

# MAXIM

## MAX3272A Evaluation Kit

### General Description

The MAX3272A evaluation kit (EV Kit) is fully assembled and tested to provide easy evaluation of the MAX3272A +3.3V, 2.5Gbps low power limiting amplifier. The EV Kit also includes a calibration strip for accurate measurements.

### Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	33 $\mu$ F $\pm$ 10% tantalum capacitor
C2	1	2.2 $\mu$ F $\pm$ 10% tantalum capacitor
C3, C16	2	0.1 $\mu$ F $\pm$ 10% ceramic capacitors (0402)
C4 - C7	4	1000pF $\pm$ 10% ceramic capacitors (0402)
C8 - C15, C17	9	0.01 $\mu$ F $\pm$ 10% ceramic capacitors (0402)
R1, R2	2	4.75k $\Omega$ resistors $\pm$ 1% (0402)
R3	1	20k $\Omega$ potentiometer
R4	1	2k $\Omega$ potentiometer
L1	1	56nH inductor Coilcraft 0805CS-560XKBC
U1	1	MAX3272AEGP 20-QFN*
J1 - J8	8	SMA connectors edge mount (round contact)
J9, J10, J11	3	1X3 pin headers (0.1" centers)
J12, J13	2	1X2 pin headers (0.1" centers)
J14, J15, TP1, TP2	4	Test points
None	1	MAX3272A evaluation circuit board, rev A
None	1	MAX3272 / MAX3272A data sheet

\*Note: U1 has an exposed pad which requires it to be solder attached to the circuit board to insure proper functionality of the part.

### Features

- ◆ Single +3.3V Power Supply
- ◆ Fully Assembled and Tested
- ◆ Includes Calibration Strip for Accurate Measurements
- ◆ EV Kit Designed for 50 $\Omega$  Interfaces
- ◆ Easy LOS Threshold Programming
- ◆ Easy Output Polarity Control

### Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX3272AEVKIT	-40°C to +85°C	20 QFN

### Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-448-9411	843-448-1943
Coilcraft	847-639-6400	847-639-1469
Murata	814-237-1431	814-238-0490
Venkel	800-950-8365	512-794-0087

Note: Please indicate that you are using the MAX3272A when ordering from these suppliers.

### Quick Start

- 1) Connect a shunt across pins 1 (VCC) and 2 of jumper J9 for no inversion in the output polarity.
- 2) Ensure that J13 is open.
- 3) Connect OUT+ and OUT- to a 50 $\Omega$  terminated oscilloscope.
- 4) Apply a differential input (15mV<sub>P-P</sub> to 1200mV<sub>P-P</sub>) between IN+ and IN-.
- 5) Connect a +3.3V power supply to J14 (VCC), then connect the power supply ground to J15 (GND).
- 6) Adjust the LOS threshold with R3 and R4.
- 7) The output amplitude is approximately 750mV<sub>P-P</sub>.

Evaluates: MAX3272A

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## Detailed Description

### LOS Threshold Adjustment

Potentiometers R3 and R4 program the LOS assert threshold. Refer to the MAX3272 / MAX3272A Data Sheet for details on setting the threshold.

### Setting the Offset Correction Capacitor

Jumper J10 sets the offset correction loop capacitor. Short pins 1 and 2 to set CAZ=0.1 $\mu$ F; short pins 2 and 3 to disable the offset correction loop. Leave J10 unconnected for a higher cutoff frequency. Refer to the MAX3272 / MAX3272A Data Sheet for details.

### Setting the Output Polarity

Jumper J9 sets the output polarity. Short pins 1 (VCC) and 2 for no signal inversion, and short pins 2 and 3 (GND) for an inversion in output polarity.

### Setting the Squelch Function

Jumper J11 controls the squelch function. To enable squelch, short pins 1 (VCC) and 2. To disable, short pins 2 and 3 (GND) or leave unconnected.

### Setting the Output Current

Jumper J13 sets the output current level. For 16mA CML output current, leave this jumper open. For approximately 20mA, short the jumper.

