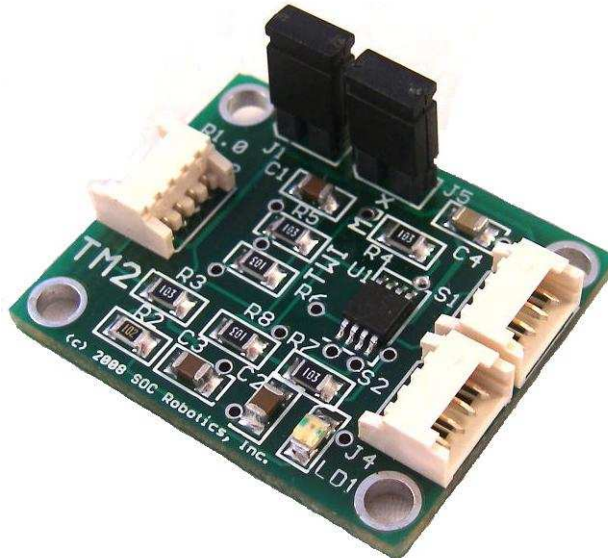


TM2 TWI/I2C 1 to 2 Translating Multiplexer

Technical Reference Guide

PCB Rev 1.0



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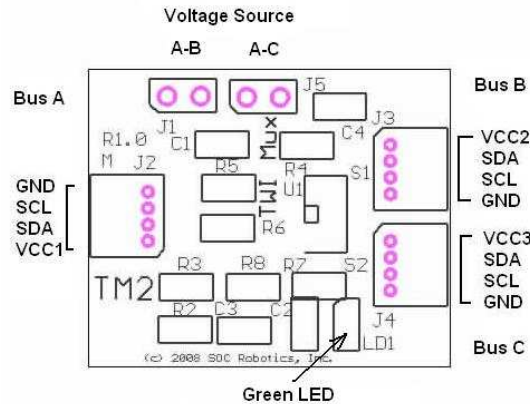
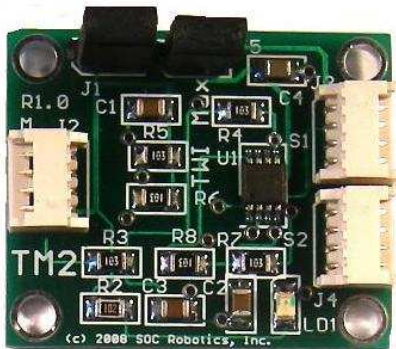
Overview

The TM2 is a TWI I2C bus 1 to 2 translating multiplexer that allows one I2C bus to selectively communicate with one of two other I2C buses. The TM2 allows Bus A to communicate with either Bus B or Bus C but not both Bus B and C simultaneously. The TM2 uses the Philips PCA9540 bus multiplexer chip. Bus A controls which I2C bus to connect by sending a bus select command to I2C address 0x70. The following bus select commands are supported:

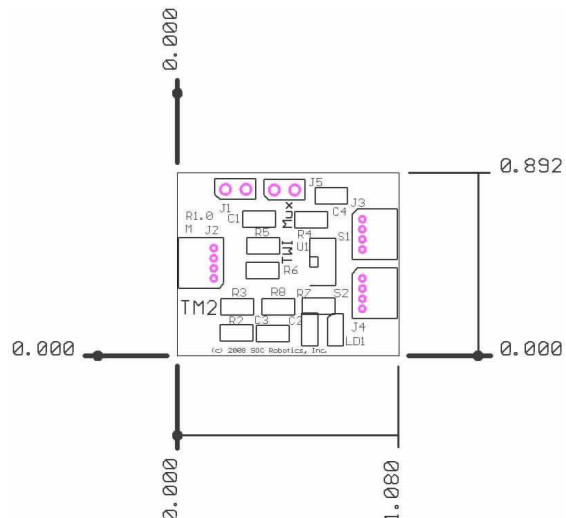
Command	Register Value
No Channel Selected	0x00
Channel B Selected	0x04
Channel C Selected	0x05
No Channel Selected	0x60

Each bus can operate at a different voltage or the same voltage. The TM2, for example, can allow an I2C bus operating at 5V to connect to a TWI bus operating at 3.3V. The TM2 increases the number of I2C devices that communicate on a single bus by reducing the total capacitance of the bus. The Voltage Source jumpers allow Bus A to supply power to Bus B and/or Bus C. If Voltage Source jumpers are not installed then power must be supply some other way to Bus B and C. Power to the PCA9540 chip is supplied by Bus A as is the Green LED.

