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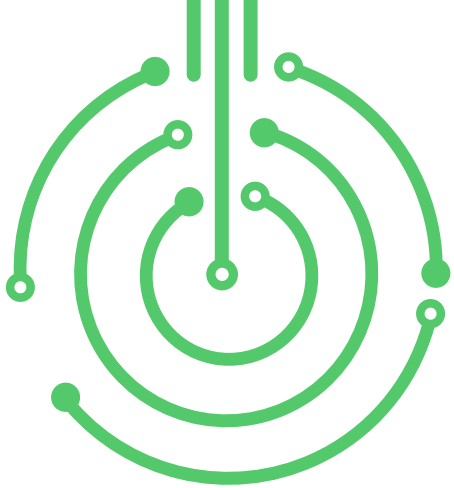


Teensy 4 Expansion Board with DC-DC Converter

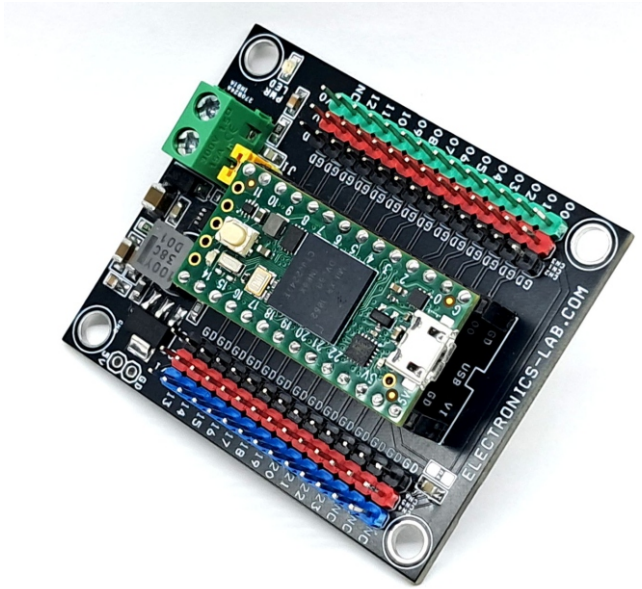
SKU: EL154874

Teensy 4 Expansion Board with DC-DC Converter

The Teensy 4 expansion I/O shield is designed to simplify the connection process, saving you time and effort in your project development. With its compact design and ease of use, this board is perfect for prototyping, proof-of-concept development, and production-ready applications. Whether you're a hobbyist, student, or professional, this board is essential for anyone working with the Teensy 4.