### Setting the LOS Capacitor

Jumper J12 sets the LOS Time Constant Capacitor. To connect a 0.01 $\mu$ F capacitor, short the jumper. For a shorter time constant (about 2 $\mu$ s), leave the jumper open.

### LOS Test Point

Test Point 1 is used to probe the LOS voltage. This pin should indicate high ( $\geq 2.4V$ ) when loss of signal is detected, and indicate low ( $\leq 0.4V$ ) in normal operation.

### LOS Test Point

Test Point 2 is used to probe the  $\overline{\text{LOS}}$  voltage. This pin should indicate low ( $\leq 0.4V$ ) when loss of signal is detected, and indicate high ( $\geq 2.4V$ ) in normal operation.

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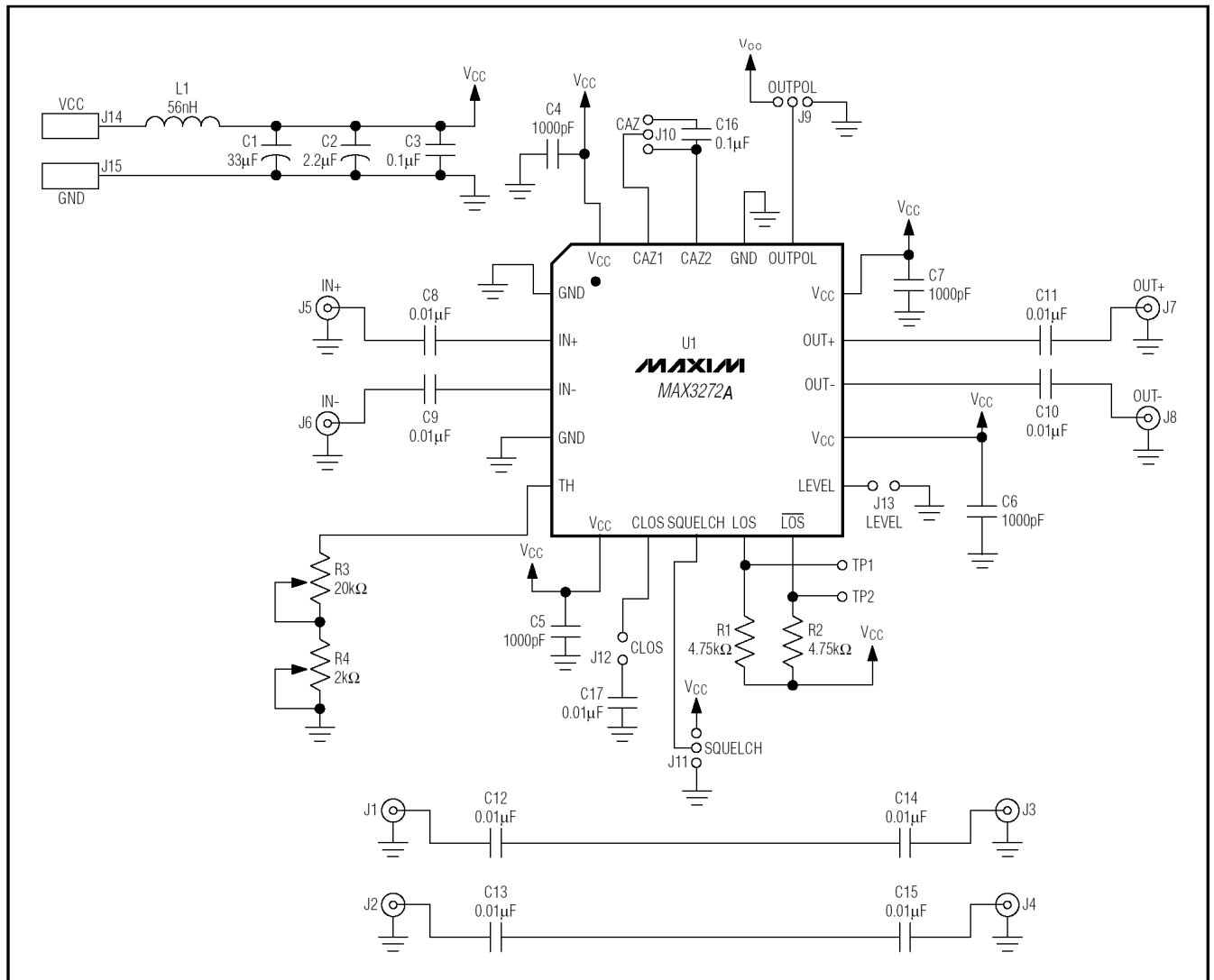


