EVAL-6SOT23EBZ User Guide
UG-948

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Evaluation Board for 6-Lead SOT-23 Devices in the Switches and Multiplexers Portfolio

FEATURES

6-lead SOT-23 evaluation board
Clamp allows the main device to be changed easily
Gold pin connectors allow the addition of passive components
SMB connectors for the input/output of signals
Additional space on board to allow for prototyping

EVALUATION KIT CONTENTS

EVAL-6SOT23EBZ evaluation board

ONLINE RESOURCES

Documents Needed
- **Data sheet of the device being evaluated**
- **EVAL-6SOT23EBZ user guide**

EQUIPMENT NEEDED

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

GENERAL DESCRIPTION

The EVAL-6SOT23EBZ evaluation board evaluates 6-lead SOT-23 devices in the Switches and Multiplexers Portfolio that are purchased separately. A clamp is supplied with the EVAL-6SOT23EBZ to secure a 6-lead SOT-23 device to the evaluation board without the need for soldering, making the board reusable for multiple devices.

Figure 1 shows the EVAL-6SOT23EBZ evaluation board. A device can be clamped or soldered to the center of the evaluation board. Each pin of the device has a corresponding link from K1 to K6 that can be set to either VDD or GND. A wire screw terminal supplies VDD 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.

Full specifications of the device under test (DUT) are available in the corresponding product data sheet, which should be consulted in conjunction with this user guide when using the evaluation board.

EVALUATION BOARD PHOTOGRAPH

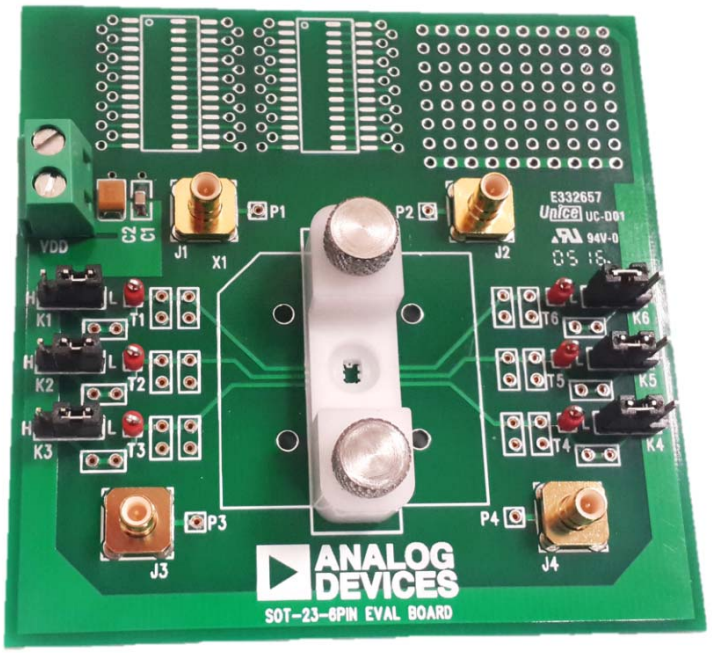


Figure 1.

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REVISION HISTORY

4/16—Revision 0: Initial Version

EVALUATION BOARD HARDWARE

POWER SUPPLY

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

LINK HEADERS

The link headers supply the DUT with either a VDD or GND supply. The headers are designated K1 to K6 with the number corresponding to the pin number of the device. Table 1 summarizes the link headers and how they function on the evaluation board.