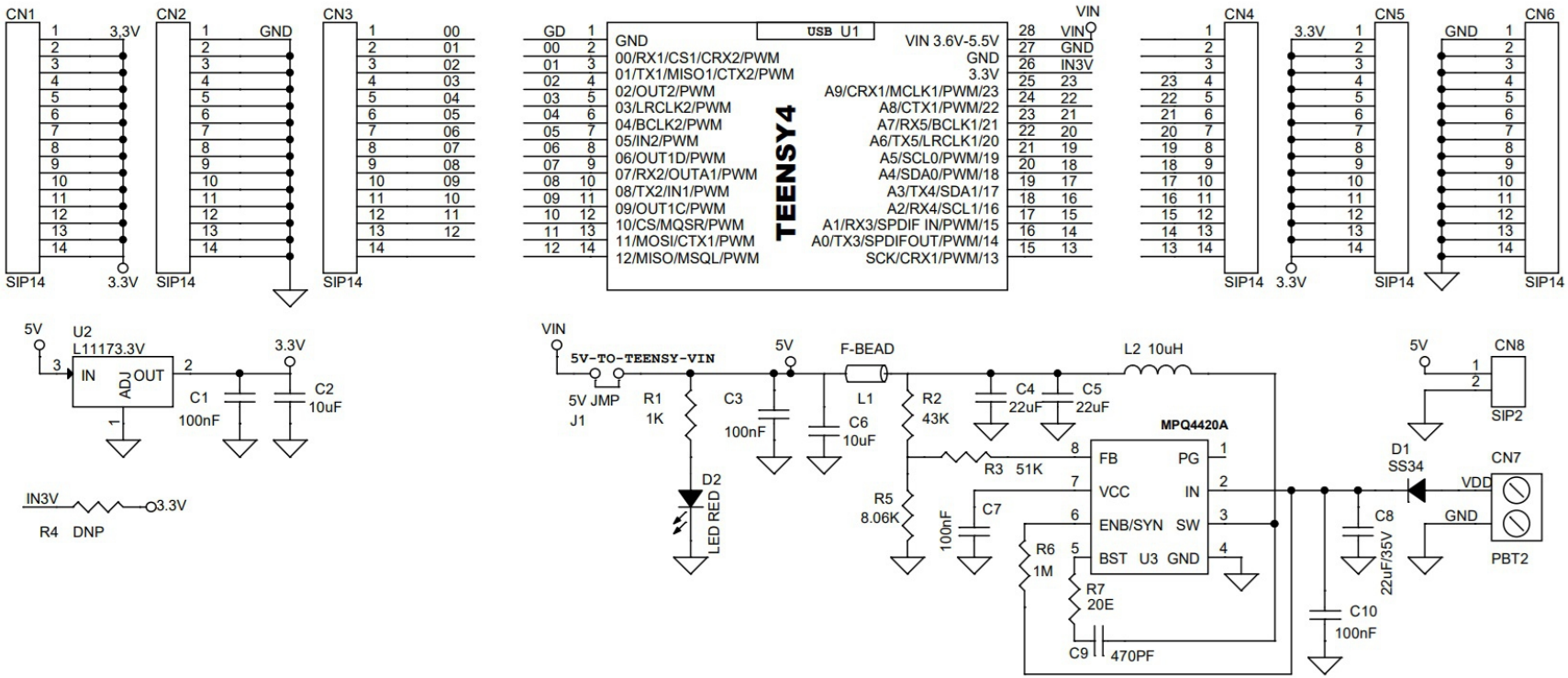
Features

- **Digital and Analog Line Access:** All digital and analog lines can be accessed through header connectors.
- **DC-DC Converter:** The board features a DC-DC converter that can take input voltage from 12V to 30V DC.
- **I/O Line Support:** Each I/O line is supported with 3.3V and GND connectors, allowing for easy connection of multiple devices and sensors.
- **Onboard Power:** 5V and 3.3V power is available to connect various sensors and devices.
- **Power Load:** 3.3V Maximum Load Up to 800mA, 5V Up to 1Amp (Max 2Amps)
- **Connectivity:** 2.54mm male headers are used for easy connection, and screw terminals are provided for power input.
- **Reverse Power Protection:** A diode D1 at the input power helps prevent accidental reverse power input.
- **Power Indicator:** An onboard LED D2 indicates the presence of power.
- **Teensy Installation:** A female header is provided to install the Teensy.
- **Power Selection:** Onboard jumper J1 can be used to power the Teensy-VIN from the DC-DC converter, and removing the jumper allows for USB power to be used.
- **3.3V Regulator:** A 3.3V regulator is connected to the 3.3V expansion lines to power external devices, with a maximum current handling capacity of 800mA.
- **PCB Dimensions:** 60.33 x 49.05 mm
- **Mounting Holes:** Printed circuit board (PCB) with four mounting holes, each with a diameter of 4mm.

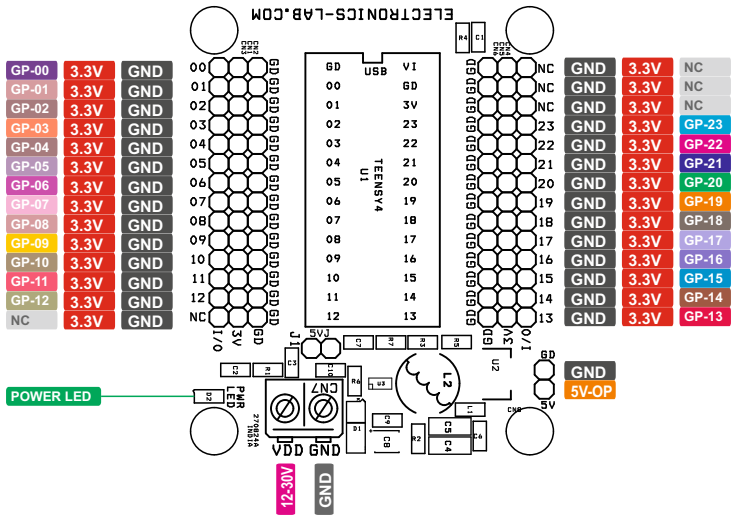


These features make the expansion board a versatile and convenient solution for connecting various devices and sensors to the Teensy microcontroller.

