



MAX3747B Evaluation Kit

General Description

The MAX3747B evaluation kit (EV kit) simplifies evaluation of the MAX3747B limiting amplifiers. The EV kit enables testing of all the device's functions. SMA connectors with 50Ω controlled-impedance transmission lines to the MAX3747B are provided for all input and output ports.

The EV kit provides input and output test points and jumpers for all TTL signals.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	33μF ±10% tantalum capacitor (B case)
C2	1	10μF ±10% tantalum capacitor (B case)
C3	1	0.1μF ±10% ceramic capacitor (0603)
C4, C14, C15	3	0.1μF ±10% ceramic capacitors (0402)
C5	1	Open
C6–C13	8	0.1μF ±10% ceramic capacitors (0201)
C16	1	Open
D1	1	LED
J10, J11, TP1–TP6	8	Test points Digi-Key 5000K-ND
J1–J8	8	SMA edge mounts, round contact
J9	1	SMB PC mount
JU1	1	Jumper block 3 + 1 pins, 0.1in spacing
JU2, JU3	2	Jumper block 3 pins, 0.1in spacing
L1	1	47nH inductor
R0, R1	2	49.9Ω ±1% resistors (0402)
R2	1	5kΩ variable resistor Bourns 3296W-1-502
R3, R4	2	Open
R5	1	4.75kΩ ±1% resistor (0402)
R6	1	10.0kΩ ±1% resistor (0402)
R8	1	4.99kΩ ±1% resistor (0402)
R9	1	2.61kΩ ±1% resistor (0402)
R10	1	442Ω ±1% resistor (0402)
R11	1	4.53kΩ ±1% resistor (0402)
R12	1	2.37kΩ ±1% resistor (0402)
R13	1	768Ω ±1% resistor (0402)
U1	1	MAX3747BEUB+
U2	1	SMT dip switch, 0.5mm pitch (8 position)
U3	1	MAX4429ESA+
—	1	PCB: MAX3747B Evaluation kit

Features

- ◆ Independent Input and Output Voltage Terminations
- ◆ SMA Connectors for All High-Speed Inputs and Outputs
- ◆ Test Points for LOS Output
- ◆ Fully Assembled and Tested

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX3747BEVKIT+	-40°C to +85°C	10 μMAX®

+ Denotes a lead-free package.

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Component Suppliers

SUPPLIER	PHONE	WEBSITE
AVX Corp.	843-448-9411	www.avxcorp.com
Coilcraft, Inc.	847-639-6400	www.coilcraft.com
Digi-Key Corp.	218-681-6674	www.digikey.com
Murata Electronics North America, Inc.	770-436-1300	www.murata.com

Note: Please indicate that you are using the MAX3747B when ordering from these suppliers.

Evaluates: MAX3747B

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Quick Start

- 1) Shunt the center pin of JU1 to TP3 to connect DISABLE to LOS.
- 2) Shunt the center pin of JU2 to 4.75k Ω . Shunt the center pin of JU3 to VCC. This terminates LOS to VCC through a 4.75k Ω resistor.
- 3) Turn all positions of the dip switch (U2) off. Turn the 4 and 5 switch to on. This sets the minimum LOS threshold.
- 4) Connect a +3.3V supply to VCC (J10). Connect the power-supply ground to J11 (GND).
- 5) Connect a 100mV_{P-P} 2.125Gbps signal to J1 (IN+) and J2 (IN-).
- 6) Connect J3 (OUT+) and J4 (OUT-) to a 50 Ω high-speed oscilloscope. The differential output of the MAX3747B should be 800mV_{P-P}.

Detailed Description

Dip Switch

The dip switch allows for quick setting of various threshold levels. When only switches 4 and 5 are turned on, the MAX374B is set to the low threshold level. Switches 3 and 6 set to the medium threshold level, and switches 2 and 7 set to the high threshold level. Switches 1 and 8 connect the potentiometer, allowing the user to set any threshold level.

