
Relay Board

BV402



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Product specification and build instructions

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This is a very simple circuit using PNP transistors to provide sufficient current gain for the relays. At rest and aided by the 100k pull-up resistors the transistors are off and thus no current passes through the relays.

Power to the transistors and thus the relay coils is provided through a low pass filter comprising R1 and C1. This helps to smooth out any spikes that may occur in the power supply when the relays switch on and off enabling the board to be connected to a microcontroller power supply via pins 3 & 4 of K1.

Diodes D1 and D2 protected the transistors from any EMF generated by the relay coils at switch off.

R3 & R5 2K7
 C1 10 uF Electrolytic 16V
 Y1 & Y2 SPDT 6V, 5A 250V relays
 K1 4 way polarised PCB connector
 K2 & K3 3 way PCB screw terminals
 BV402 PCB

<H:\Zed\ASCII-Me\2006-documents\sub-Appendix A-build instructions.doc>

5. Testing

Connect the VCC and ground lines to a 5V power supply. Short pins 1 and 2 of K1 in turn to ground and listen for the relay to click. If this does not happen then double check the orientation of the diodes, transistors and the electrolytic capacitor. Also check that the correct resistor has been used for R1. This should have a brown, green black colour code.

6. Operating Note

The relay is capable of switching high voltages. It is not recommended that you use high voltages if you do not know what you are doing. Mains voltage can and does kill.

7. Parts List

D1 & D2 1N4002/4
 Q1 & Q2 BC557
 R1 15R
 R2 & R4 100K