Table 1. Link Header Descriptions

Label	Position	Description
K1to K6	H	VDD
	L	GND

SMB CONNECTORS

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

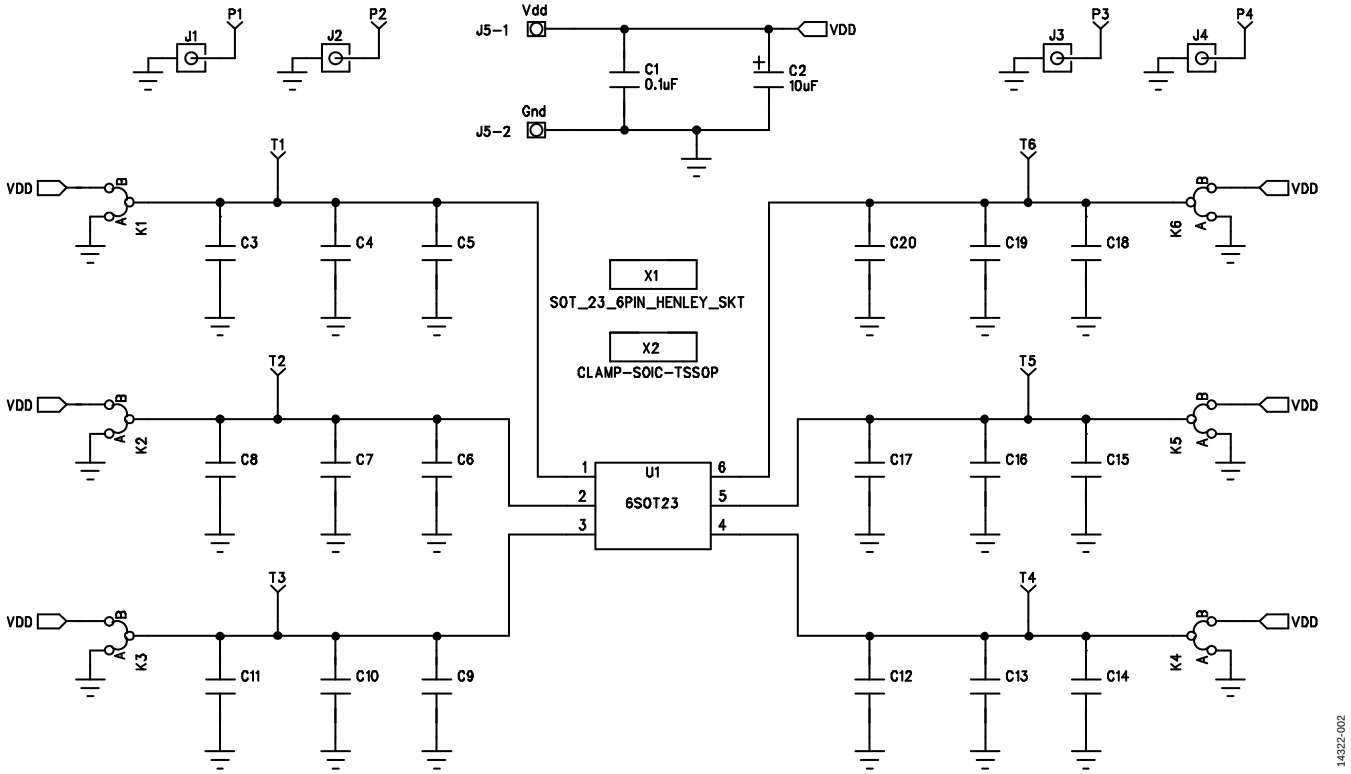


Figure 2. EVAL-6SOT23EBZ Evaluation Board Schematic

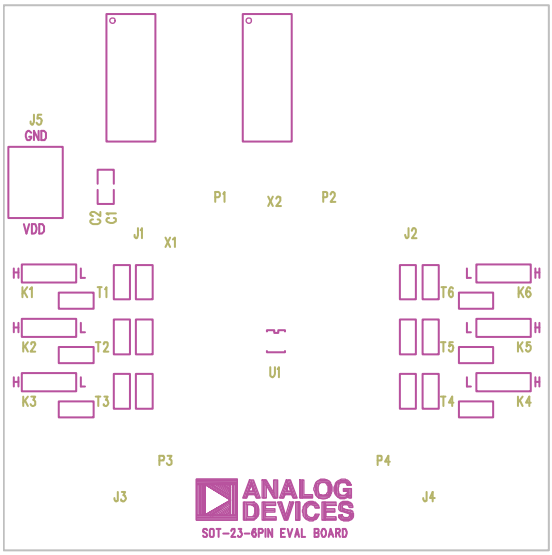


Figure 3. EVAL-6SOT23EBZ Silkscreen

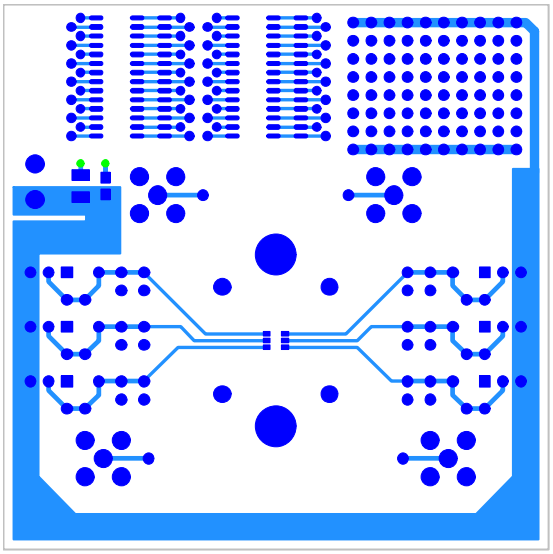


Figure 4. EVAL-6SOT23EBZ Top Layer

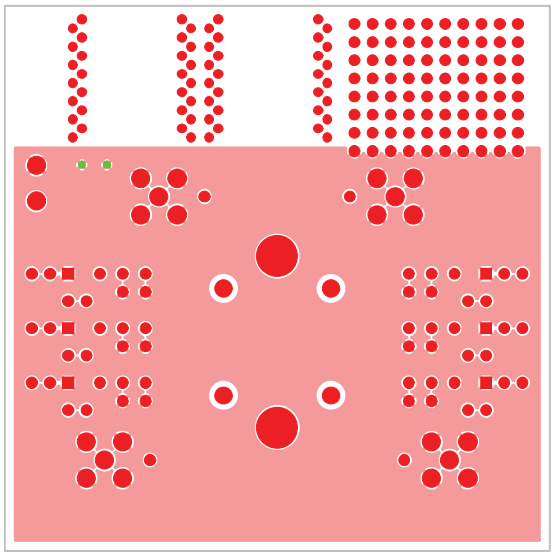


Figure 5. EVAL-6SOT23EBZ Bottom Layer

ORDERING INFORMATION

BILL OF MATERIALS

Table 2.

Reference Designator	Description	Part Number	Stock Code
C1	0.1 µF, 50 V, X7R, ceramic capacitor	GRM21BR71H104KA01L	FEC 2408531
C2	10 µF, 10 V tantalum capacitor	TAJB106K016RNJ	FEC 498-737
C3 to C20	Harwin subminiature sockets (2)	H3153-01	FEC 2120079
J1 to J4	SMB sockets	1206013	FEC 310-682
J5	2-pin terminal block (5 mm pitch)	KRM 02	FEC 151-785
K1 to K6	Jumper blocks using 3-pin SIP header	M20-9990345 and M7566-05	FEC 512-047 and 150-411
P1 to P4	Harwin subminiature sockets (2)	H3153-01	FEC 2120079
T1 to T6	Test points	20-313137	FEC 240-345

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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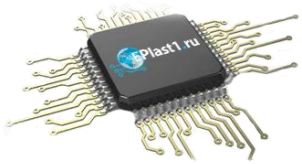
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