ANALOG DEVICES

EVAL-6SC70EBZ User Guide
UG-1211

One Technology Way • P.O. Box 9106 • Norwood, MA 02062-9106, U.S.A. • Tel: 781.329.4700 • Fax: 781.461.3113 • www.analog.com

Evaluation Board for 6-Lead SC70 Devices in the Switches and Multiplexers Portfolio

FEATURES

6-lead SC70 evaluation board
Clamp allowing 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-6SC70EBZ evaluation board
Clamp

DOCUMENTS NEEDED

Data sheet of the device being evaluated
EVAL-6SC70EBZ user guide

EQUIPMENT NEEDED

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

GENERAL DESCRIPTION

The EVAL-6SC70EBZ evaluation board evaluates 6-lead SC70 devices in the Switches and Multiplexers Portfolio that are purchased separately. A clamp is supplied with the EVAL-6SC70EBZ to secure a 6-lead SC70 device to the evaluation board without the need for soldering, making the evaluation board reusable for multiple devices.

Figure 1 shows the EVAL-6SC70EBZ evaluation board. A 6-lead SC70 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. Subminiature Version B (SMB) connectors on the evaluation board allow additional external signals to be supplied to the device. In addition, there is space available at the top of the 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-6SC70EBZ EVALUATION BOARD PHOTOGRAPH

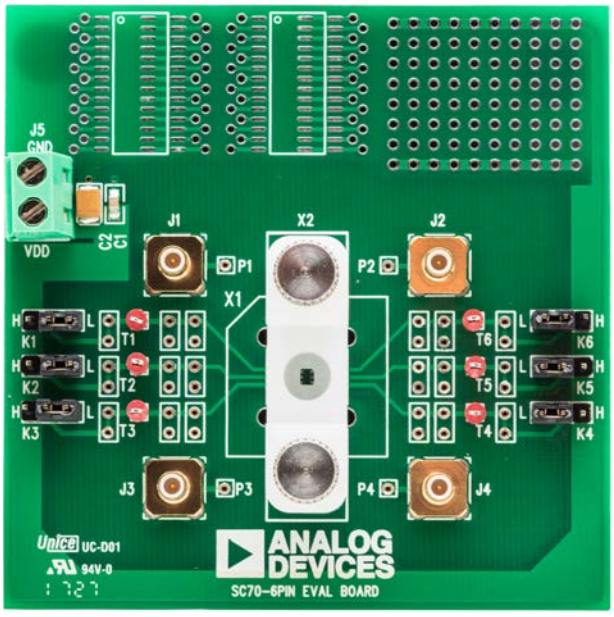


Figure 1.

TABLE OF CONTENTS

Features 1
Evaluation Kit Contents 1
Documents Needed 1
Equipment Needed 1
General Description 1
EVAL-5SC70EBZ Evaluation Board Photograph 1
Revision History 2
Evaluation Board Hardware 3
Power Supply 3
Link Headers 3
SMB Connectors 3
Input Signal Traces 3
Evaluation Board Schematic and Artwork 4
Ordering Information 6
Bill of Materials 6

REVISION HISTORY

11/2017—Revision 0: Initial Version

EVALUATION BOARD HARDWARE

POWER SUPPLY

Connector J5 supplies the VDD and GND supplies to the evaluation board. Set the link headings to either VDD or GND to select the supplies for each pin of the device. 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 VDD or GND. The headers are designated K1 to K6 with the number corresponding to the pin number of the device. Table 1 lists the link headers and how they function on the EVAL-6SC70EBZ evaluation board.

Table 1. Link Header Descriptions

Label	Position	Description
K1 to K6	H[1]	VDD supply
	L[2]	GND supply

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

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.

