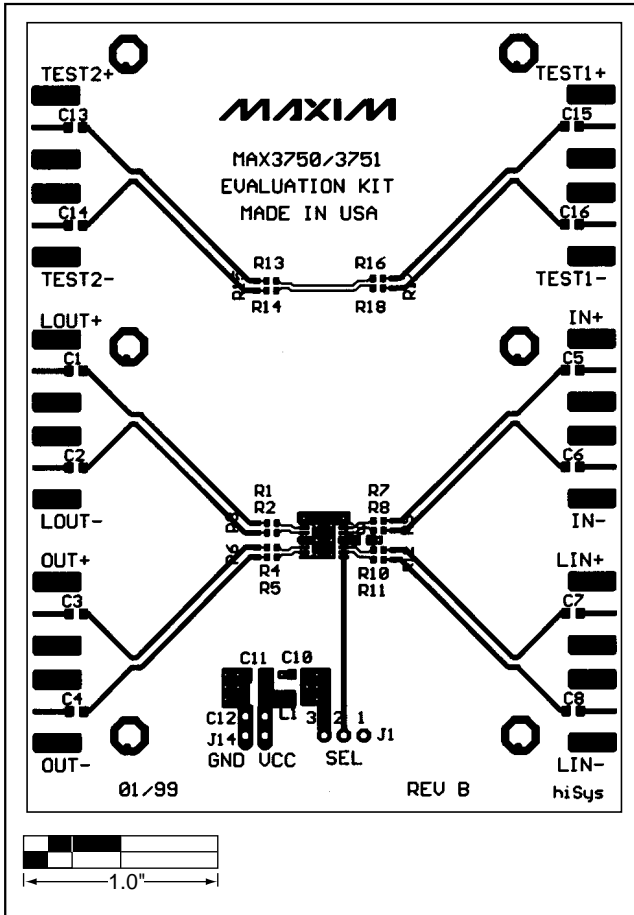


Figure 2. MAX3750 EV Kit Component Placement Guide—Component Side

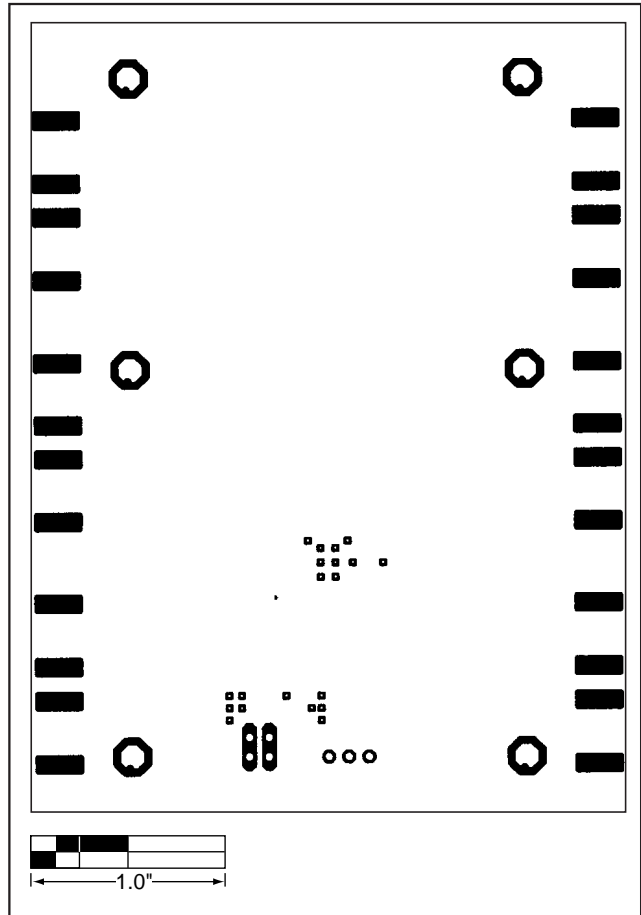


Figure 3. MAX3750 EV Kit Component Placement Guide—Solder Side

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Evaluates: MAX3750/MAX3751

