

NCS6415DWEVB

NCS6415 Evaluation Board Manual



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Description

This document describes NCS6415 SOIC-20WB package evaluation board. It should be used in conjunction with the data sheet, which contains full technical details on the device specification and operation. This evaluation board is offered as a convenience for the customers interested in performing their own engineering characterization and performance assessment. The evaluation board provides a 75 Ω controlled impedance environment. The evaluation board is designed to facilitate a quick evaluation of the device.

This evaluation board manual contains information on NCS6415DEVB: Evaluation Board for NCS6415 Video Switch.

Board Layup

The SOIC-20WB package evaluation board is implemented in four layers (Figure 1, Evaluation Board

Layup). The first layer contains the device and other components. The second layer is the copper ground plane. The third layer is the power plane. The fourth layer is the soldering side for through-hole components.

Board Design (NCS6415DWEVB)

The evaluation board contains 8 inputs and 6 outputs (See Figure 2). The input contains termination resistor (typically 75 Ω for video application). The evaluation board contains an external transistor to drive a typical 150 Ω video load (75 Ω is series to the output). There are two power supplies voltages that can be provided on this board (one for the device and the other for the external drivers). For testing convenience, a jumper is provided to short the two power supplies on the board, if only one power supply is available.

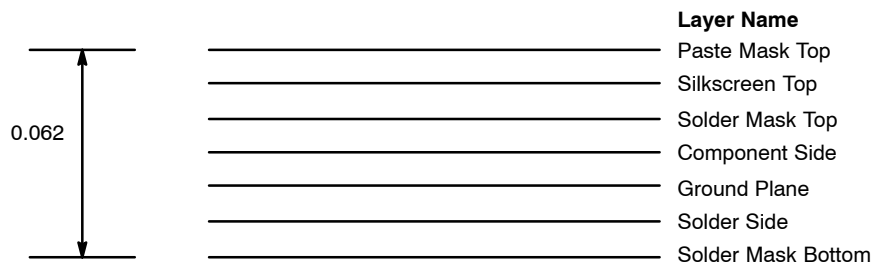


Figure 1. Evaluation Board Layup

NCS6415DWEVB

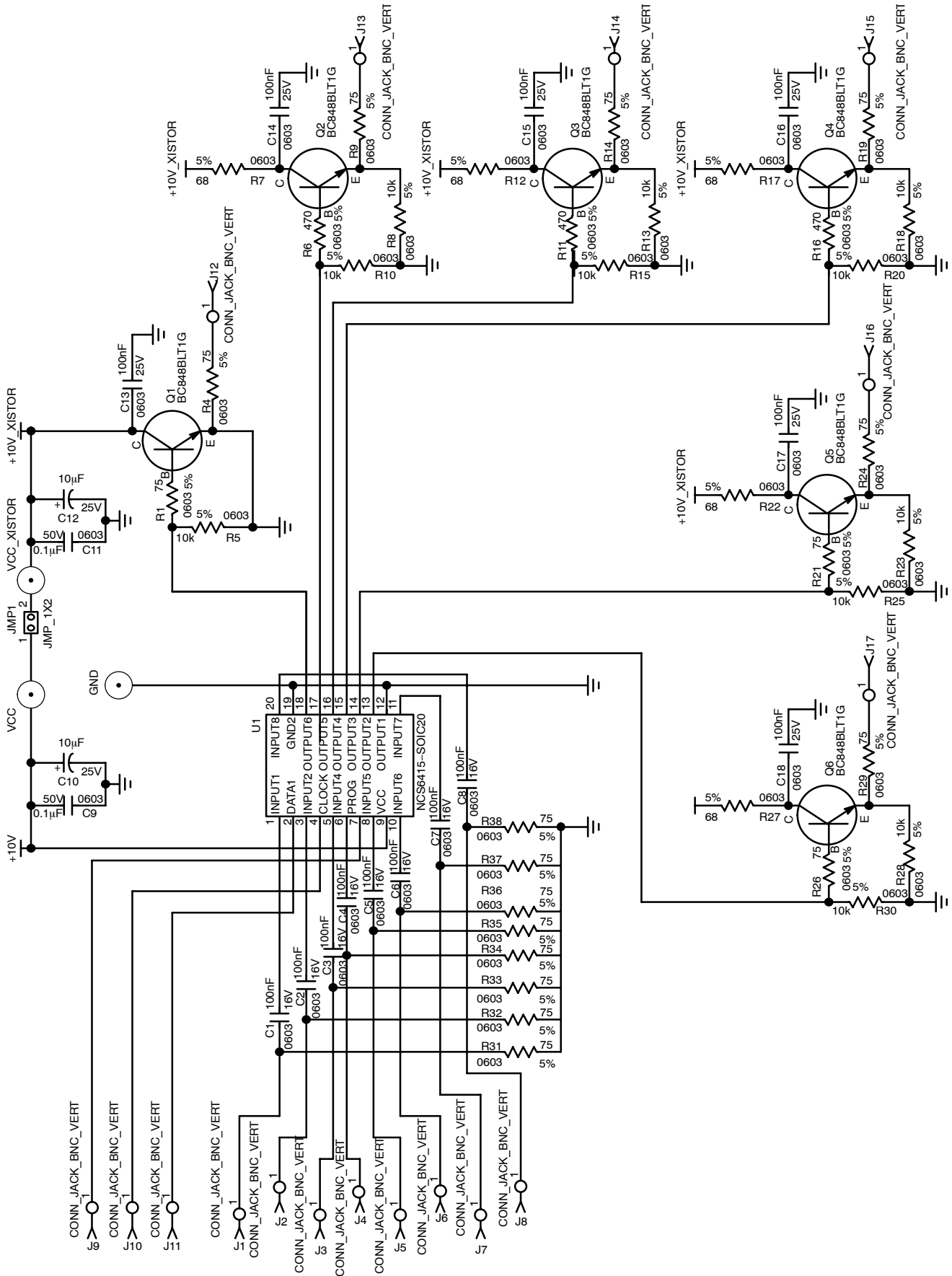


Figure 2. NCS6415 Evaluation Board Schematic

NCS6415DWEVB

BOARD LAYOUT (NCS6415EVB)

