

Evaluation Board for the 16-Lead LFCSP Devices in the Switches and Multiplexers Portfolio

FEATURES

- ▶ 16-lead, 4 mm × 4 mm LFCSP evaluation board
- ▶ Easily changeable clamshell socket for the main device
- ▶ Gold pin connectors for the addition of passive components
- ▶ SMB connectors for the input and output of signals
- ▶ Additional space on board for prototyping

EVALUATION KIT CONTENTS

- ▶ EVAL-16LFCSPEBZ

DOCUMENTS NEEDED

- ▶ Data sheet for the device being evaluated

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-16LFCSPEBZ enables easy evaluation of the 16-lead lead frame chip scale package (LFCSP) devices in the [Switches and Multiplexers Portfolio](#) that are purchased separately. The EVAL-16LFCSPEBZ is supplied with a clamshell socket to secure a 16-lead LFCSP device to the evaluation board without the need for soldering. In addition, there are three sets of gold pin connectors in each trace, for board flexibility and reusability for multiple evaluations.

Figure 1 shows the EVAL-16LFCSPEBZ. A 16-lead LFCSP device can be inserted into the socket in the center of the evaluation board. Each device pin has a corresponding three-pin header link, from K1 to K16. This can either be connected to an external signal source by removing the corresponding link or use the link to choose between V_{DD} or GND. A wire screw terminal, J5, supplies the V_{DD} and GND. The Subminiature Version B (SMB) connectors on the EVAL-16LFCSPEBZ allow additional external signals to be supplied to the device. In addition, there is a perfboard space and two 16-lead LFCSP pads (3 mm × 3 mm and 2.1 mm × 2.1 mm) available on top of the EVAL-16LFCSPEBZ for prototyping.

The full specifications of the device under test (DUT) are available in the corresponding product data sheet, which must be consulted with the EVAL-16LFCSPEBZ user guide when using the EVAL-16LFCSPEBZ.

EVALUATION BOARD PHOTOGRAPH

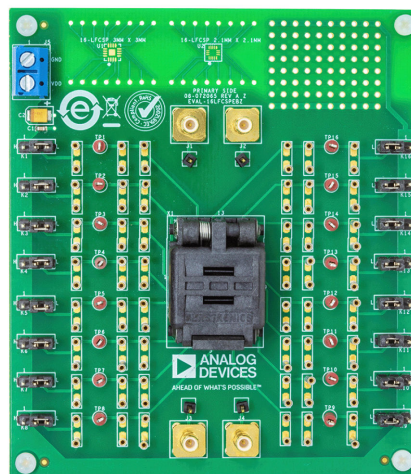


Figure 1. EVAL-16LFCSPEBZ

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REVISION HISTORY**4/2023—Revision 0: Initial Version**

EVALUATION BOARD HARDWARE

POWER SUPPLY

The J5, a wire screw terminal, provides the V_{DD} and GND supplies to the board. The V_{DD} and GND supplies can be selected for each device pin 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 DUT with either V_{DD} or GND. The headers are designated K1 to K16 with the number corresponding to the pin number of the device. [Table 1](#) summarizes the link headers and how they function on the EVAL-16LFCSP.

Table 1. Link Header Descriptions

Label	Position	Description
K1 to K16	H (high)	V_{DD}
	L (low)	GND

SMB CONNECTORS

There are four SMB connectors on the EVAL-16LFCSP, J1 to J4, with each having an adjacent gold pin connector. When an SMB cable is connected to one of these SMB connectors, the input signal becomes available on the corresponding gold pin connector. Apply this input signal to the relevant device pin by forming a connection from the SMB gold pin connector to a gold pin connector found on the relevant trace.

INPUT SIGNAL TRACES

Each trace includes three sets of gold pin connectors with 0805- and 0603-compatible pads (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 RC filter.

