

# MOSFET Power Control Modules

DT Workshop Equipment Reference — D&T / STEM resource for school workshops | Electronics & Prototyping

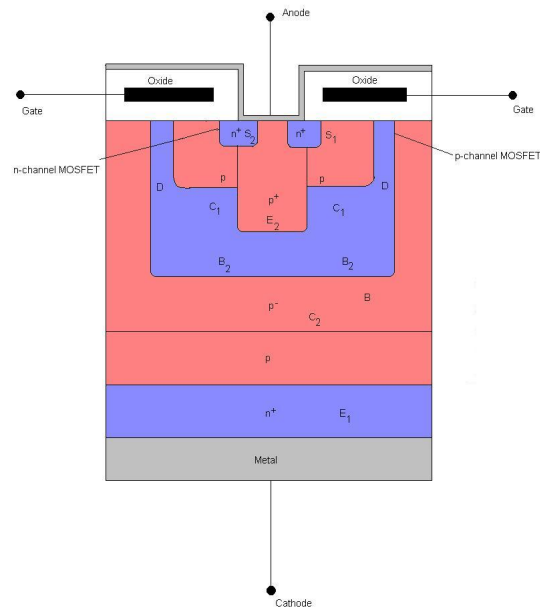


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MOSFET modules switch high currents and voltages with a low-signal input, using a logic-level gate to turn motors, LEDs, heaters and solenoids on and off. The IRF520 and similar modules add power switching to any project.

## Key Features

- IRF520 and logic-level MOSFETs
- Gate input from 3.3-5 V
- Switch currents to 5-10 A
- Screw terminals on modules
- Flyback diodes on some boards

## Typical Uses in the Workshop

- Switch motors and pumps by PWM
- Drive high-power LEDs and heaters
- Control solenoids and valves
- PWM speed control of motors

## Safe Operation

1. Wire the load in series with the module
2. Connect the gate to the microcontroller
3. Use the ground common carefully
4. Drive the gate with PWM for speed
5. Add a flyback diode for inductive loads

## SAFETY NOTES

- MOSFETs can fail short - fuse your loads
- Keep the heatsink fitted
- Do not exceed the module rating
- Check the load voltage matches
- Mount away from moisture

#### Maintenance & Consumables

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- Check the heatsink contact
- Verify the gate threshold with a meter
- Keep terminals tight
- Replace failed modules
- Store in antistatic bags

#### Specification & Buying Notes

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Logic-level MOSFET modules with screw terminals and a heatsink suit school power switching. Quality modules switch cleanly; cheap ones heat and latch. Buy flyback diodes with them.