EVALUATION BOARD SCHEMATIC AND ARTWORK

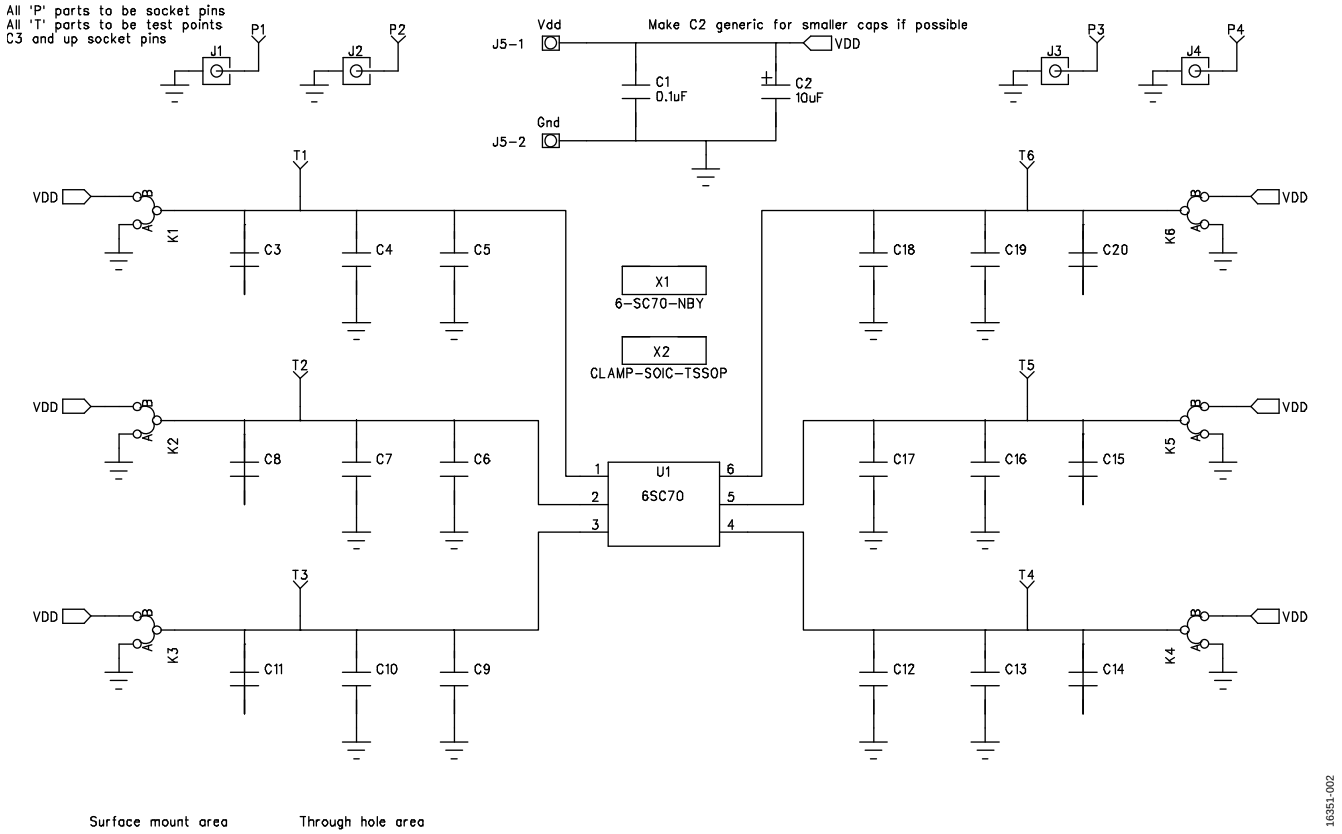


Figure 2. EVAL-6SC70EBZ Evaluation Board Schematic

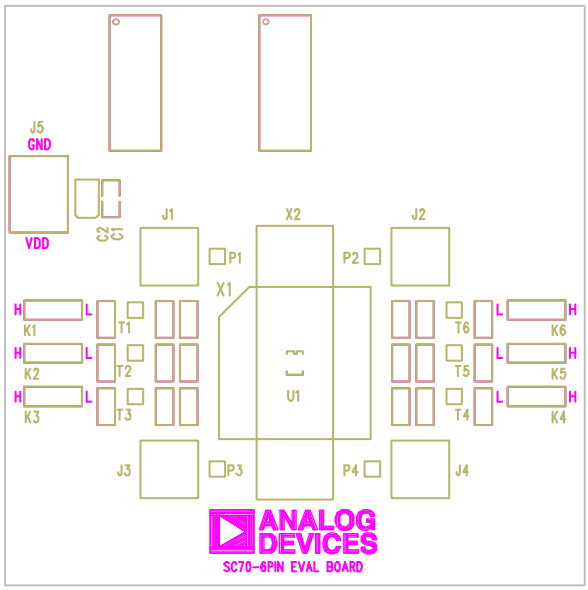


Figure 3. EVAL-6SC70EBZ Evaluation Board Silkscreen

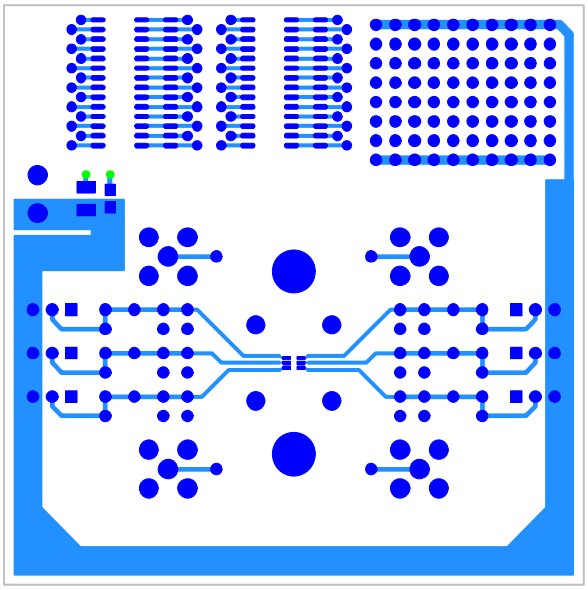


Figure 4. EVAL-6SC70EBZ Evaluation Board Top Layer

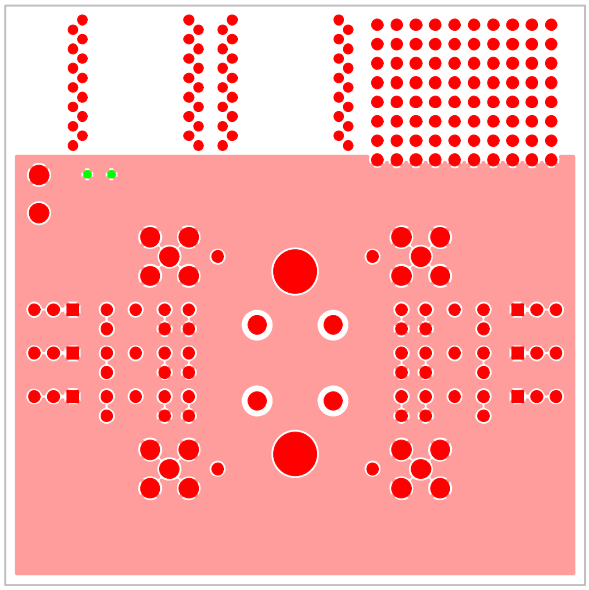


Figure 5. EVAL-6SC70EBZ Evaluation Board Bottom Layer

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 C17	Harwin subminiature sockets (2)	H3153-01	FEC 2120079
J1 to J4	SMB connectors	1206013	FEC 310-682
J5	2-pin terminal block (5 mm pitch)	KRM 02	FEC 151-785
K1 to K5	Jumper blocks using 3-pin session initiation protocol (SIP) headers	M20-9990345 and M7566-05	FEC 512-047 and 150-411
P1 to P4	Harwin subminiature sockets	H3153-01	FEC 2120079
T1 to T5	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.

Legal Terms and Conditions

By using the evaluation board discussed herein (together with any tools, components documentation or support materials, the "Evaluation Board"), you are agreeing to be bound by the terms and conditions set forth below ("Agreement") unless you have purchased the Evaluation Board, in which case the Analog Devices Standard Terms and Conditions of Sale shall govern. Do not use the Evaluation Board until you have read and agreed to the Agreement. Your use of the Evaluation Board shall signify your acceptance of the Agreement. This Agreement is made by and between you ("Customer") and Analog Devices, Inc. ("ADI"), with its principal place of business at One Technology Way, Norwood, MA 02062, USA. Subject to the terms and conditions of the Agreement, ADI hereby grants to Customer a free, limited, personal, temporary, non-exclusive, non-sublicensable, non-transferable license to use the Evaluation Board FOR EVALUATION PURPOSES ONLY. Customer understands and agrees that the Evaluation Board is provided for the sole and exclusive purpose referenced above, and agrees not to use the Evaluation Board for any other purpose. Furthermore, the license granted is expressly made subject to the following additional limitations: Customer shall not (i) rent, lease, display, sell, transfer, assign, sublicense, or distribute the Evaluation Board; and (ii) permit any Third Party to access the Evaluation Board. As used herein, the term "Third Party" includes any entity other than ADI, Customer, their employees, affiliates and in-house consultants. The Evaluation Board is NOT sold to Customer; all rights not expressly granted herein, including ownership of the