Figure 1. MAX3272A EV Kit Schematic

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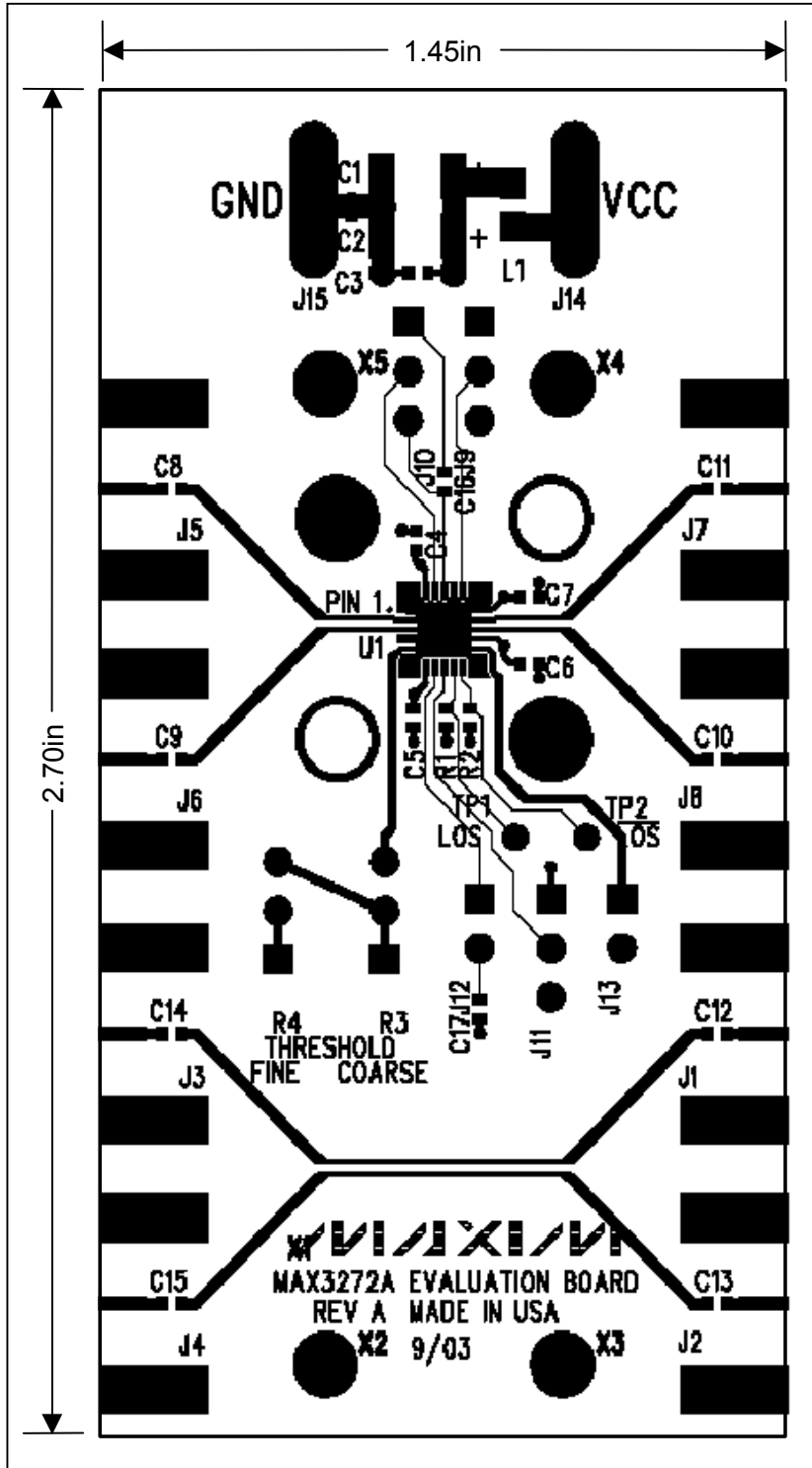