EVALUATION BOARD SCHEMATIC AND ARTWORK

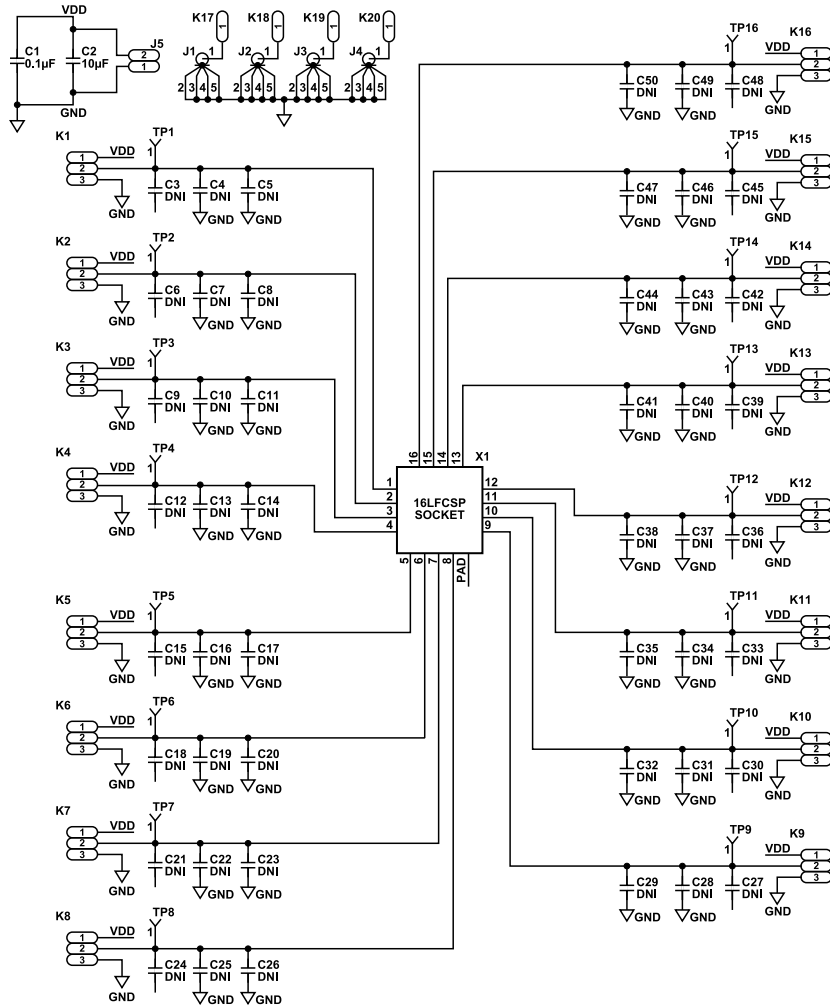


Figure 2. EVAL-16LFCSP Schematic

EVALUATION BOARD SCHEMATIC AND ARTWORK

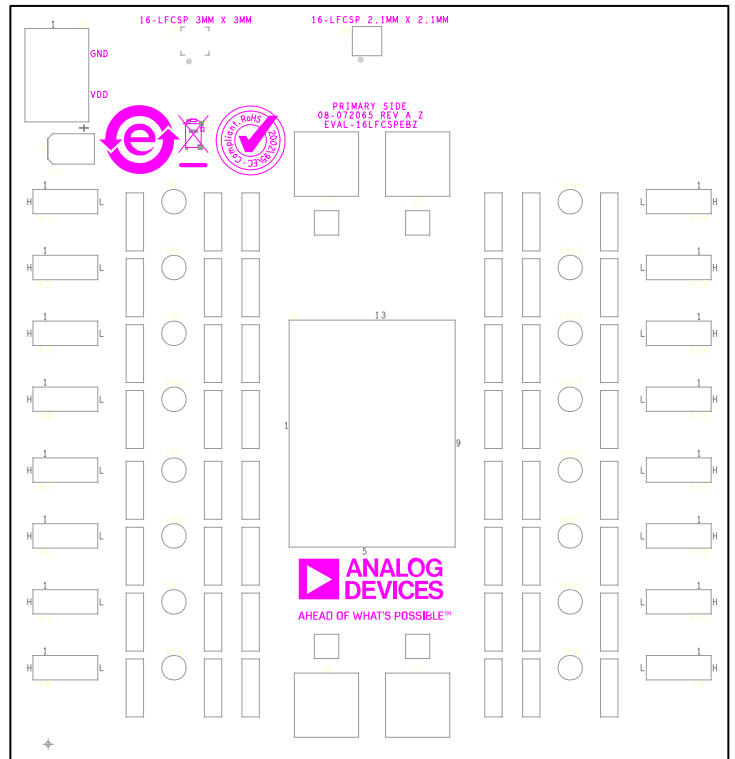


Figure 3. EVAL-16LFCSPBZ Silkscreen

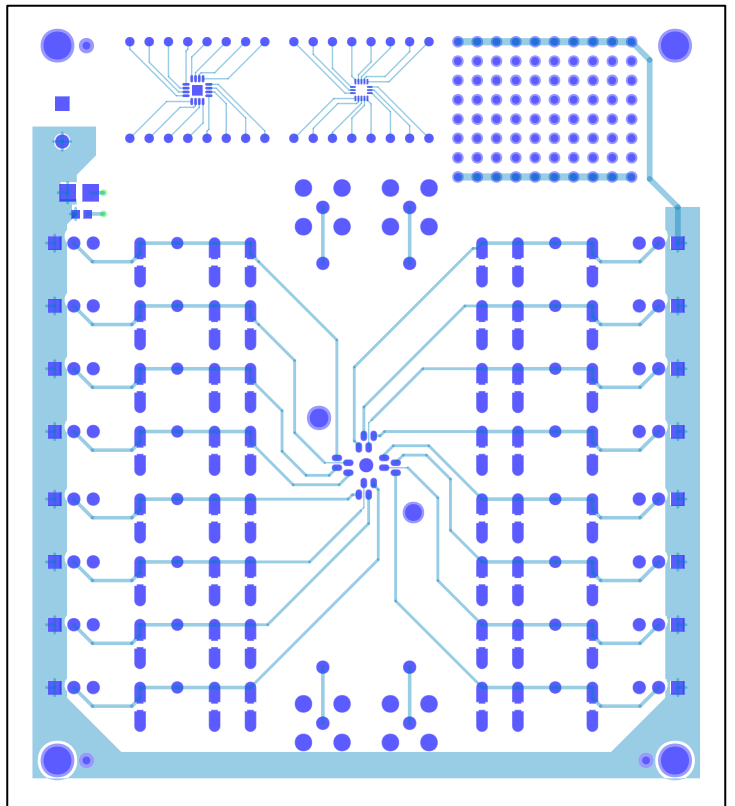


Figure 4. EVAL-16LFCSPBZ Top Layer

EVALUATION BOARD SCHEMATIC AND ARTWORK

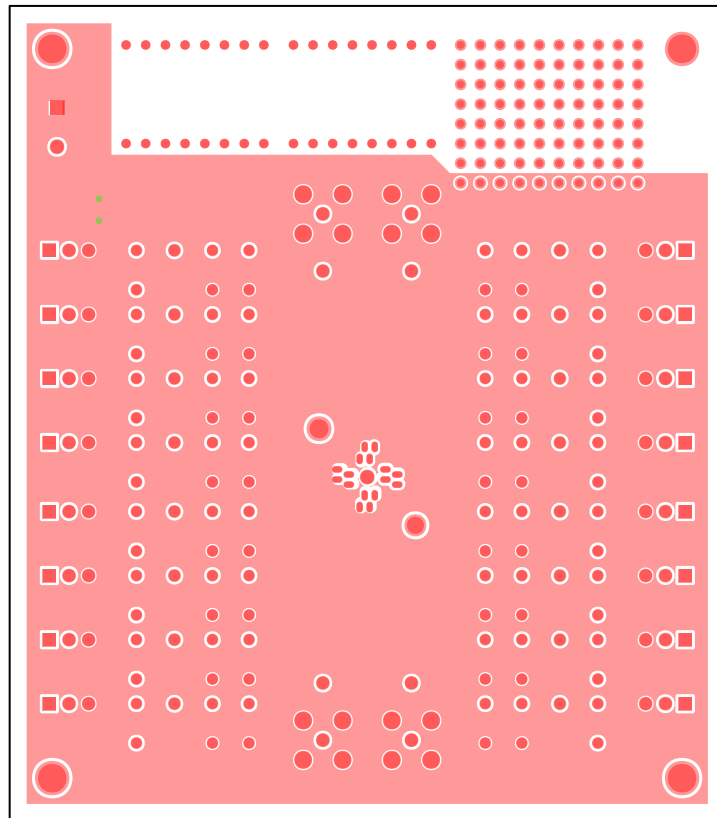


Figure 5. EVAL-16LFCSP Bottom Layer

ORDERING INFORMATION

BILL OF MATERIALS

Reference Designator	Description	Manufacturer	Part Number
C1	0.1 μ F, 50 V, X7R, ceramic capacitor	TDK	CGA3E2X7R1H104K080AA
C2	10 μ F, 16 V, tantalum capacitor	AVX	TAJB106K016RNJ
C3 to C50	Receptacle with a standard tail	Mill-Max	6275-0-15-15-15-27-04-0
J1 to J4	SMB sockets	Cinch Connectivity Solutions	131-3701-271
J5	2-pin terminal block (5 mm pitch)	Würth Electronik	691102710002
K1 to K16	Jumper blocks using 3-pin single inline package (SIP) header	Harwin	M20-9990345
K17 to K20	1-pin header	Samtec, Inc.	TSW-101-08-G-S
T1 to T16	Test points	Vero Technologies	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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