

MAXIM

MAX3747/MAX3747A Evaluation Kit

General Description

The MAX3747/3747A evaluation kit (EV kit) simplifies evaluation of the MAX3747/3747A limiting amplifiers. The EV kit enables testing of all the device's functions. SMA connectors with 50 Ω controlled-impedance transmission lines to the MAX3747/3747A are provided for all input and output ports.

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

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
MAX3747/3747AEVKIT	-40°C to +85°C	10 μ MAX

Component List

DESIGNATION	QTY	DESCRIPTION
C4, C14, C15	3	0.1 μ F 10% Ceramic Capacitor (0402)
C6- C13	8	0.1 μ F 10% Ceramic Capacitor (0201)
C3	1	0.1 μ F 10% Ceramic Capacitor (0603)
C1	1	33 μ F 10% Tantalum Capacitor (B CASE)
C2	1	10 μ F 10% Tantalum Capacitor (B CASE)
C5	1	100pF 10% Ceramic Capacitor (0201)
C16	1	OPEN
D1	1	LED
J10-J11, TP1-TP4	6	Test Point DIGIKEY 5000K-ND
J1-J8	8	SMA EDGE MOUNT, Round Contact
J9	1	SMB PC MOUNT
JU1	1	Jumper Block 3 pins + 1 0.1"
JU2, JU3	2	Jumper Block 3 pins 0.1"

Component List (cont.)

DESIGNATION	QTY	DESCRIPTION
L1	1	47nH Inductor
Ro, R1	2	49.9 Ω , 1% resistor (0402)
R10	1	442 Ω , 1% resistor (0402)
R11	1	4.53k Ω , 1% resistor (0402)
R12	1	2.37k Ω , 1% resistor (0402)
R13	1	768 Ω , 1% resistor (0402)
R2	1	5k Ω , variable resistor BOURNS 3296W-1-502
R3, R4	2	OPEN
R5	1	4.75k Ω , 1% resistor (0402)
R6	1	10.0k Ω , 1% resistor (0402)
R8	1	4.99k Ω , 1% resistor (0402)
R9	1	2.61k Ω , 1% resistor (0402)
U1	1	MAX3747/MAX3747AEUB
U2	1	SMT 0.5 pitch SMT dipswitch (8 position)
U3	1	MAX4429ESA

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Component Suppliers

SUPPLIER	PHONE	FAX
Digi-Key	218-681-6674	218-681-3380
Coilcraft	847-639-6400	847-639-1469
Murata	814-237-1431	814-238-0490
AVX	803-946-0690	803-626-3123

Note: Please indicate that you are using the MAX3747/MAX3747A when ordering from these suppliers.

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 dipswitch (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 MAX3747 should be 500mV_{P-P}. The differential output of the MAX3747A should be 800mV_{P-P}.

Detailed Description

Dipswitch

The dipswitch allows for quick setting of various threshold levels. When only switch 4 and 5 are turned on, the MAX3747/MAX3747A are set to the low threshold level. Switch 3 and 6 sets to the medium threshold level, and switch 2 and 7 sets to the high threshold level. Switch 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.

