EVAL-14TSSOPEBZ User Guide

UG-1208

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Evaluation Board for 14-Lead TSSOP Devices in the Switches and Multiplexers Portfolio

FEATURES

14-lead TSSOP evaluation board
Clamp allows main device to be easily changed
Gold pin connectors allow addition of passive components
SMB connectors for the input/output of signals
Additional space on-board allows prototyping

EVALUATION KIT CONTENTS

EVAL-14TSSOPEBZ evaluation board

DOCUMENTS REQUIRED

Data sheet of the device being evaluated
EVAL-14TSSOPEBZ user guide

HARDWARE REQUIRED

Device being evaluated
DC voltage source
Analog signal source
Method to measure voltage, such as a digital multimeter (DMM)

GENERAL DESCRIPTION

The EVAL-14TSSOPEBZ evaluates 14-lead TSSOP devices in the Switches and Multiplexers Portfolio that must be purchased separately from the evaluation board. A clamp is supplied with the EVAL-14TSSOPEBZ to secure a 14-lead TSSOP device to the evaluation board without the need for soldering, making the board reusable for multiple devices.

Figure 1 shows the EVAL-14TSSOPEBZ evaluation board. A 14-lead TSSOP device can be clamped or soldered to the center of the evaluation board. Each pin of the device being evaluated has a corresponding link from K1 to K14 that can be set to either V_{DD} or GND. A wire screw terminal supplies V_{DD} and GND. SMB connectors on the board allow additional external signals to be supplied to the device. In addition, there is space available at the top of the board for prototyping.

For full details, see the corresponding product data sheet, which must be used in conjunction with this user guide when using the evaluation board.

EVAL-14TSSOPEBZ EVALUATION BOARD PHOTOGRAPH

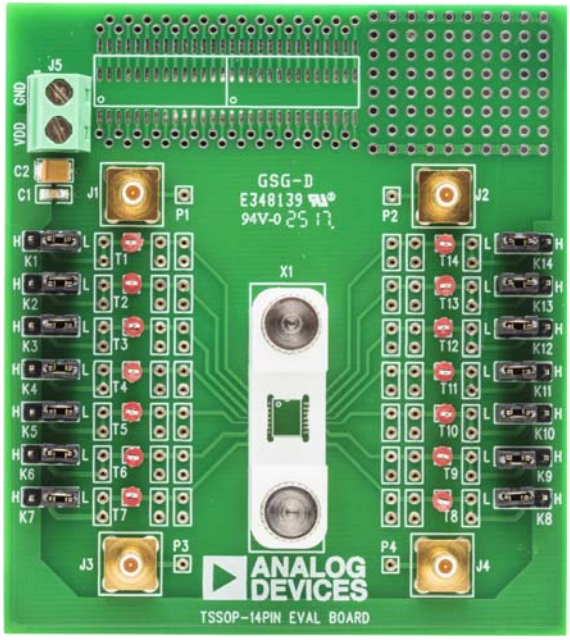


Figure 1.

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REVISION HISTORY

11/2017—Revision 0: Initial Version

EVALUATION BOARD HARDWARE

POWER SUPPLY

Connector J5 supplies the V_{DD} and GND supplies to the board. These supplies can be selected for each pin of the device by setting the link headers to either V_{DD} or GND. When a V_{SS} supply is needed, apply the voltage directly to the V_{SS} or GND pin of the device by removing the corresponding link.

LINK HEADERS

The link headers supply the device under test (DUT) with either V_{DD} or GND. The headers are designated K1 to K14 with the number of the header corresponding to the pin number of the device. Table 1 summarizes the link headers and their functions on the EVAL-14TSSOPEBZ evaluation board.

Table 1. Link Header Descriptions

Label	Position	Description
K1 to K14	H[1]	VDD
	L[2]	GND

[1] H stands for high.
[2] L stands for low.

SMB CONNECTORS

There are four SMB connectors on the evaluation board: J1 to J4. When an SMB cable is connected to one of these connectors, the input signal becomes available on the corresponding P1 to P4 ports. Apply this signal to the relevant pin of the device by forming a connection from the P1 to P4 ports to a gold pin connector found on the relevant trace.

INPUT SIGNAL TRACES

Each trace includes three sets of gold pin connectors: two sets that can place a load on the signal path to ground and one set that is in series with the signal path. The three sets of gold pin connectors can create a simple resistor capacitor (RC) filter.