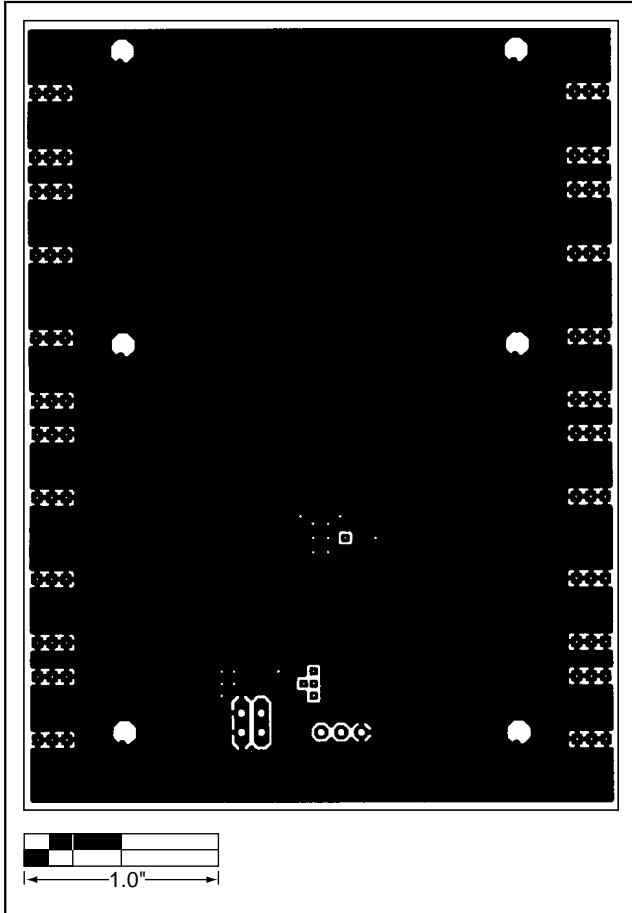


Figure 4. MAX3750 EV Kit PC Board Layout—Ground Plane

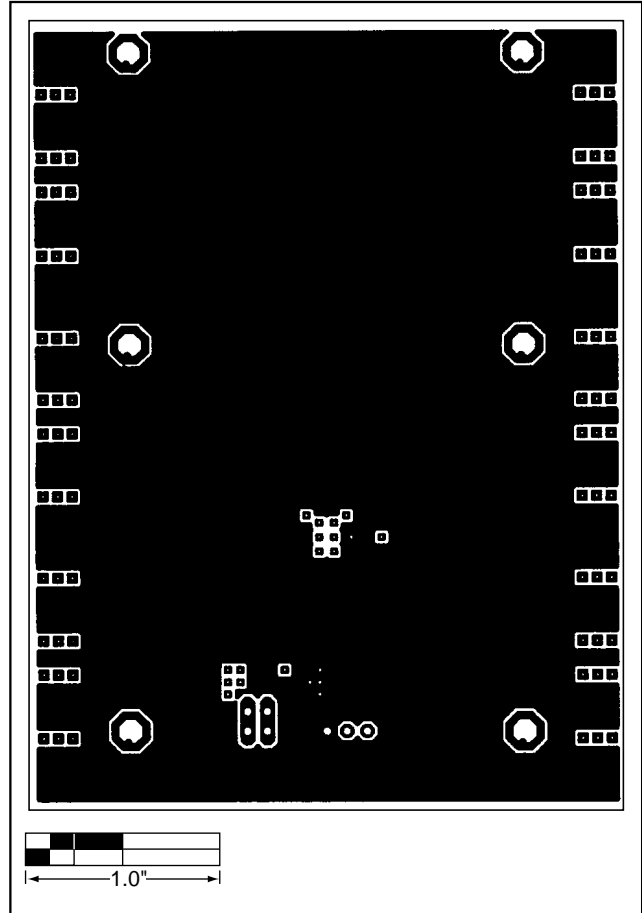


Figure 5. MAX3750 EV Kit PC Board Layout—Power Plane

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