MAX3747/MAX3747A Evaluation Kit

Evaluates: MAX3747/3747A

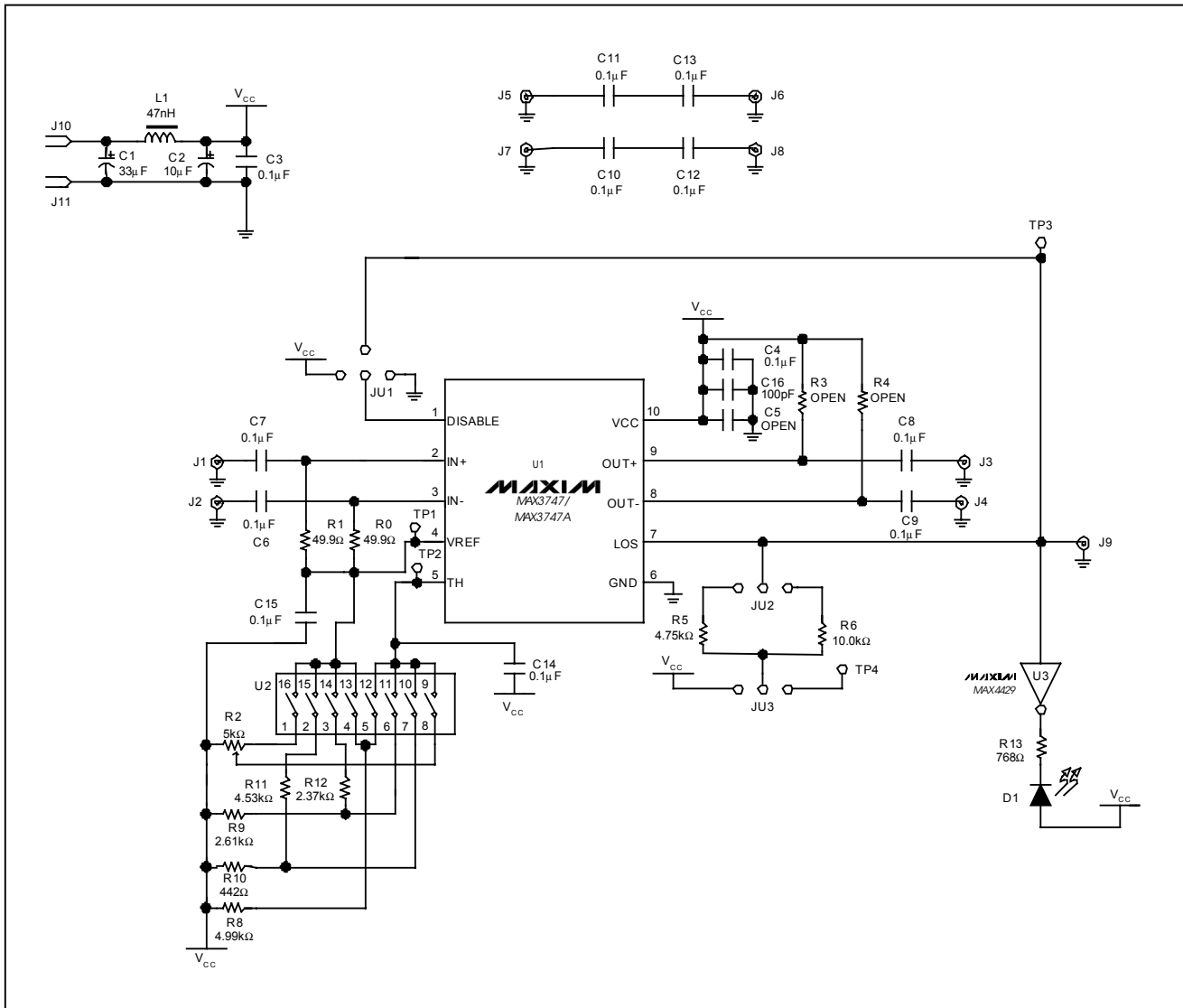


Figure 1. MAX3747/MAX3747A EV Kit Schematic

MAX3747/MAX3747A Evaluation Kit

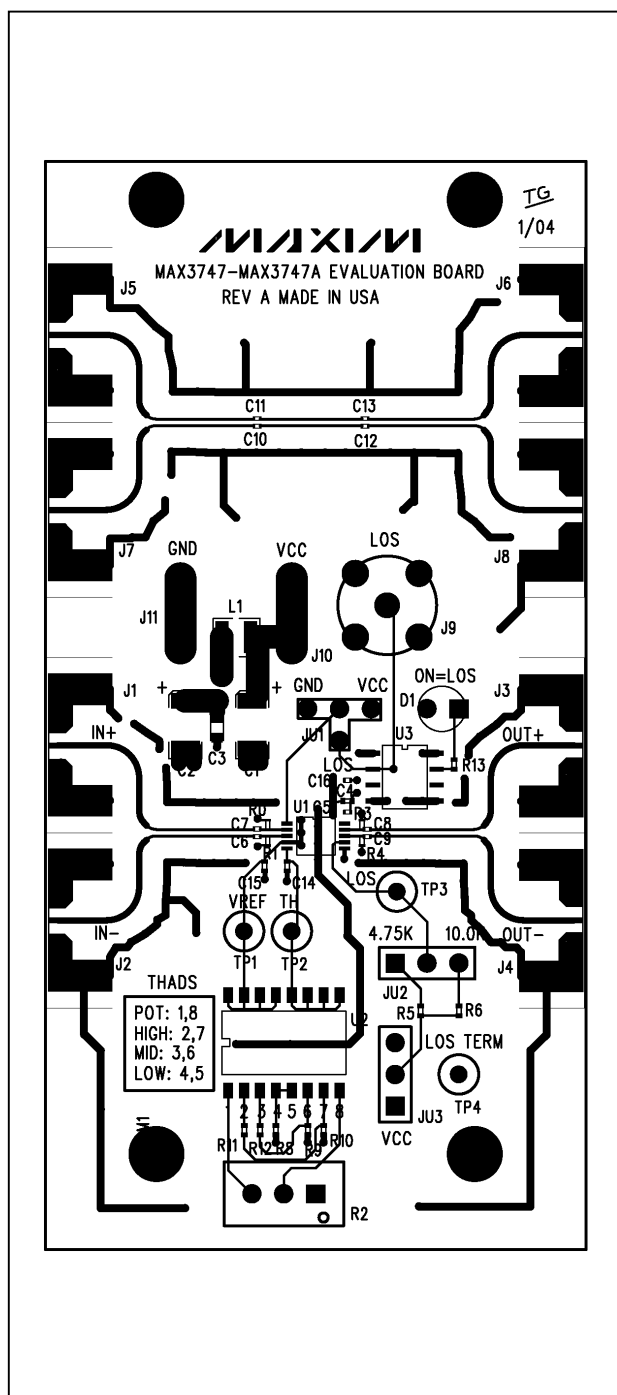


