

# Sparkfun Beefcake Relay Control

## Flyback Arrestor --

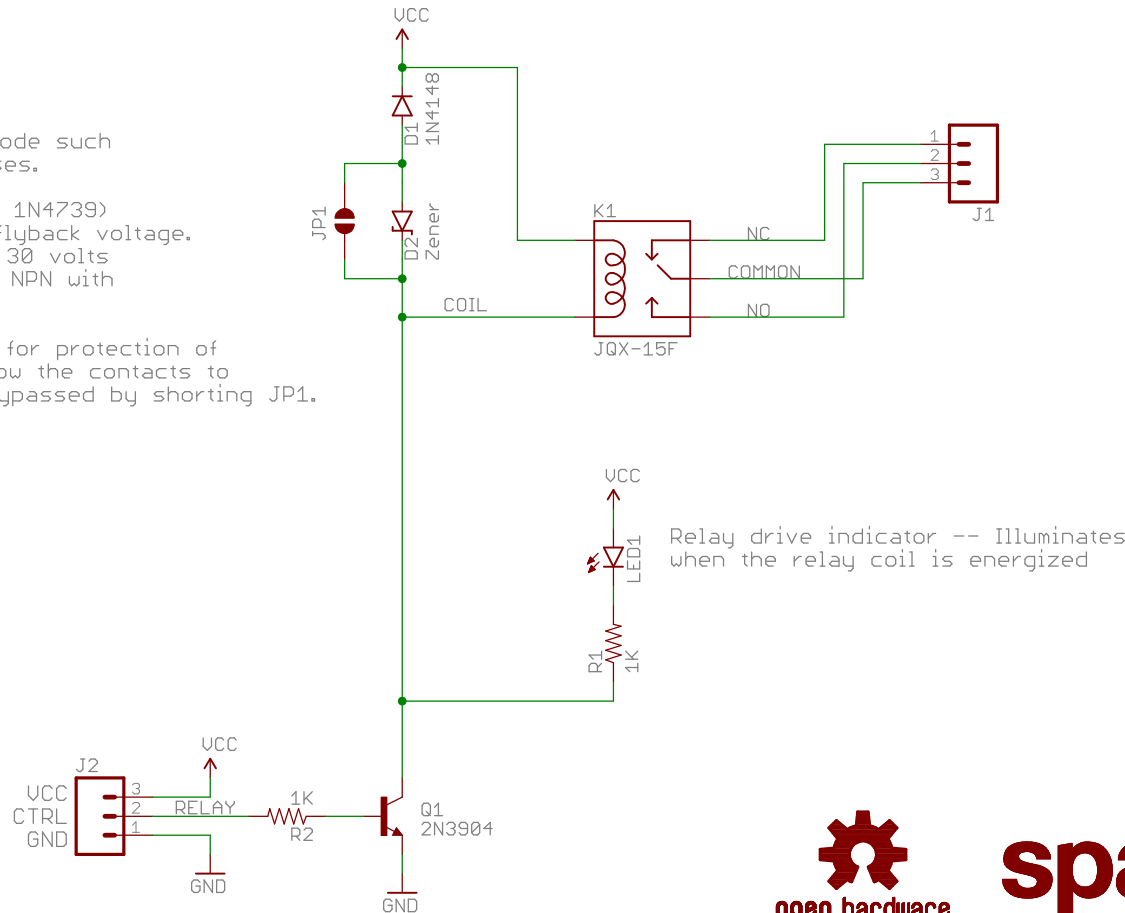
Place D1 with a normal diode such as the 1N4148 for all cases.

Use a zener (such as the 1N4739) at D2 to allow a certain flyback voltage. Keep  $V_{cc} + V_{zener}$  under 30 volts (Breakdown voltage of the NPN with a 10v margin)

The zener is not critical for protection of the circuit, but helps allow the contacts to open faster. It can be bypassed by shorting JP1.

VCC requirements:  
4-6V  
150mA

CTRL requirements:  
Relay on above 2.6V  
Relay off below 0.9V  
5mA



Relay drive indicator -- Illuminates when the relay coil is energized

## CAUTION!

To maintain 250VAC/UDC galvanic isolation, use non-conductive standoffs and 4-40 HW with a head diameter no greater than 0.21 inch.

If metal standoffs are required, or mounting to a conductive chassis, standoff diameter must be less than 0.21 inch.



Released under the Creative Commons Attribution Share-Alike 4.0 License <a href="https://creativecommons.org/licenses/by-sa/4.0/">https://creativecommons.org/licenses/by-sa/4.0/</a> ○○○○	
TITLE: SparkFun_Beefcake_Relay_Control_Kit	
Design by: N. Seidle, M Taylor, SparkFun Electronics	REV: v20
Date: 6/2/2016 12:35 PM	Sheet: 1/1