Jumper JU1

Jumper JU1 allows the user to connect the DISABLE pin to LOS, VCC, or GND.

Jumper JU2

Jumper JU2 allows the user to terminate the LOS output to 4.75k Ω or 10.0k Ω .

Jumper JU3

Jumper JU3 connects the LOS termination resistor or to a separate supply connected to TP4.

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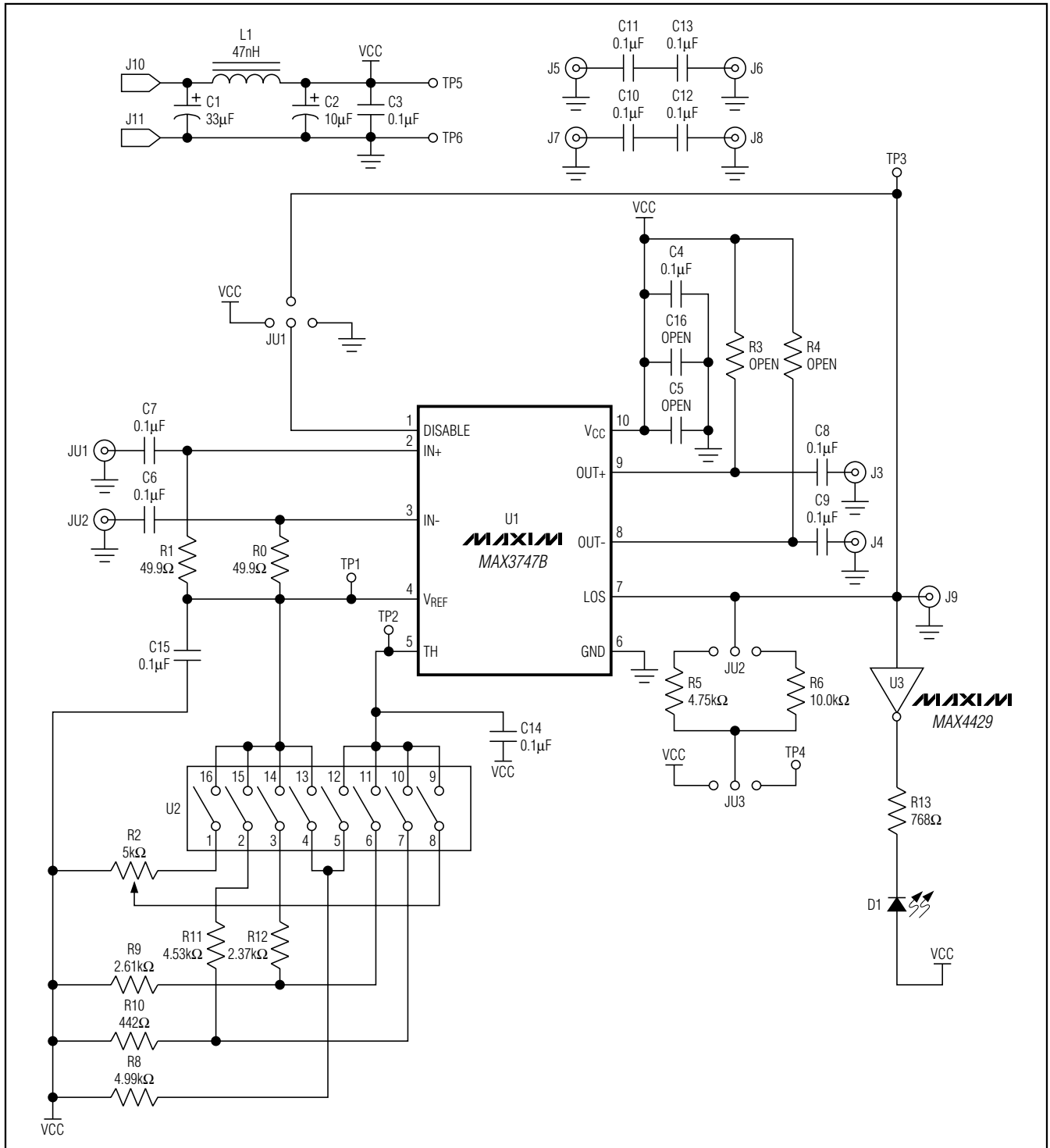