EVALUATION BOARD SCHEMATIC AND ARTWORK

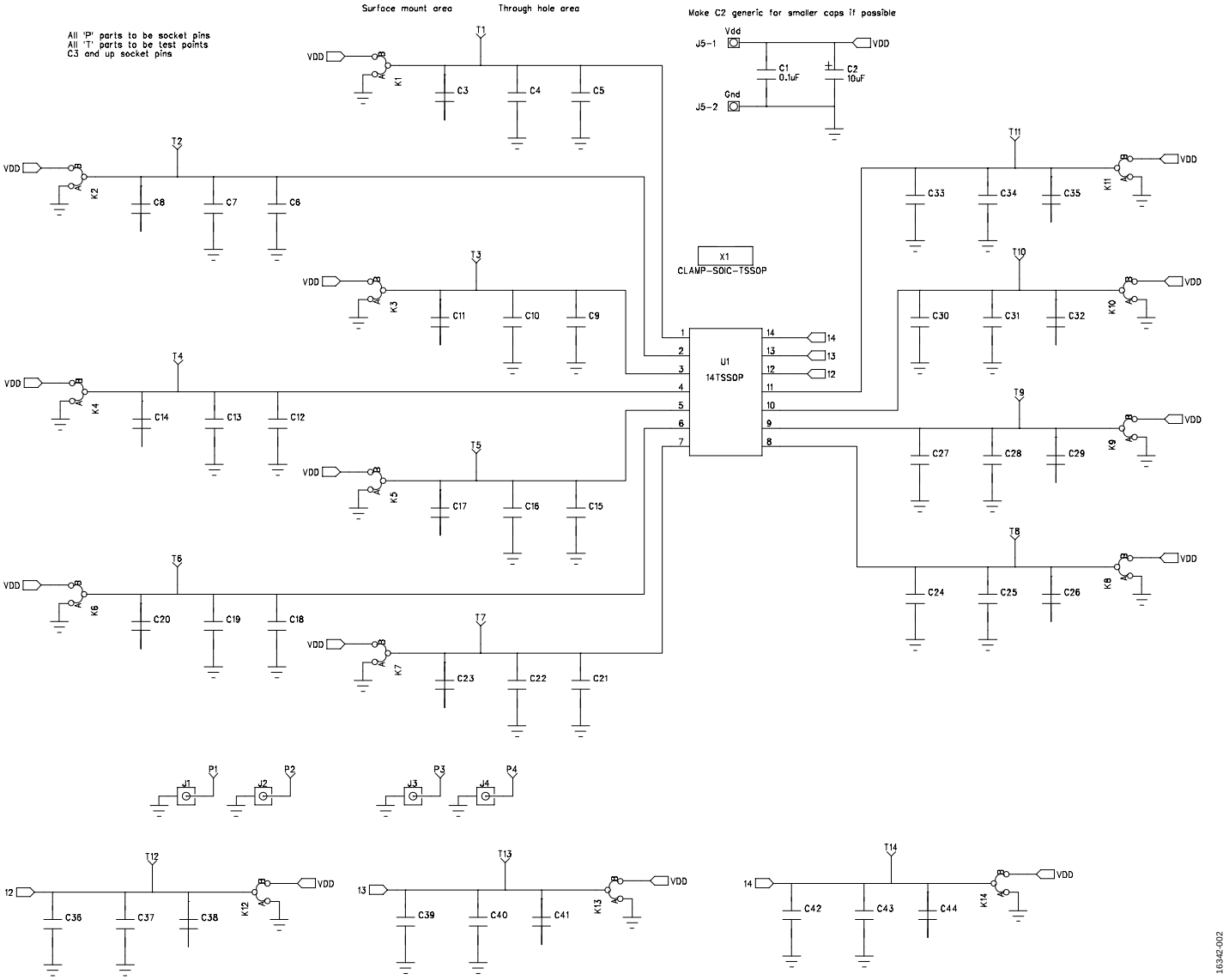


Figure 2. EVAL-14TSSOPEBZ Evaluation Board Schematic

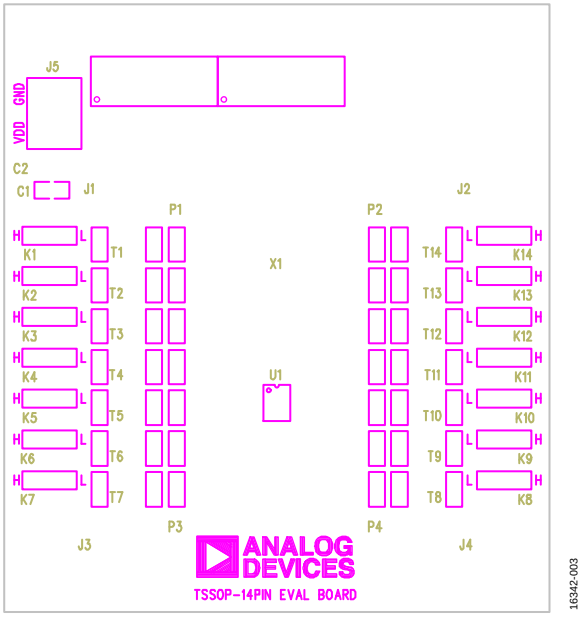


Figure 3. EVAL-14TSSOPEBZ Evaluation Board Silkscreen

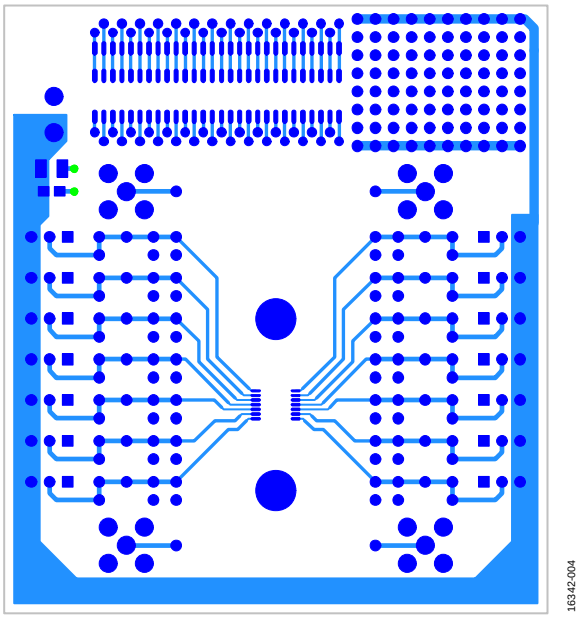


Figure 4. EVAL-14TSSOPEBZ Evaluation Board Top Layer

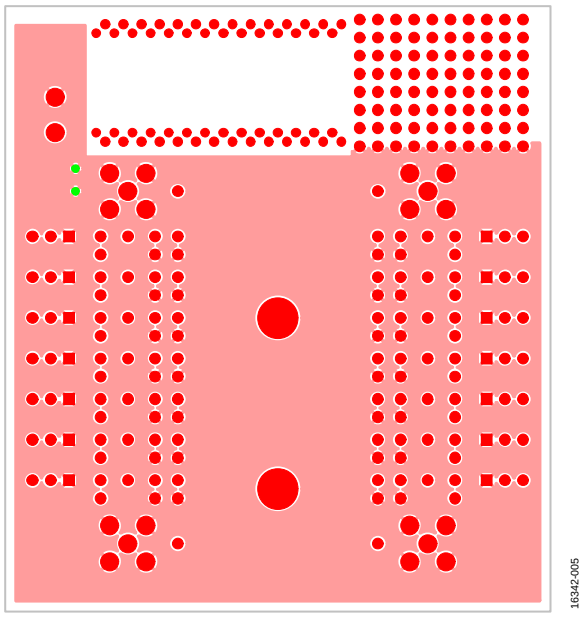


Figure 5. EVAL-14TSSOPEBZ Evaluation Board Bottom Layer

ORDERING INFORMATION

BILL OF MATERIALS

Table 2.

Qty	Reference Designator	Description	Manufacturer/Part Number
1	C1	0.1 µF, 50 V, X7R, ceramic capacitor	Murata/GRM21BR71H104KA01L
1	C2	10 µF, 10 V tantalum capacitor	AVX/TAJB106K016RNJ
42	C3 to C44	2 Harwin subminiature sockets for each component	Harwin/H3153-01
4	J1 to J4	SMB sockets	TE/1206013
1	J5	2-pin terminal block (5 mm pitch)	Lumberg/KRM 02
14	K1 to K14	Jumper blocks using 3-pin session initiation protocol (SIP) header	Harwin/M20-9990345 and M7566-05
4	P1 to P4	Harwin subminiature sockets	Harwin/H3153-01
14	T1 to T14	Test points	Vero/20-313137

ESD Caution
ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

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