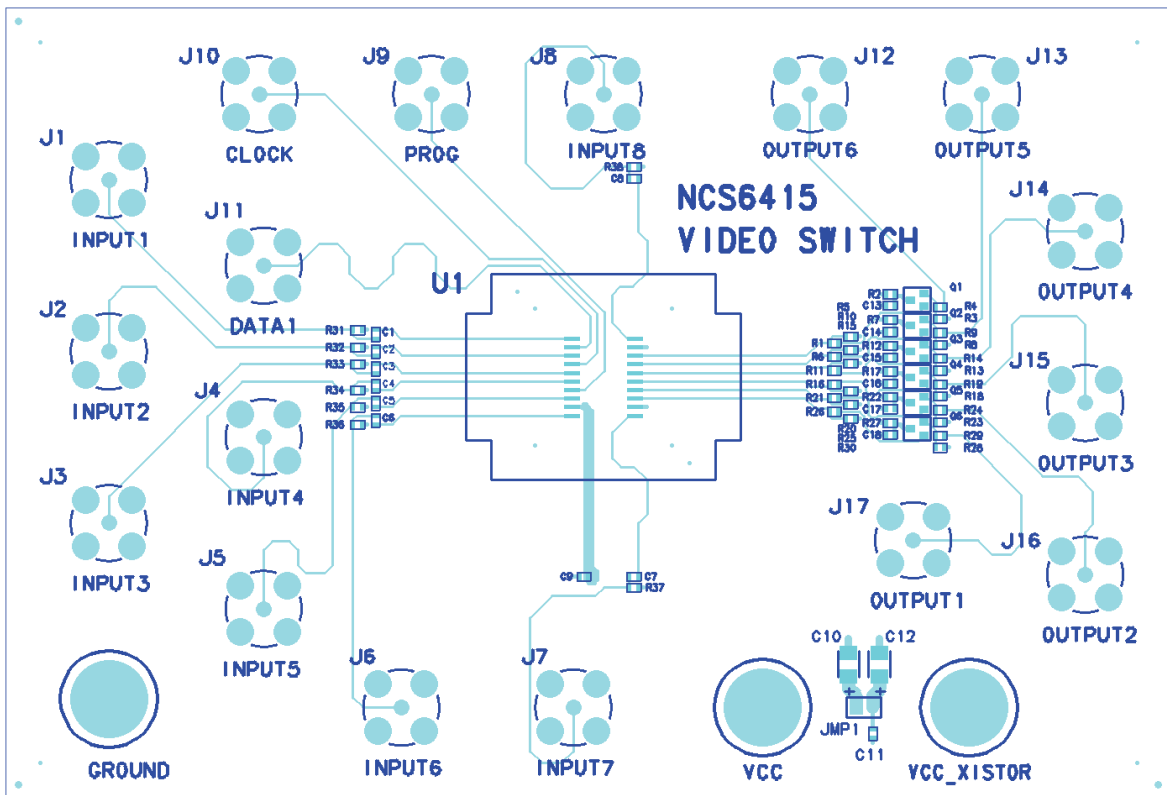


Figure 3. NCS6415EVB Evaluation Board (Top View)

NCS6415DWEVB

APPENDIX (Assembled Board BOM for NCS6415)

Item	Part Description	Manufacturer	Manufacturer Part Number	QTY/ Unit	Reference Designators
1	General Purpose NPN Transistor	ON Semiconductor	BC848BLT1G	6	Q1, Q2, Q3, Q4, Q5, Q6
2	Video Switch	ON Semiconductor	NCS6415DWG	1	U1
3	Connector, Jack BNC, Verticle 50 – PCB	AMP/TYCO	5414305-1	17	J1, J2, J3, J4 , J5, J6, J7, J8, J9, J10, J11, J12, J13, J14, J15, J16, J17
4	Connector, Banana Jack, Panel Mount	JOHNSON COMPONENTS, INC.	108-0740-001	3	GROUND, V _{CC} , VCC_XISTOR
5	(Tie IC and NPN Power Together with Jumper)	–	JUMPER	1	JMP1
6	CAP SM CER 0603 100 NF 50 V 10% X7R	SAMSUNG	CL10B104KBNC	16	C1, C2, C3, C4, C5, C6, C7, C8, C9, C11, C13, C14, C15, C16, C17, C18
7	RES 75 Ω 1/10 W 5% 0603 SMD	SAMSUNG	RC1608J750CS	14	R4, R9, R14, R19, R24, R29, R31, R32, R33, R34, R35, R36, R37
8	TANT CAP 10 μ F 16 V 10% –55/85°C PKG. 0805	VISHAY	292D106X9016P2T	2	C10, C12
9	RES 10 K Ω 1/10 W 5%, PKG. 0603	SAMSUNG	RC1608J103CS	12	R3, R5, R8, R10, R13, R15, R18, R20, R23, R25, R28, R30
10	RES 68 Ω 1/10 W 5% PKG.0603	VISHAY	CRCW06038R0JNEA	6	R2, R7, R12, R17, R22, R27
11	RES 470 1/10 W 5% PKG.0603	VISHAY	CRCW0603470RJNEA	6	R1, R6, R11, R16, R21, R26

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