TM2 Connector Pin Assignment



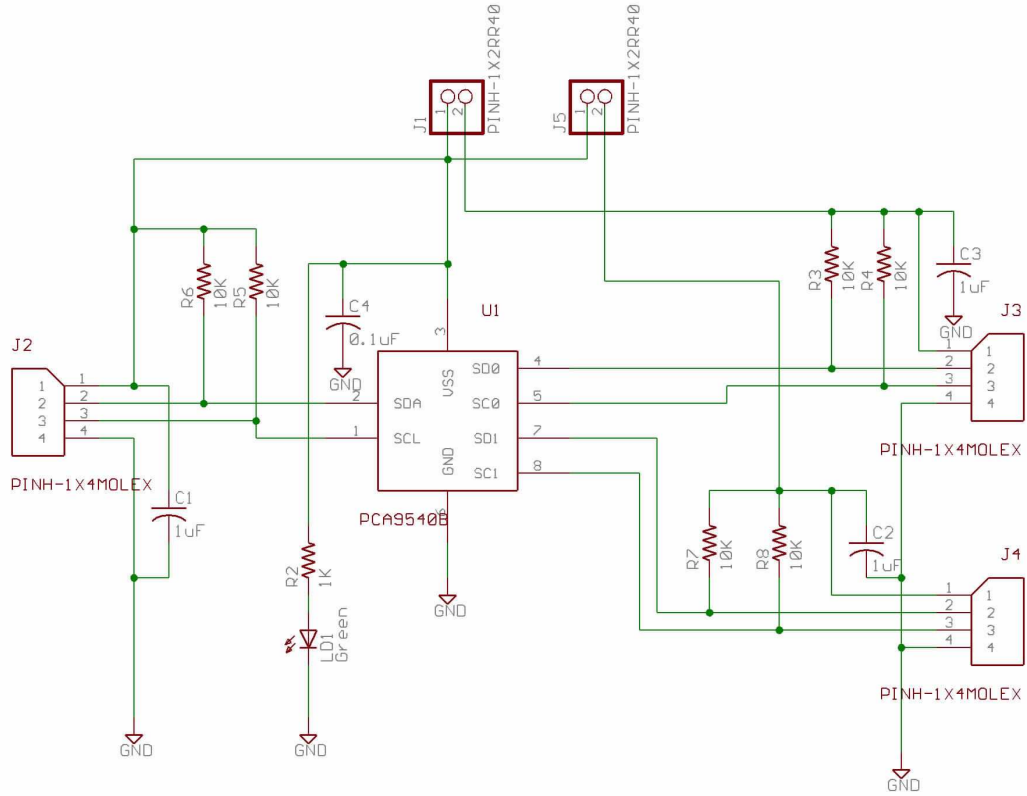
The TM2 dimensions are in inches.



TM2 Circuit Schematic

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<h1>TWI 2Ch Multiplexer</h1> <h2>TM2</h2> <h3>PCB Rev. 1.0</h3>									
<table border="1"><tr><td colspan="2">SOC Robotics, Inc. Vancouver, BC</td></tr><tr><td colspan="2">TITLE: TWI 2Ch Mux</td></tr><tr><td>Document Number: 20080610</td><td>REV: A</td></tr><tr><td>Date: 6/12/2008 05:00:02p</td><td>Sheet: 1/2</td></tr></table>		SOC Robotics, Inc. Vancouver, BC		TITLE: TWI 2Ch Mux		Document Number: 20080610	REV: A	Date: 6/12/2008 05:00:02p	Sheet: 1/2
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