Figure 2. MAX3272A EV Kit Component Placement Guide – Component Side

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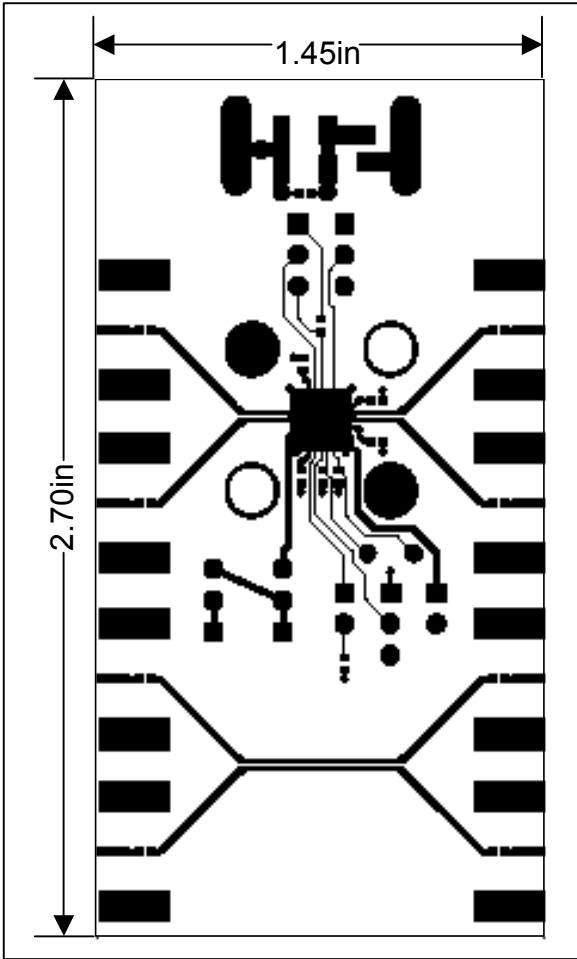