Figure 2. MAX3747/MAX3747A EV Kit PC Component Placement Guide-Component Side

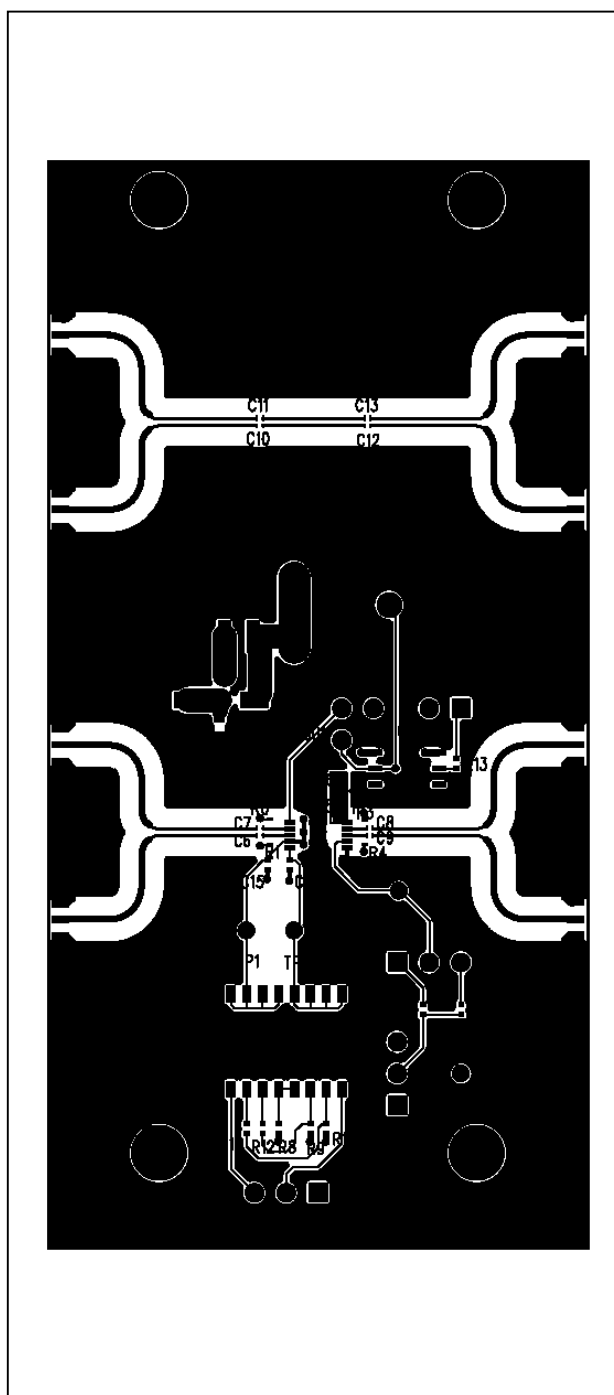


Figure 3. MAX3747/MAX3747A EV Kit PC Component Placement Guide-Solder Side

MAX3747/MAX3747A Evaluation Kit

