

# LV POWER SUPPLY

The top diagram shows a power supply circuit starting with a transformer (T1) connected to a 120V AC source. The secondary winding is connected to a full bridge rectifier (B1) consisting of four diodes (D1, D2, D3, D4). The rectifier output is filtered by a series of capacitors (C1 to C7) and then regulated to 5V by an LM7805 (U1) IC. The output is connected to a load (R1) and a diode (D5).

The middle diagram shows a 12V to 5V buck converter. It uses an LM2596-ADJ (U1) IC. The input is connected to a 12V source through a 100nF capacitor (C1). The output is connected to a load (R1) and a diode (D5). The output voltage is 5V.

The bottom diagram shows a 12V to 3.3V buck converter. It uses an LM2596-ADJ (U1) IC. The input is connected to a 12V source through a 100nF capacitor (C1). The output is connected to a load (R1) and a diode (D5). The output voltage is 3.3V.

Power for this is derived from HV via Figure 11 D Board uses a DCDC from the main 12V line

The image shows three circuit diagrams for measuring MOSFET temperature using a thermistor (THM505). Each circuit includes a MOSFET, a 10kV gate resistor, a 10kV drain resistor, and a 10kV source resistor. The thermistor is placed in different locations to measure the temperature of the MOSFET's junction, gate, or drain.

- Top Circuit:** The thermistor (THM505) is connected in series with the source resistor. The gate is connected to a 5V supply through a 10kV resistor. The drain is connected to a 5V supply through a 10kV resistor. The source is connected to ground through a 10kV resistor.
- Middle Circuit:** The thermistor (THM505) is connected in series with the drain resistor. The gate is connected to a 5V supply through a 10kV resistor. The source is connected to ground through a 10kV resistor. The drain is connected to a 5V supply through a 10kV resistor.
- Bottom Circuit:** The thermistor (THM505) is connected in series with the gate resistor. The gate is connected to a 5V supply through a 10kV resistor. The drain is connected to a 5V supply through a 10kV resistor. The source is connected to ground through a 10kV resistor.

[illegible]

The top diagram shows a 1A 200mV sensor connected to a 5V supply, a 1k resistor, and a 100nF capacitor. The bottom diagram shows a 5A 200mV sensor connected to a 5V supply, a 1k resistor, and a 100nF capacitor. Both sensors are connected to the Raspberry Pi's VCC, GND, and I2C pins.

[illegible]

**MOUNTING DIAGRAM**

Legend:

- VLIN\_0 - Positive power supply for I/O devices, I/O Stb, Phase A
- VLIN\_1 - Negative power supply for I/O devices, I/O Stb, Phase A
- VLIN\_2 - Negative power supply for I/O devices, I/O Stb, Phase A
- VLIN\_3 - Positive power supply for I/O devices, I/O Stb, Phase B
- VLIN\_4 - Negative power supply for I/O devices, I/O Stb, Phase B
- VLIN\_5 - Positive power supply for I/O devices, I/O Stb, Phase B
- VLIN\_6 - Negative power supply for I/O devices, I/O Stb, Phase B
- VLIN\_7 - Positive power supply for I/O devices, I/O Stb, Phase C
- VLIN\_8 - Negative power supply for I/O devices, I/O Stb, Phase C
- VLIN\_9 - Positive power supply for I/O devices, I/O Stb, Phase C
- VLIN\_10 - Negative power supply for I/O devices, I/O Stb, Phase C
- VLIN\_11 - Positive power supply for I/O devices, I/O Stb, Phase C
- VLIN\_12 - Negative power supply for I/O devices, I/O Stb, Phase C
- VLIN\_13 - Positive power supply for I/O devices, I/O Stb, Phase C
- VLIN\_14 - Negative power supply for I/O devices, I/O Stb, Phase C
- VLIN\_15 - Positive power supply for I/O devices, I/O Stb, Phase C

Pin Connections:

- P1 - VLIN\_0
- P2 - VLIN\_1
- P3 - VLIN\_2
- P4 - VLIN\_3
- P5 - VLIN\_4
- P6 - VLIN\_5
- P7 - VLIN\_6
- P8 - VLIN\_7
- P9 - VLIN\_8
- P10 - VLIN\_9
- P11 - VLIN\_10
- P12 - VLIN\_11
- P13 - VLIN\_12
- P14 - VLIN\_13
- P15 - VLIN\_14
- P16 - VLIN\_15

# Digital Inputs

The image displays four circuit diagrams for digital inputs, each featuring a 7413 decoder chip. The inputs are connected to a 5V supply through various resistor networks.

- Diagram 1:** Shows a 7413 decoder with inputs A1, A2, and A3. A1 is connected to 5V through resistor R1. A2 is connected to 5V through resistor R2. A3 is connected to 5V through resistor R3. The output is labeled Y0.
- Diagram 2:** Shows a 7413 decoder with inputs A1, A2, and A3. A1 is connected to 5V through resistor R1. A2 is connected to 5V through resistor R2. A3 is connected to 5V through resistor R3 and to ground through resistor R4. The output is labeled Y0.
- Diagram 3:** Shows a 7413 decoder with inputs A1, A2, and A3. A1 is connected to 5V through resistor R1. A2 is connected to 5V through resistor R2. A3 is connected to 5V through resistor R3 and to ground through resistor R4. The output is labeled Y0.
- Diagram 4:** Shows a 7413 decoder with inputs A1, A2, and A3. A1 is connected to 5V through resistor R1. A2 is connected to 5V through resistor R2. A3 is connected to 5V through resistor R3 and to ground through resistor R4. The output is labeled Y0.

The diagram shows a PCB layout for an STM32F103VCT6 microcontroller. The board is populated with various components including capacitors, resistors, a crystal oscillator, and a USB-to-UART bridge. The STM32F103VCT6 microcontroller is the central component, with its pins connected to various peripherals and external devices. The layout includes a USB connector, a UART connector, and a motor connector. The board is labeled with component values and pin numbers.

# THROTTLE INPUTS

[illegible]

Going to take a guess that VN17 diode is a 600V 1A fast recovery. Going with : MUR4160T3G as is an onsemi part.  
An STH112A is used on the STGAP eval board.  
2H2 on the same eval board is a STPS3L40-Y  
3A 40V schottky. Will try a SS34.  
No info on G1 so trying a B5819WS.  
No info on JV so trying a B5819WS.  
No info on the depletion mode N MOS so trying a BSS169.

[illegible]

**Gate Driver, Phase C**

Source resistors are 0.50H NOT 50H

Source resistors are 0.50H NOT 50H

[illegible]