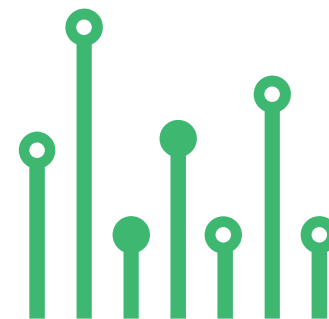


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MICROCONTROLLER



Teensy 4.1 Expansion Board with DC-DC Converter



SKU: EL154898

Teensy 4.1 Expansion Board with DC-DC Converter



The Teensy 4.1 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 Teensy 4.1.

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 25V 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 kinds of sensors and devices.

Power Load: 3.3V Maximum Load Up to 500mA, 5V Up to 500mA

Connectivity: 2.54mm male headers are used for easy connection, and screw terminals are provided for power input.

Reverse Power Protection: A diode D3 at the input power helps prevent accidental reverse power input.

Power Indicator: An onboard LED D1 indicates the presence of power.

Teensy Installation: A female header is provided to install the Teensy.

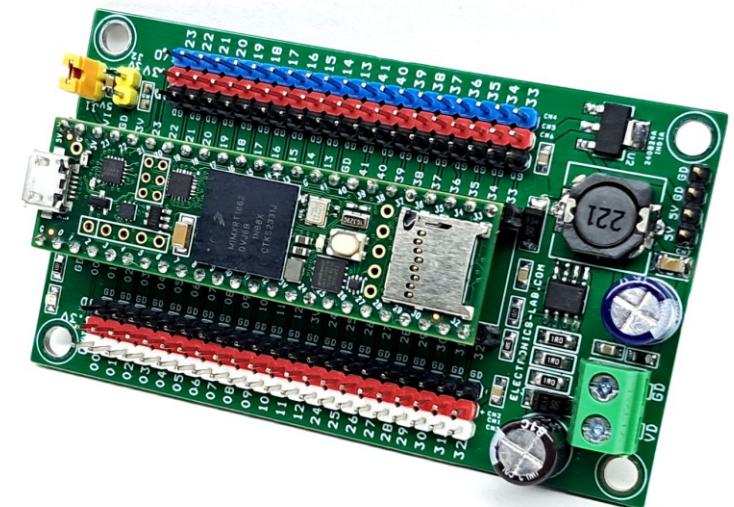
Power Selection: Onboard jumper J1 can be used to power the Teensy-VIN from the DC-DC converter, and removing the jumper allows for USB power to be used.

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 500mA.