Evaluates: MAX3747/3747A

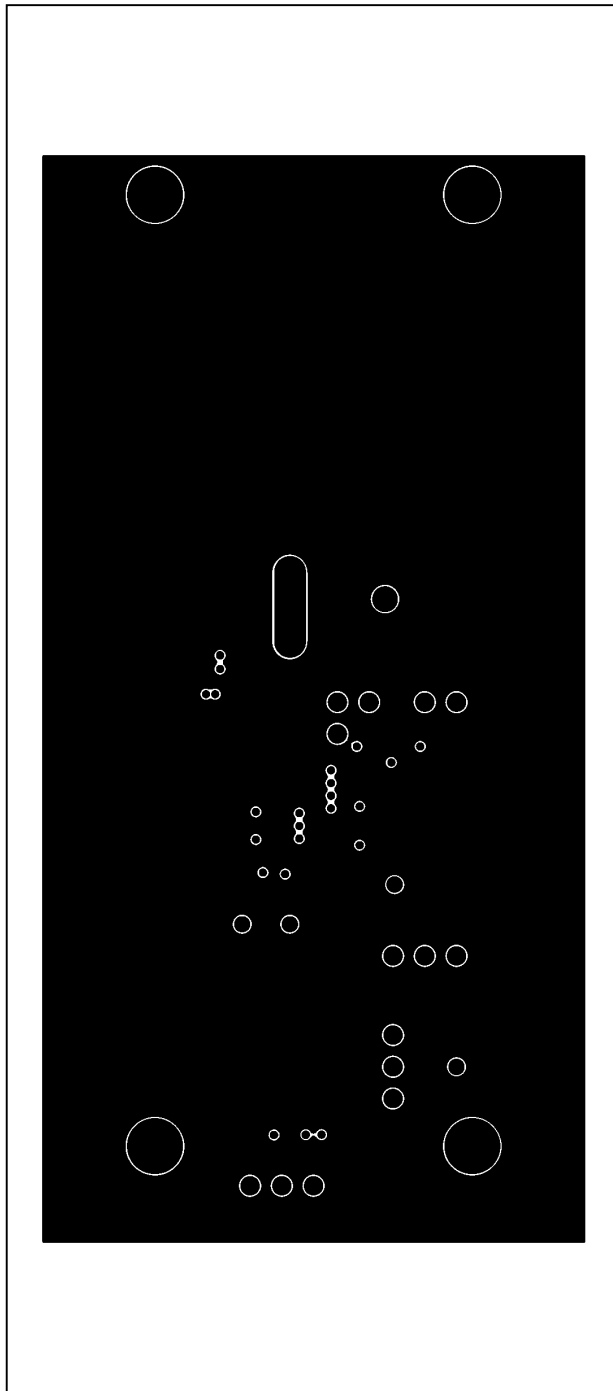


Figure 3. MAX3747/MAX3747A EV Kit PC Component Guide-Ground Plane

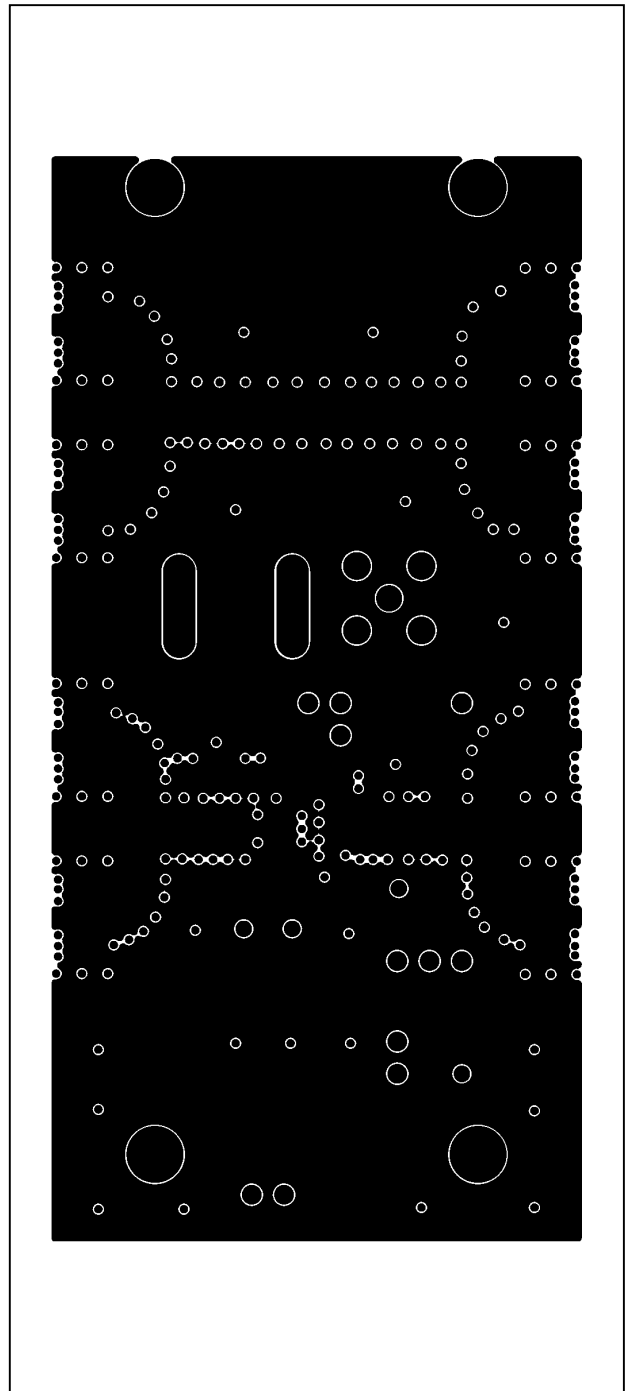


Figure 4. MAX3747/MAX3747A EV Kit PC Component Guide-Power Plane