Schematic


CN1
CN2
CN3
SIP14
3.3V
GND
TEENSY4
USB U1
VIN 3.6V-5.5V
GND
3.3V
00/RX1/CS1/CRX2/PWM
01/TX1/MISO1/CTX2/PWM
02/OUT2/PWM
03/LRCLK2/PWM
04/BCLK2/PWM
05/IN2/PWM
06/OUT1D/PWM
07/RX2/OUTA1/PWM
08/TX2/IN1/PWM
09/OUT1C/PWM
10/CS/MQSR/PWM
11/MOSI/CTX1/PWM
12/MISO/MSQL/PWM
A9/CRX1/MCLK1/PWM/23
A8/CTX1/PWM/22
A7/RX5/BCLK1/21
A6/TX5/LRCLK1/20
A5/SCL0/PWM/19
A4/SDA0/PWM/18
A3/TX4/SDA1/17
A2/RX4/SCL1/16
A1/RX3/SPDIF IN/PWM/15
A0/TX3/SPDIFOUT/PWM/14
SCK/CRX1/PWM/13
VIN
CN4
CN5
CN6
5V
U2
L11173.3V
IN
ADJ
OUT
C1
100nF
C2
10uF
IN3V
R4 DNP
VIN
5V-TO-TEENSY-VIN
5V JMP
J1
R1
1K
C3
100nF
F-BEAD
L1
C6
10uF
R2
43K
C4
22uF
C5
22uF
L2 10uH
MPQ4420A
FB
PG
VCC
IN
ENB/SYN
SW
BST
U3
GND
R3 51K
R5
8.06K
C7
100nF
R6
1M
R7
20E
C9
470PF
C10
100nF
C8
22uF/35V
D1
SS34
D2
LED RED
CN8
SIP2
CN7
VDD
GND
PBT2

