Driver stage for one relay

Vdd is the raw DC supply voltage.
This is not the ethernet board
internal 3.3V voltage.

Vdd

1N4148

to relay

Cx 100uF

100nF

1K to 10K

Rx
about 33 Ohm

1

2

to microcontroller (PIN: PD7 or PD6
or PD5 or PD4 ...)

1K

NPN small signal transistor
BC238, BC547,...
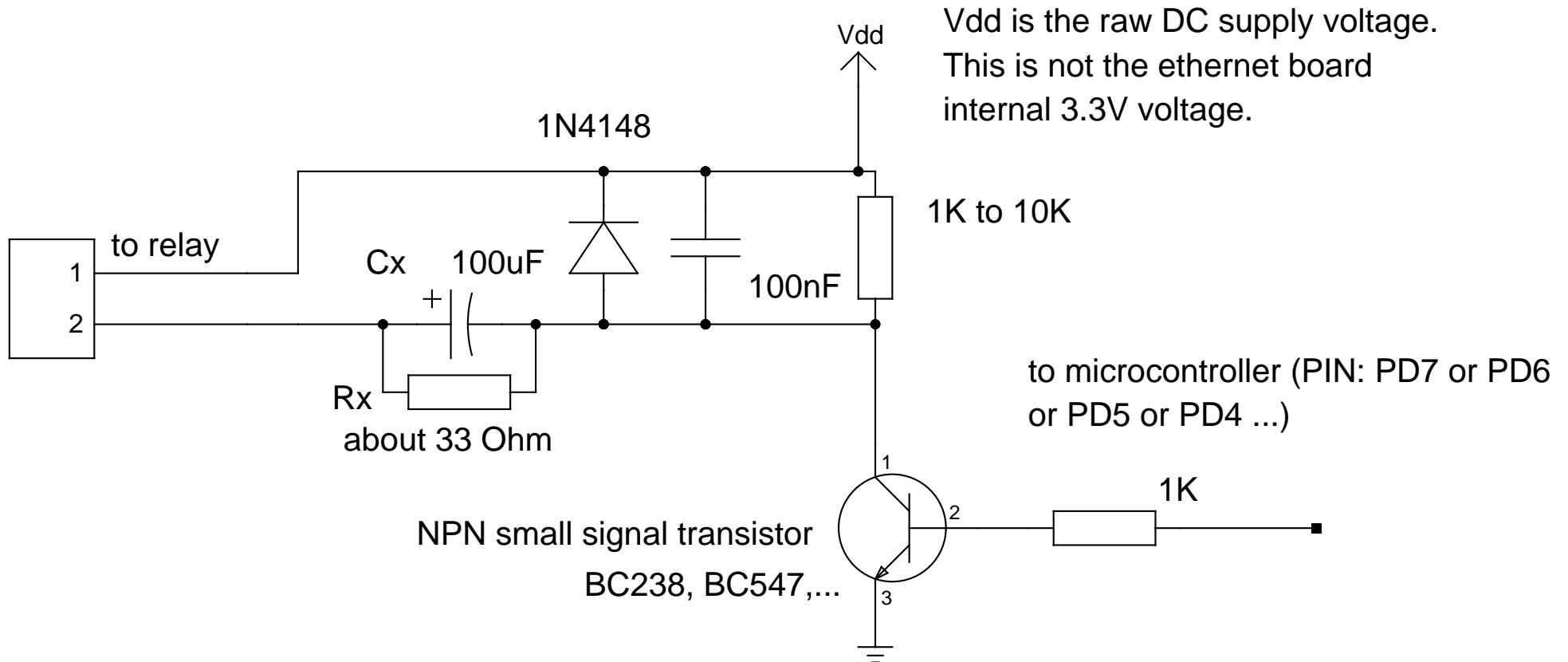
1

2

3

Cx and Rx are optional. They reduce the power consumption of the relay
by a few milliampre. The exact value of Rx depends on the type of
relay. Comon values are 22−68 Ohm. This circuit works because relays
need a higher current when they switch and the current can be reduced
when the contact just needs to be held.

Please keep the relay physically separated from the ethernet board
[at least 1inch, 2.5cm] as it could cause electromagnetic interference.