MAX3747/MAX3747A Evaluation Kit

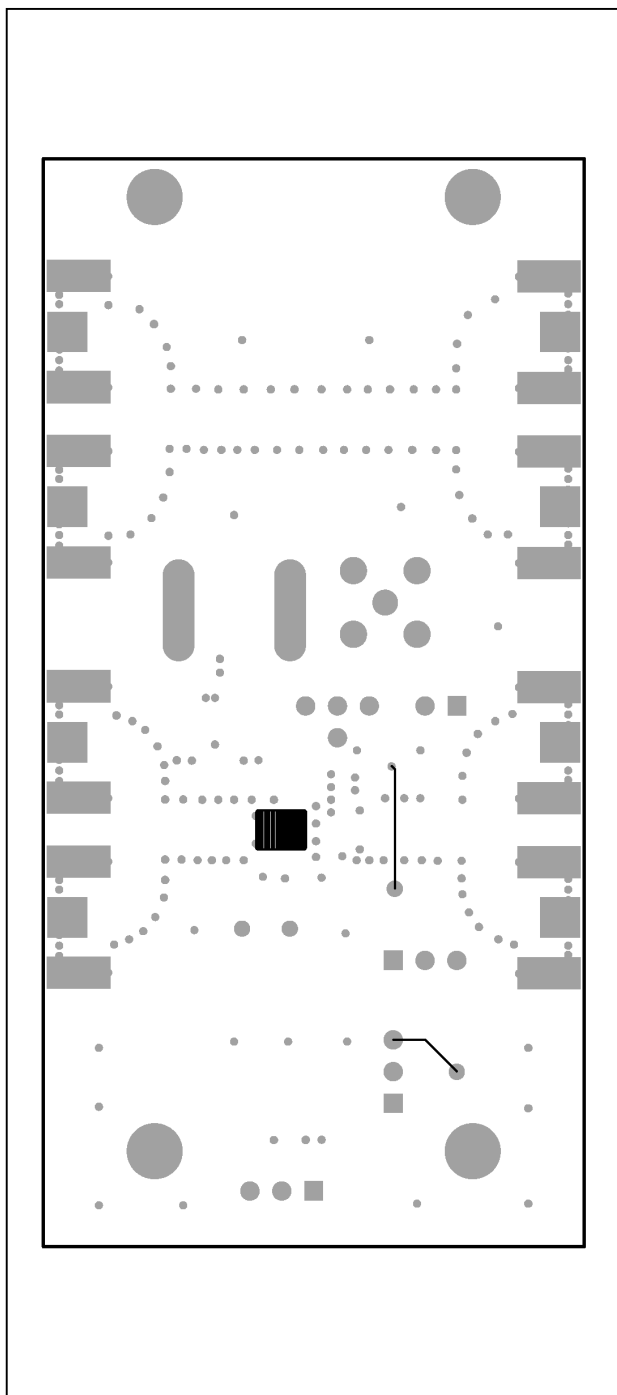


Figure 6. MAX3747/MAX3747A EV Kit PC Component Guide-Solder Side

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