Evaluation Board, are reserved by ADI. CONFIDENTIALITY. This Agreement and the Evaluation Board shall all be considered the confidential and proprietary information of ADI. Customer may not disclose or transfer any portion of the Evaluation Board to any other party for any reason. Upon discontinuation of use of the Evaluation Board or termination of this Agreement, Customer agrees to promptly return the Evaluation Board to ADI. ADDITIONAL RESTRICTIONS. Customer may not disassemble, decompile or reverse engineer chips on the Evaluation Board. Customer shall inform ADI of any occurred damages or any modifications or alterations it makes to the Evaluation Board, including but not limited to soldering or any other activity that affects the material content of the Evaluation Board. Modifications to the Evaluation Board must comply with applicable law, including but not limited to the RoHS Directive. TERMINATION. ADI may terminate this Agreement at any time upon giving written notice to Customer. Customer agrees to return to ADI the Evaluation Board at that time. LIMITATION OF LIABILITY. THE EVALUATION BOARD PROVIDED HEREUNDER IS PROVIDED "AS IS" AND ADI MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WITH RESPECT TO IT. ADI SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, ENDORSEMENTS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, RELATED TO THE EVALUATION BOARD INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. IN NO EVENT WILL ADI AND ITS LICENSORS BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM CUSTOMER'S POSSESSION OR USE OF THE EVALUATION BOARD, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DELAY COSTS, LABOR COSTS OR LOSS OF GOODWILL. ADI'S TOTAL LIABILITY FROM ANY AND ALL CAUSES SHALL BE LIMITED TO THE AMOUNT OF ONE HUNDRED US DOLLARS ($100.00). EXPORT. Customer agrees that it will not directly or indirectly export the Evaluation Board to another country, and that it will comply with all applicable United States federal laws and regulations relating to exports. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the substantive laws of the Commonwealth of Massachusetts (excluding conflict of law rules). Any legal action regarding this Agreement will be heard in the state or federal courts having jurisdiction in Suffolk County, Massachusetts, and Customer hereby submits to the personal jurisdiction and venue of such courts. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement and is expressly disclaimed.

©2017 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners.
UG16351-0-11/17(0)