Evaluation Board for 10-Lead MSOP Devices in the **Switches and Multiplexers Portfolio**

**FEATURES**
- 10-lead MSOP evaluation board
- Clamp allows the main device to be easily changed
- 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-10MSOPEBZ evaluation board

**ONLINE RESOURCES**
- Documents Needed
  - Data sheet of the device being evaluated
  - EVAL-10MSOPEBZ 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-10MSOPEBZ evaluation board evaluates 10-lead MSOP devices in the Switches and Multiplexers Portfolio that are purchased separately. A clamp is supplied with the EVAL-10MSOPEBZ to secure a 10-lead MSOP device to the evaluation board without the need for soldering, making the EVAL-10MSOPEBZ evaluation board reusable for multiple devices.

Figure 1 shows the EVAL-10MSOPEBZ evaluation board. A 10-lead MSOP device can be clamped or soldered to the center of the EVAL-10MSOPEBZ evaluation board. Each pin of the device has a corresponding link from K1 to K10 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 EVAL-10MSOPEBZ evaluation 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.

![EVAL-10MSOPEBZ EVALUATION BOARD PHOTOGRAPH](image-url)

Figure 1.
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# REVISION HISTORY

8/2016—Revision 0: Initial Version
EVALUATION BOARD HARDWARE

POWER SUPPLY
Connector J5 supplies the VDD and GND supplies to the EVAL-10MSOPEBZ evaluation 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 pin of the device by removing the corresponding link completely and applying the voltage directly to the middle pin of the link header.

LINK HEADERS
The link headers supply the DUT with either VDD or GND. The headers are designated as K1 to K10 with the number corresponding to the pin number of the device. Table 1 summarizes these link headers, and how these headers function on the EVAL-10MSOPEBZ evaluation board.

Table 1. Link Header Descriptions

<table>
<thead>
<tr>
<th>Label</th>
<th>Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1 to K10</td>
<td>High</td>
<td>VDD</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>GND</td>
</tr>
</tbody>
</table>

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 P1 to P4 port. Apply this signal to the relevant 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.
Figure 2. EVAL-10MSOPEBZ Evaluation Board Schematic
Figure 3. EVAL-10MSOPEBZ Evaluation Board Silkscreen

Figure 4. EVAL-10MSOPEBZ Evaluation Board Top Layer

Figure 5. EVAL-10MSOPEBZ Evaluation Board Bottom Layer
# ORDERING INFORMATION

## BILL OF MATERIALS

<table>
<thead>
<tr>
<th>Reference Designator</th>
<th>Description</th>
<th>Part Number</th>
<th>Stock Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>0.1 µF, 50 V, X7R, ceramic capacitor</td>
<td>GRM21BR71H104KA01L</td>
<td>FEC 2408531</td>
</tr>
<tr>
<td>C2</td>
<td>10 µF, 10 V tantalum capacitor</td>
<td>TAJB106K016RNJ</td>
<td>FEC 498-737</td>
</tr>
<tr>
<td>C3 to C32</td>
<td>Harwin subminiature sockets (2)</td>
<td>H3153-01</td>
<td>FEC 2120079</td>
</tr>
<tr>
<td>J1 to J4</td>
<td>SMB sockets</td>
<td>1206013</td>
<td>FEC 310-682</td>
</tr>
<tr>
<td>J5</td>
<td>2-pin terminal block (5 mm pitch)</td>
<td>KRM 02</td>
<td>FEC 151-785</td>
</tr>
<tr>
<td>K1 to K10</td>
<td>Jumper blocks using 3-pin SIP header</td>
<td>M20-9990345 and M7566-05</td>
<td>FEC 512-047 and 150-411</td>
</tr>
<tr>
<td>P1 to P4</td>
<td>Harwin subminiature sockets (2)</td>
<td>H3153-01</td>
<td>FEC 2120079</td>
</tr>
<tr>
<td>T1 to T10</td>
<td>Test points</td>
<td>20-313137</td>
<td>FEC 240-345</td>
</tr>
</tbody>
</table>

**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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UG14928-8-8/16(0)