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

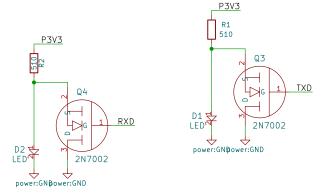
40-Pin HAT Connector

	raspberry	ni hat:OX	40HAT J1		
P3V3	1	P3V3	P5V	2	P5V
SDA	3	BCM2	P5V	4	P5V
SCL	5	BCM3	GND	6	GND
Р7	7	BCM4	BCM14	8	TXD
GND	9	GND	BCM15	10	RXD
P0 P2 P3	11	BCM17	BCM13	12	P1
P2	13	BCM17	GND	14	GND
Р3	15	BCM27	BCM23	16	P4
P3V3	17	P3V3	BCM23	18	P5
MOSI	19	BCM10	GND	20	GND
MISO	21	BCM10	BCM25	22	P6
SCLK	23	BCM11	BCM25	24	CE0
GND	25	GND	BCM0 BCM7	26	CE1
	× 27	BCM0	BCM7 BCM1	28 ×	
TXD_2	^ 29	BCM5	GND	30 ^	GND
	V 31	BCM5	BCM12	32 ×	
	×31 ×33 ×35 ×37	BCM6 BCM13	GND	34 ^	GND
	<u> </u>			36 ×	
	2.37	BCM19	BCM16	38 🗘	
GND	× 37	BCM26	BCM20	40 ×	
5.70	- 37	GND	BCM21	 '`` X	

5V Powered HAT Protection

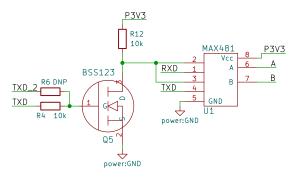
This is the recommended 5V rail protection for a HAT with power going to the Pi.

See https://github.com/raspberrypi/hats/blob/master/designguide.md#back-powering-the-pi-via-the-j8-gpio-header

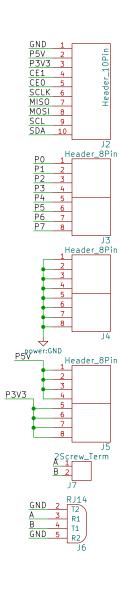


Mounting Holes









Sheet: / File: Pi-Hat.sch Title: Raspberry Pi HAT Size: A3 Date: KiCad E.D.A. eeschema 6.0.2+dfsg-1