Figure 1. MAX3747B EV Kit Schematic

MAX3747B Evaluation Kit

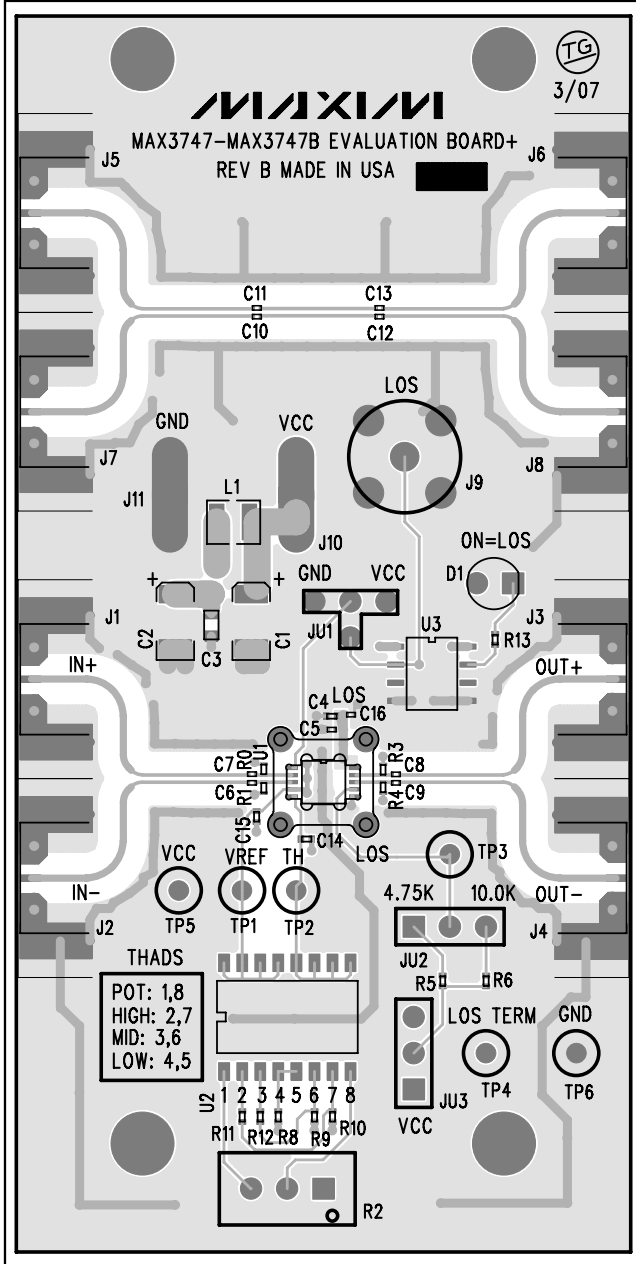


Figure 2. MAX3747B EV Kit Component Placement Guide