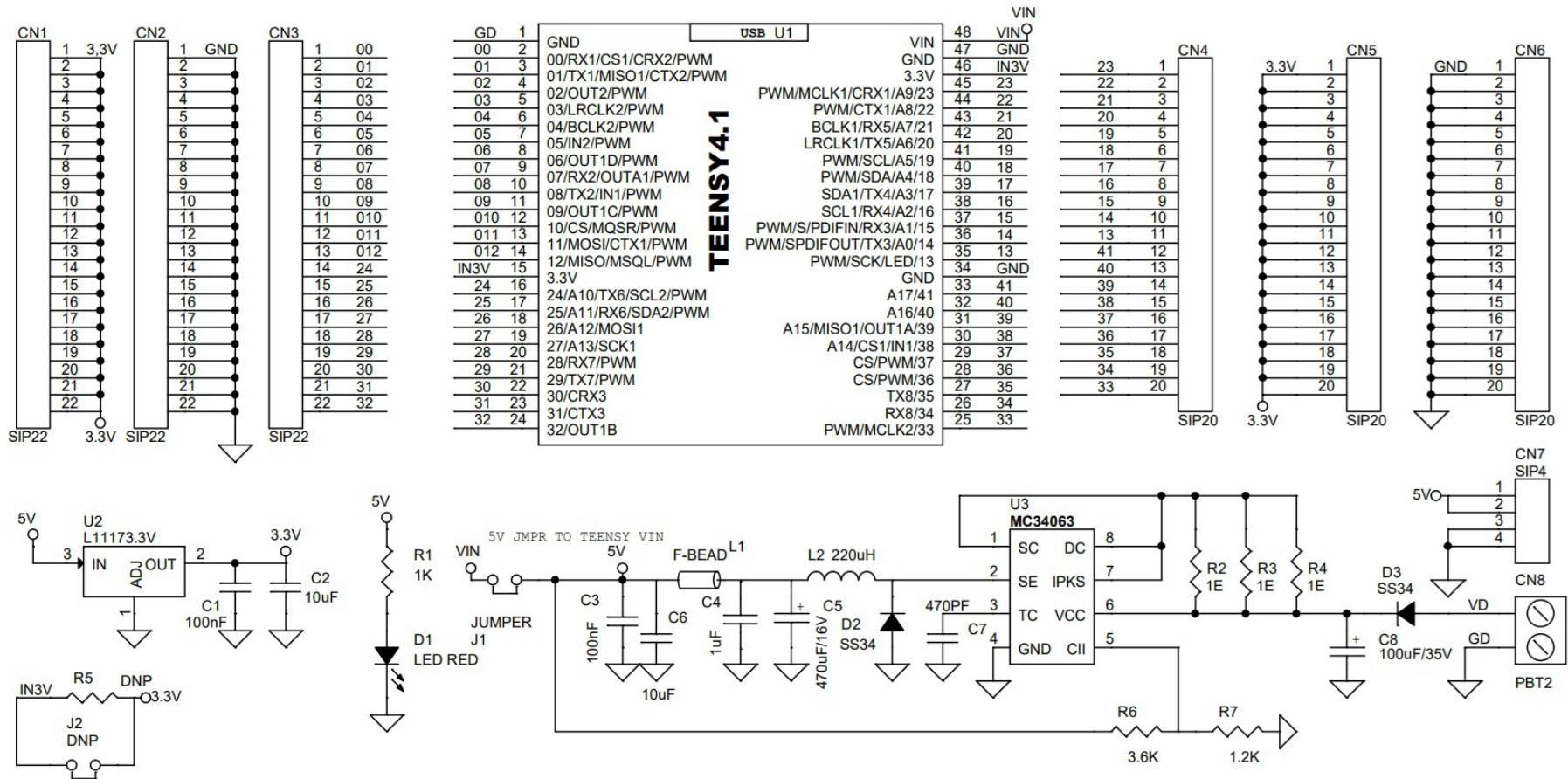
PCB Dimensions: 87.47X50.32MM

Mounting Holes: Printed circuit board (PCB) with four mounting holes, each with a diameter of 4mm.

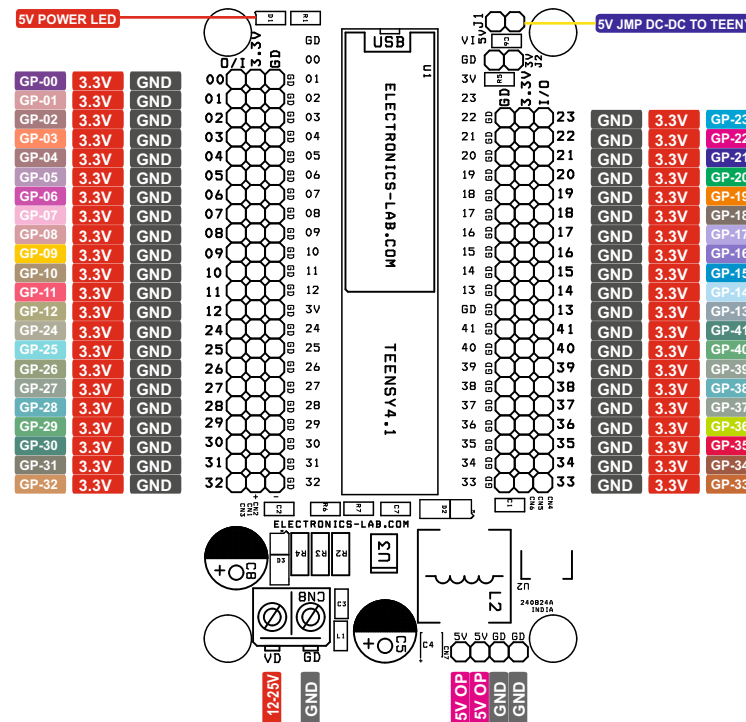
These features make the expansion board a versatile and convenient solution for connecting various devices and sensors to the Teensy microcontroller.



Schematic



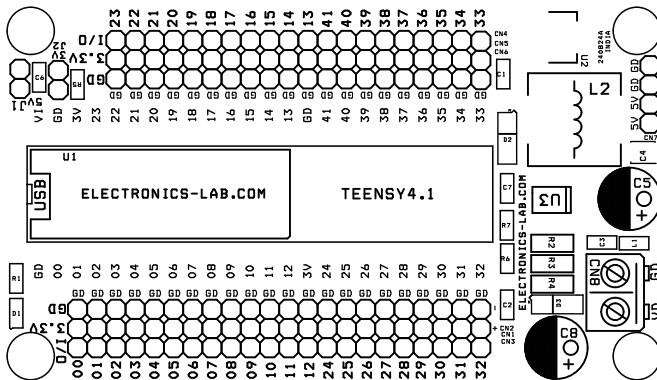
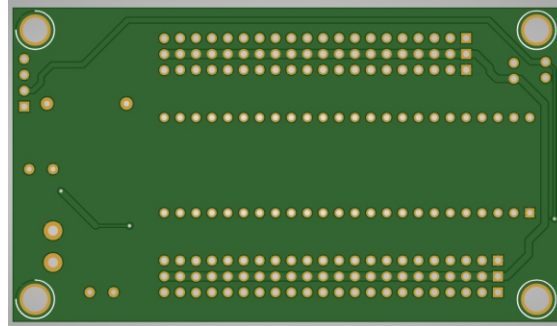
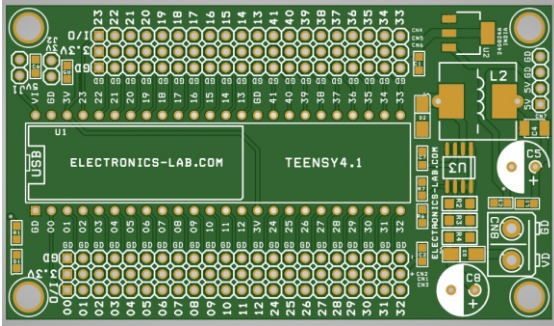
Connections



