

Voltage Regulators (7805, 7812)

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

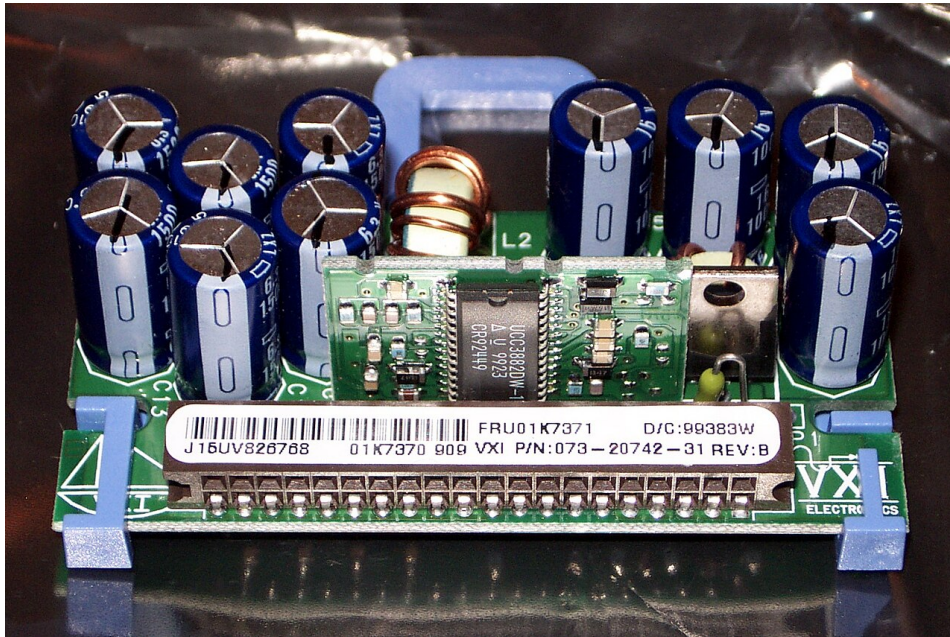


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78xx voltage regulators deliver fixed output voltages - 5 V for the 7805, 12 V for the 7812 - from a higher unregulated supply, with simple three-pin wiring and built-in protection. They power logic, sensors and modules cleanly.

Key Features

- Fixed outputs: 5, 9, 12 V
- 1 A output with heatsink
- 3-pin TO-220 packages
- Built-in thermal and short protection
- Input-output dropout 2 V

Typical Uses in the Workshop

- Regulate supplies for digital circuits
- Derive 5 V for microcontrollers
- Power sensors and modules from one rail
- Stabilise bench power

Safe Operation

1. Check the input is 2 V above the output
2. Wire input, ground and output correctly
3. Add input and output capacitors
4. Mount on a heatsink for current
5. Verify the output with a meter

SAFETY NOTES

- Check the input polarity
- Do not feed the output from a higher source
- Mount the tab and heatsink clear of shorts
- Do not exceed the current rating
- Keep away from moisture

Maintenance & Consumables

- Check the heatsink contact
- Verify the output voltage
- Clean dust from the body
- Replace overheated regulators
- Keep the TO-220 mounting kits

Specification & Buying Notes

7805 regulators in TO-220 with heatsinks covers most school supplies, 7812 for motor rails. Quality regulators hold voltage; counterfeit devices drop and heat.