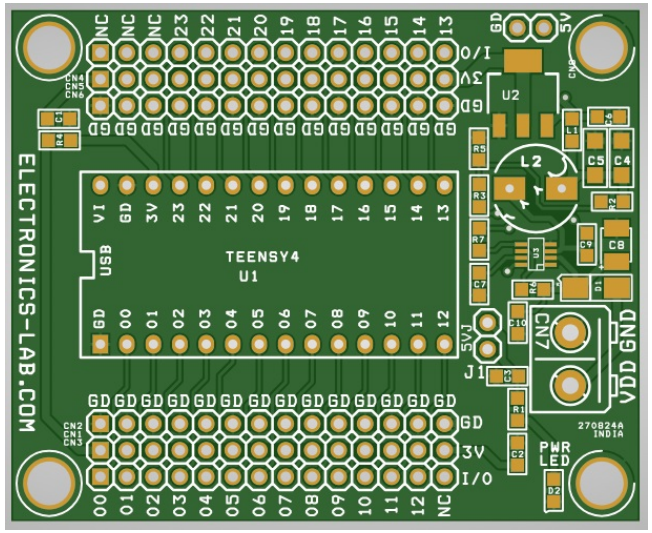
Connections

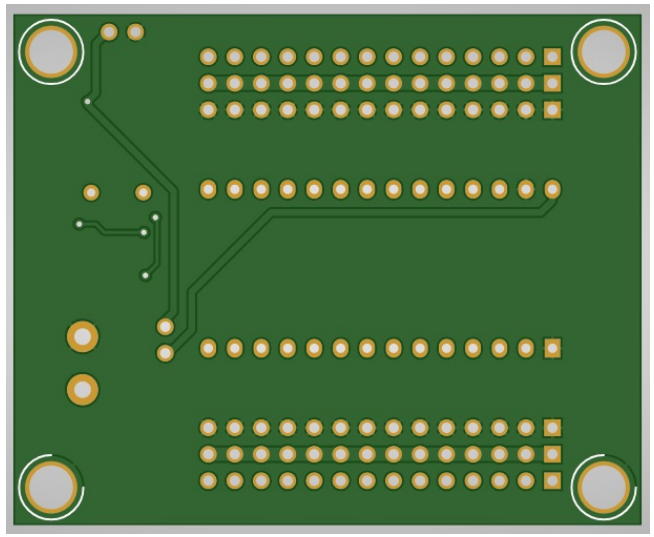


Connections

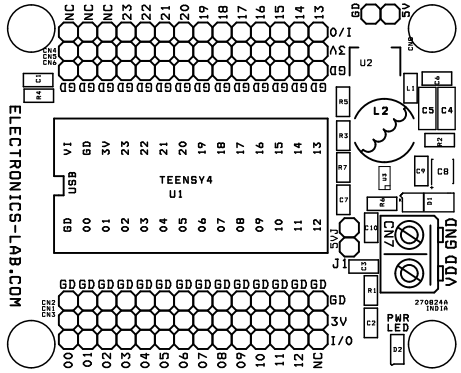
- CN1: Pin 1 To 14 = 3.3V
- CN2: Pin 1 To 14 = GND
- CN3: Pin 1 To 14 = GPIO 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, NC
- CN4: Pin 1 To 14 = GPIO NC, NC, NC, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13
- CN5: Pin 1 To 14 = 3.3V
- CN6: Pin 1 To 14 = GND
- CN7: Power Input Pin 1 VDD 12V To 30V, Pin 2 = GND
- CN8: Power Output Pin 1 = 5V (Max 1Amp), Pin 2 = GND
- D2: Power LED (5V DC-DC Converter)

PCB

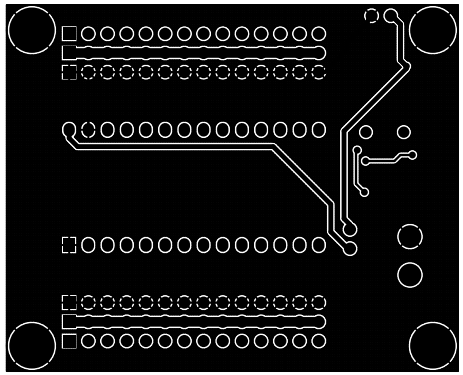




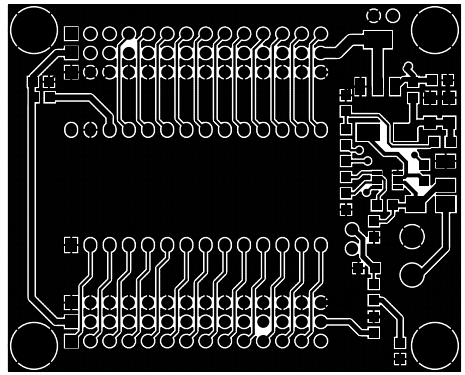
PCB GERBER FILES AVAILABLE



PCB TOP SCREEN



PCB BOTTOM LAYER



PCB TOP LAYER

PCB DIMENSIONS 60.33X49.05MM

Parts List

BOM						
NO.	QNTY.	REF	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	6	CN1,CN2,CN3,CN4,CN5,CN6	14 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5325-ND
2	1	CN7	2 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX		277-1247-ND
3	1	CN8	2 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5315-ND
4	4	C1,C3,C7,C10	100nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
5	2	C2,C6	10uF/25V CERMAIC SMD SIZE 0805	YAGEO/MURATA		
6	2	C4,C5	22uF/10V CERAMIC SMD SIZE 1206	YAGEO/MURATA		
7	1	C8	22uF/35V CERAMIC SMD 1210 OR 1206	YAGEO/MURATA		
8	1	C9	470PF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
9	1	D1	SS34 SMD FAST DIODE	ON SEMI		SS34FSCT-ND
10	1	D2	LED RED SIZE 0805	OSRAM		475-1278-1-ND
11	1	J1	2 PIN MALE HEADER 2.54MM (5V JUMPER)	WURTH		732-5315-ND
12	1	L1	F-BEAD 600 Ohms @ 100 MHz, 1.5A 100mOhm	LAIRD		240-2390-1-ND
13	1	L2	10uH/5.7A SMD OR THT DIA. 8MM DIA	PANASOIC		P17067CT-ND
14	1	R1	1K 5% SMD SIZE 0805	YAGEO/MURATA		
15	1	R2	43K 1% SMD SIZE 0805	YAGEO/MURATA		
16	1	R3	51K 1% SMD SIZE 0805	YAGEO/MURATA		
17	1	R4	DNP			
18	1	R5	8.06K 1% SMD SIZE 0805	YAGEO/MURATA		
19	1	R6	1M 5% SMD SIZE 0805	YAGEO/MURATA		
20	1	R7	20E 5% SMD SIZE 0805	YAGEO/MURATA		
21	1	U1	TEENSY4	PJRC		1568-DEV-16997-ND
22	1	U2	L11173.3V	ST		497-17239-1-ND
23	1	U3	MPQ4420A	MPS		1589-1788-1-ND
24	1	SHUNT	SHUNT FOR JUMPER J1	SULLINS CONNECT		S9001-ND

Notes

APP

Android App

DOWNLOAD

Android App launched in 2017 and has 100k+ downloads - rated with 4.5 stars.

SCAN QR CODE

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