Connections

- CN1: Pin 1 To 22 = 3.3V
- CN2: Pin 1 To 22 = GND
- CN3: Pin 1 To 22 = I/O 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 24, 25, 26, 27, 28, 29, 30, 31, 32
- CN4: Pin 1 To 20 = I/O 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 41, 40, 39, 38, 37, 36, 35, 34, 33
- CN5: Pin 1 To 20 = 3.3V
- CN6: Pin 1 To 20 = GND
- CN7: Pin 1, 2 = 5V DC Output (Max500mA), Pin 3, 4 = GND
- CN8: Pin 1 = VDD 12V To 25V DC, Pin 2 = GND
- D1: Power LED
- J2: DNP No Use
- J1: 5V Power Input Selection for TEENSY, Jumper Closed = Teensy is Powered from DC-DC Converter (Jumper Open J1 If Powered from USB)

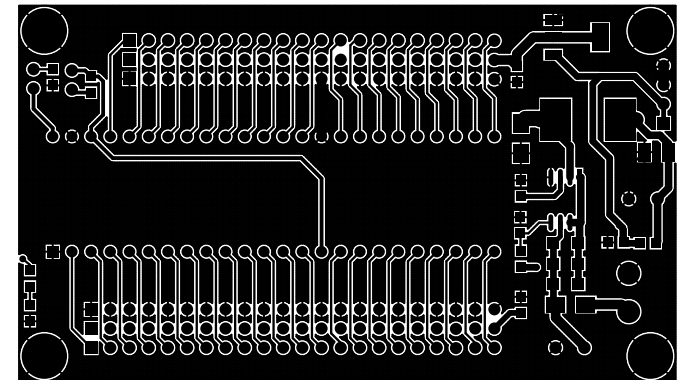
PCB



PCB TOP SCREEN



PCB BOTTOM LAYER



PCB TOP LAYER

PCB DIMENSIONS 87.47X50.32MM

Parts List

BOM						
NO	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	3	CN1,CN2,CN3	22 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5330-ND
2	3	CN4,CN5,CN6	20 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5329-ND
3	1	CN7	4 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5317-ND
4	1	CN8	2 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX		277-1247-ND
5	2	C1,C3	100nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
6	2	C2,C6	10uF/25V CERAMIC SMD SIZE 0805	YAGEO/MURATA		
7	1	C4	1uF/50V CERMAIC SMD SIZE 1206	YAGEO/MURATA		
8	1	C5	470uF/16V THT ELECTROLYTIC DIA 8MM	KEMET		399-ESK477M016AG3AA-ND
9	1	C7	470PF/50V CERMAIC SMD SIZE 0805	YAGEO/MURATA		
10	1	C8	100uF/35V ELECTROLYTIC DIA 8MM	KEMET		399-ESC107M035AG3EATB-ND
11	1	D1	LED RED SMD SIZE 0805	OSRAM		475-1278-1-ND
12	2	D2,D3	SS34 SMD FAST DIODE	ONSEMI		SS34FSCT-ND
13	1	J1	2 PIN MALE HEADER PITCH 2.54MM	WURTH		732-5315-ND
14	1	L1	600 Ohms @ 100 MHz 1.5A 100mOhm	LAIRD		240-2390-1-ND
15	1	L2	220uH/1.2AMP 10MMX10MM	WURTH		732-4110-1-ND
16	1	R1	1K 5% SMD SIZE 0805	YAGEO/MURATA		
17	3	R2,R3,R4	1E 1% SMD SIZE 1206	YAGEO/MURATA		
18	1	R5	DNP			
19	1	R6	3.6K 1% SMD SIZE 0805	YAGEO/MURATA		
20	1	R7	1.2K 1% SMD SIZE 0805	YAGEO/MURATA		
21	1	U1	TEENSY4.1	PJRC		1568-DEV-16996-ND
22	1	U2	L1117-3.3V	TI		LM1117MPX-3.3/NOPBCT-ND
23	1	U3	MC34063 SOIC8	TI		296-17765-1-ND
24	1	SHUNT	SHUNT FOR JUMPER J1	SULLINS CONNECT		S9001-ND

Notes



APP

Android App

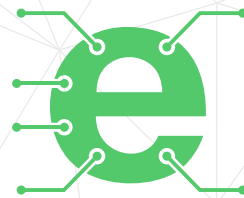
DOWNLOAD



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