

MOSFET with Driver Board v1

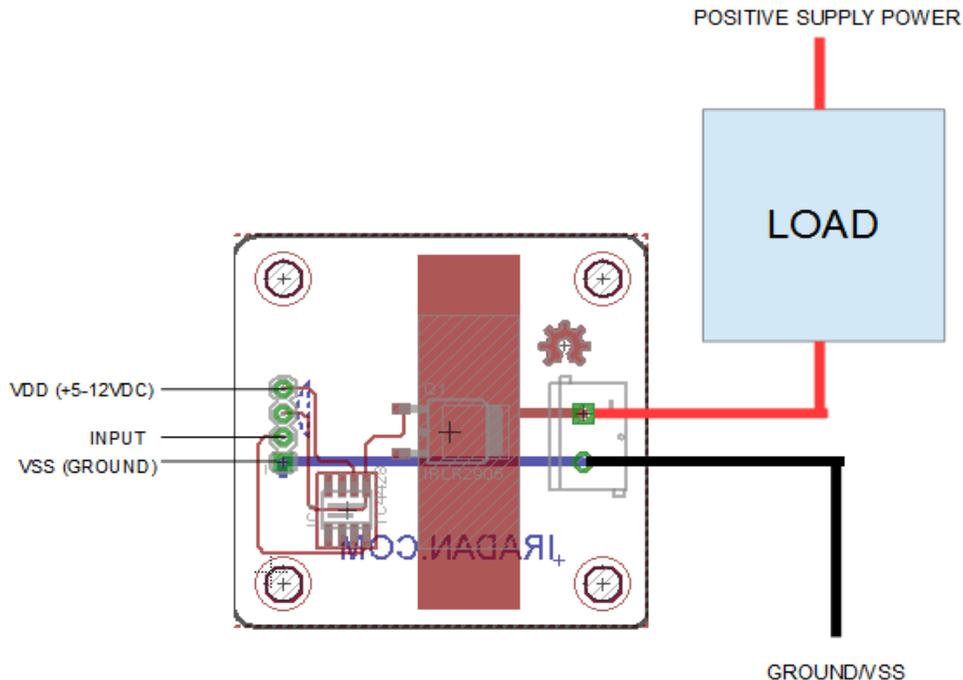
WARNING: MOSFETs are static sensitive devices: Take every precaution to protect it from damage.

The basic MOSFET with driver board comes with:

The board with MOSFET, driver, and heat sink mounted
2.54mm (.1 inch) four position connector
5mm (.2 inch) two position load connector and mail snap-in plug
40Mm x 40mm 12 VDC fan

Some soldering is required

EXAMPLE:



This board was designed for low side switching. The two position connector connected to MOSFET terminals will interrupt the power to the load acting like a switch. You can interrupt power to the load in the range of kilohertz to generate a Pulse Width Frequency (PWM) drive of your load.

WARNING: If you are driving an inductive load such as a DC motor or electromagnet you should use a clamping diode (also known as a flyback diode). This will prevent excessive voltage spikes from damaging the MOSFET. A clamping diode must be placed with the “negative” side of the PN junction connected to the positive terminal of the motor and “positive” side of the diode to the negative terminal of the motor.

CONNECTIONS:

Four position connector:

VDD (5-12 VDC): This is the power to supply the MOSFET driver IC. The Microchip TC4428 has a wide voltage range but requires at least 5V supply. See the specification sheet for exact range.

GATE: This input is not required and is used to monitor the MOSFET gate is desired. This connection can be used as in input if you wish to cut the trace to the driver chip.

INPUT: This is the non-inverting input to the driver IC.

VSS/GROUND: This pin is connected to your negative side of your supply. It's physically connected to the SOURCE pin of the MOSFET. You will have to cut a trace if you want to insert a shunt resistor for measuring current.

Two position load connector:

If you're looking at the bottom of the board with the domain name right side up (connector is on the left side of the board). The pin closest to the domain name is ground. The upper pin goes to your load.