Figure 3. MAX3272A EV Kit PC Board Layout – Component Side

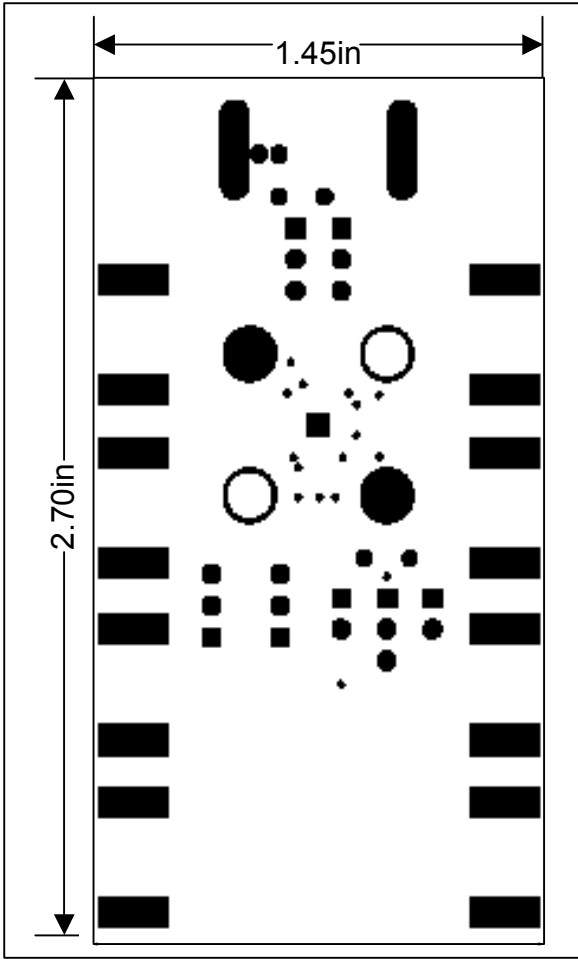


Figure 4. MAX3272A EV Kit PC Board Layout – Solder Side

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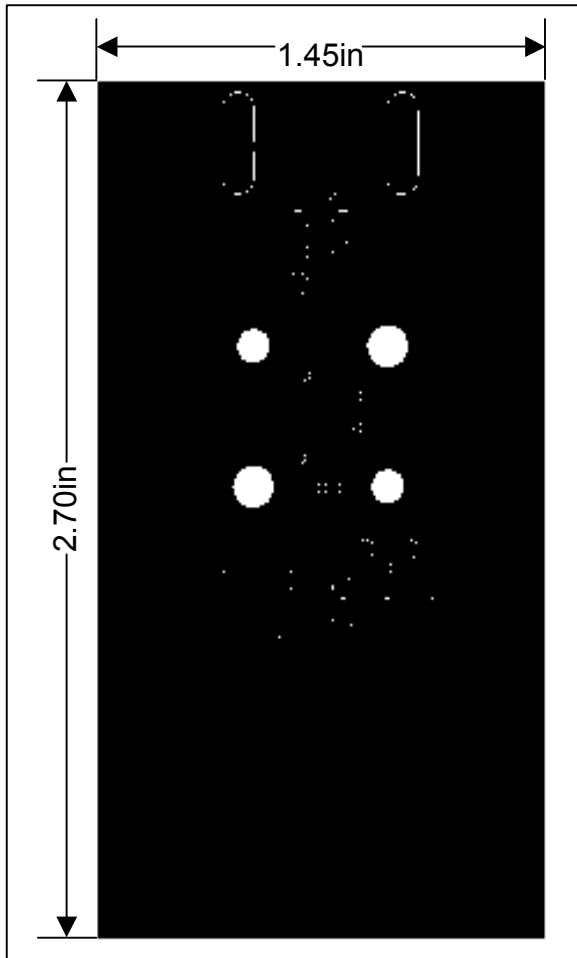


Figure 5. MAX3272A EV Kit PC Board Layout – Ground Plane

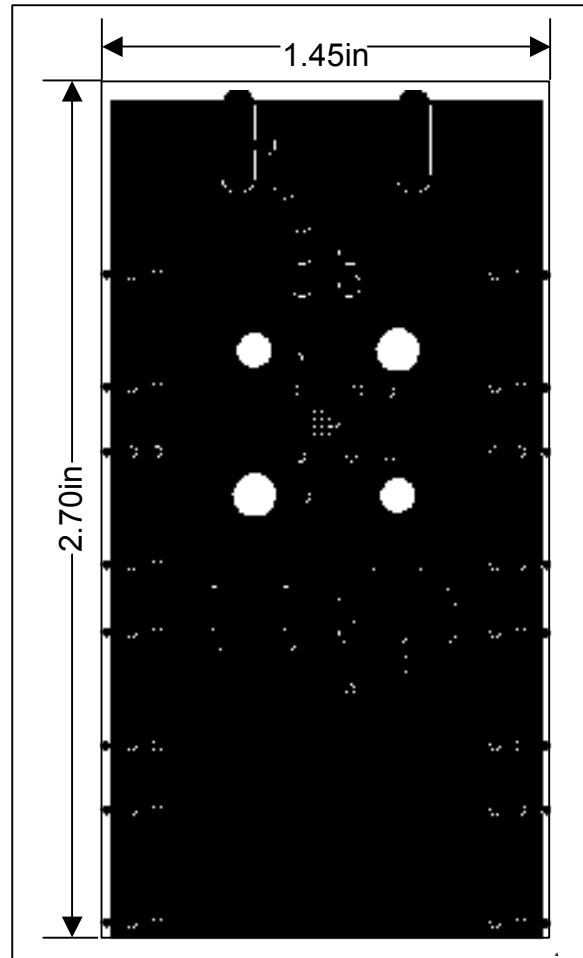


Figure 6. MAX3272A EV Kit PC Board Layout – Power Plane

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