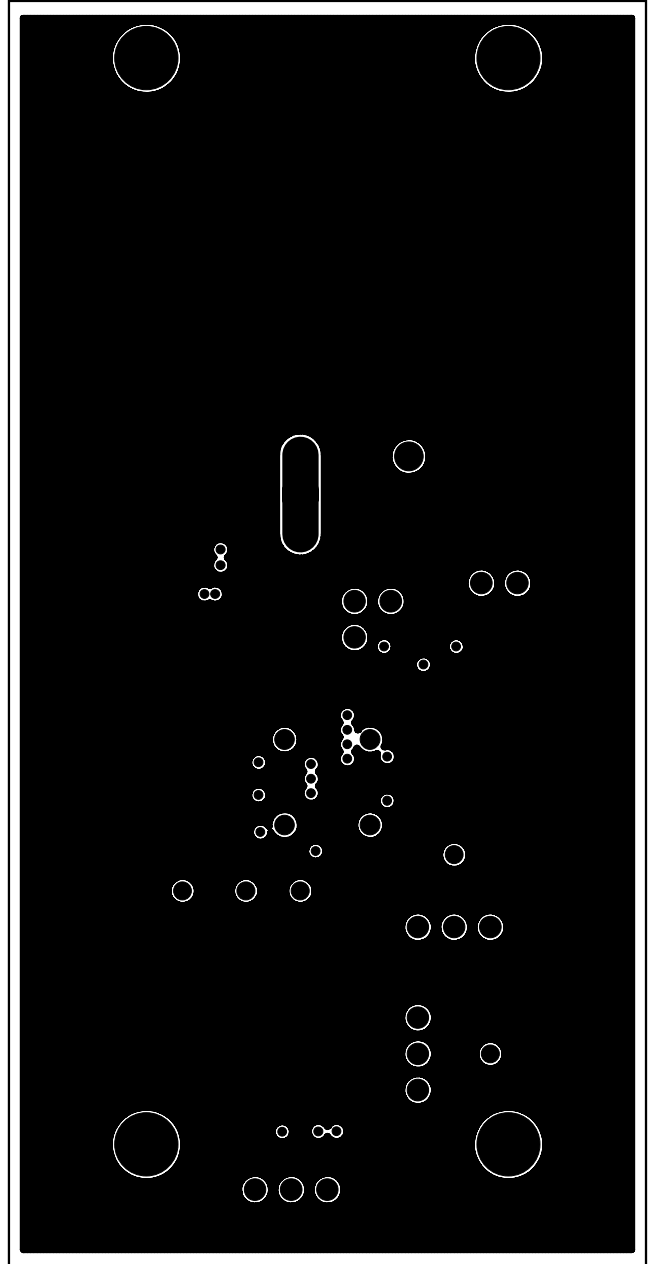


Figure 3. MAX3747B EV Kit PCB Layout—Ground Plane

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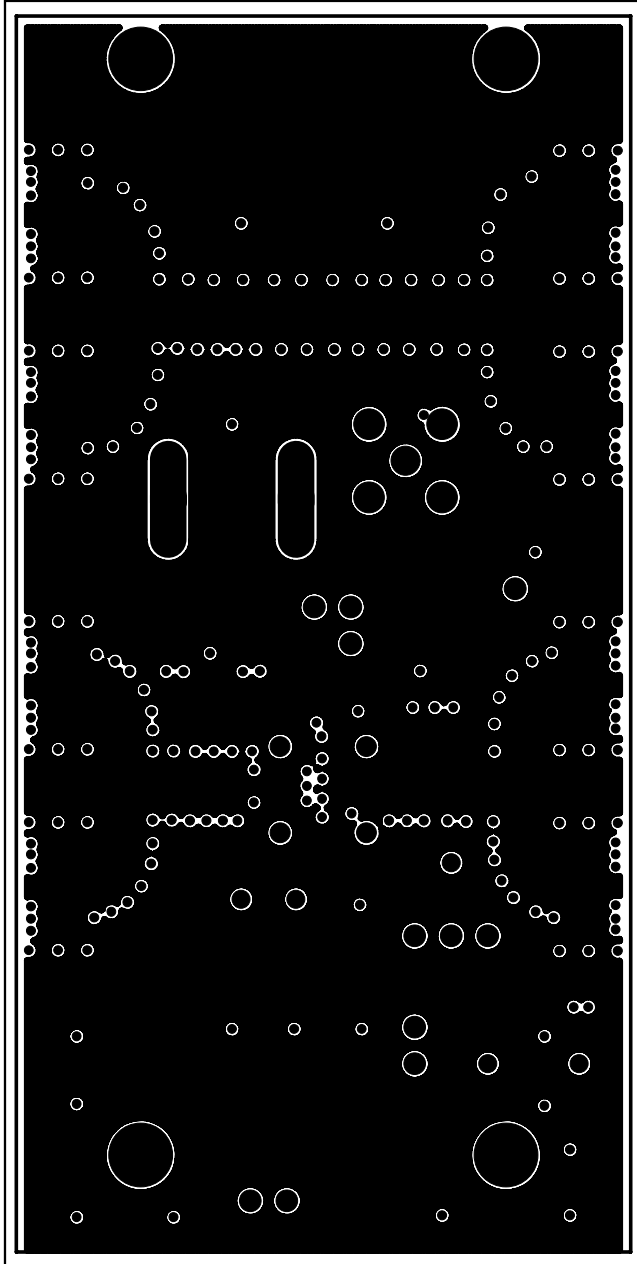


