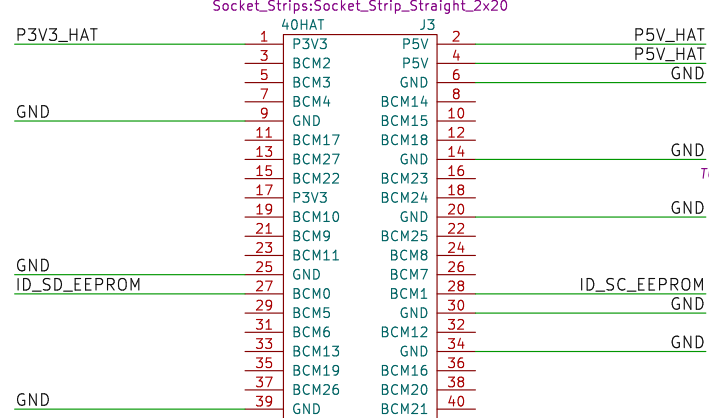


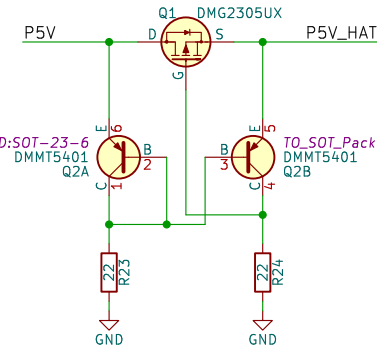
This is based on the official Raspberry Pi spec to be able to call an extension board a HAT.  
<https://github.com/raspberrypi/hats/blob/master/designguide.md>

## 40-Pin HAT Connector



## 5V Powered HAT Protection

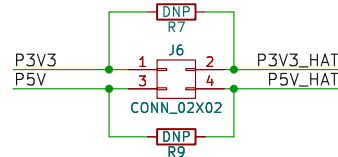
This is the recommended 5V rail protection for a HAT with power going to the Pi.  
See <https://github.com/raspberrypi/hats/blob/master/designguide.md#back-powering-the-pi-via-the-j8-gpio-header>



HAT spec indicates to NEVER power the 3.3V pins on the Raspberry Pi from the HAT header. Only connect the 3.3V power from the Pi if the HAT does not have 3.3V on board.

IF you are designing a board that could either be powered by the Pi or from the HAT the jumpers here can be used.

### FLEXIBLE POWER SELECTION

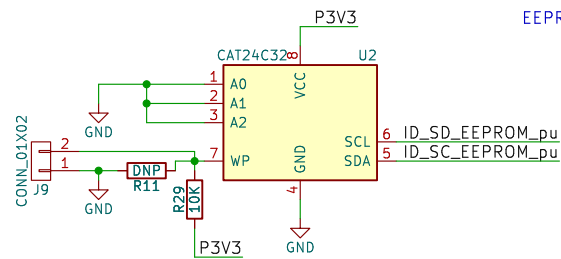


In most cases, either design the HAT to provide the 5V to the Pi and use the protection circuit above OR power the HAT from the Pi and directly connect the P3V3 and P5V to the P3V3\_HAT and P5V\_HAT pins.

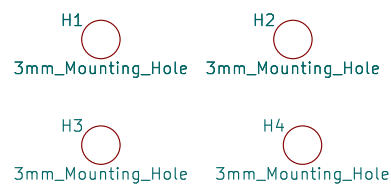
## HAT EEPROM

The HAT spec requires this EEPROM with system information to be in place in order to be called a HAT. It should be set up as write protected (WP pin held high), so it may be desirable to either put a jumper as shown to enable writing, or to hook up a spare IO pin to do so.

EEPROM WRITE ENABLE



## Mounting Holes



## Pullup Resistors

These are just pullup resistors for the I2C bus on the EEPROM. The resistor values are per the HAT spec.