Figure 4. MAX3747B EV Kit PCB Layout—Power Plane

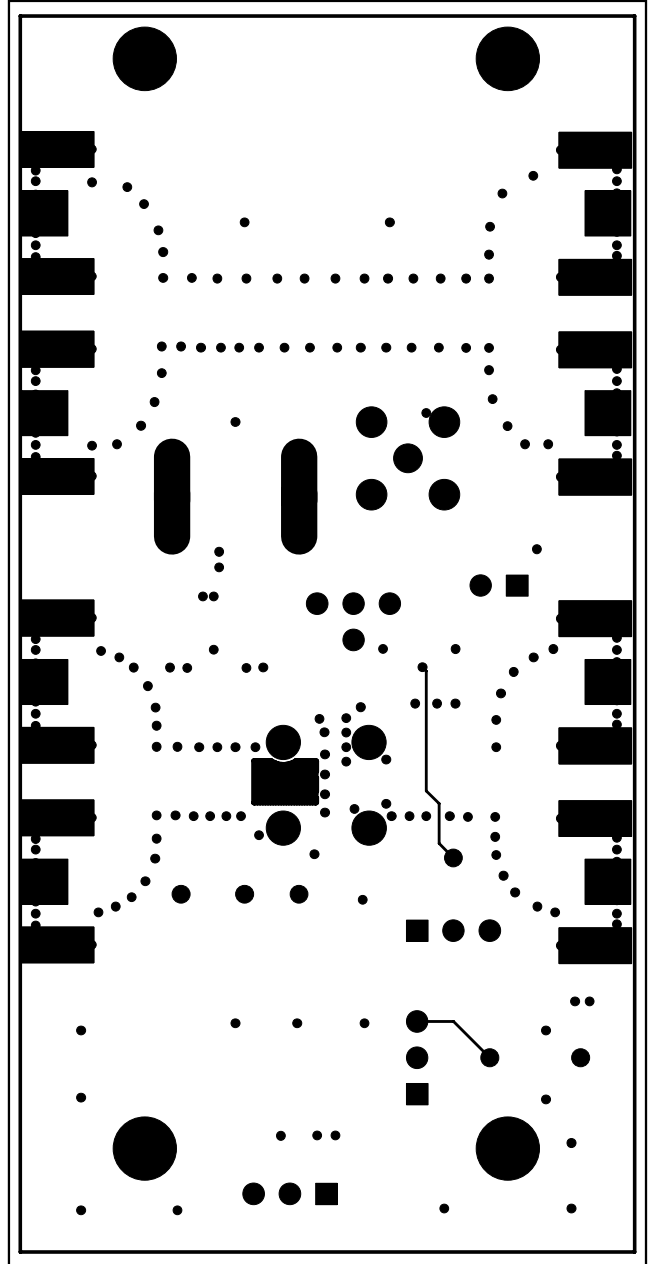


Figure 5. MAX3747B EV Kit PCB Layout—Solder Side

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