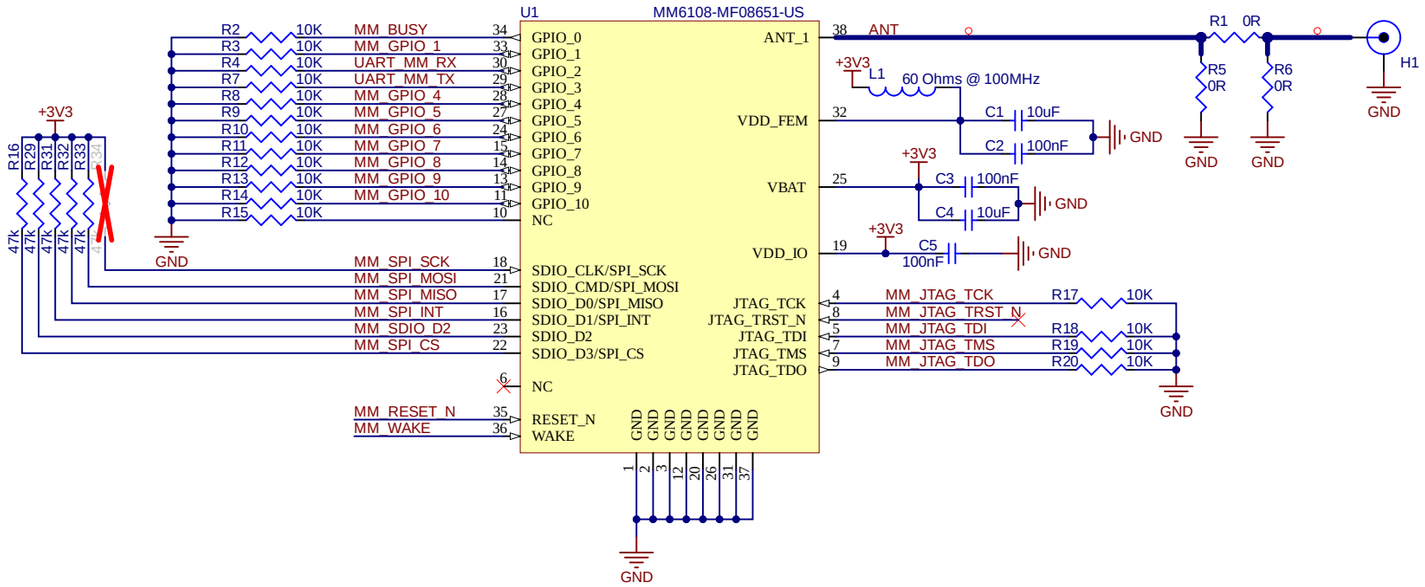
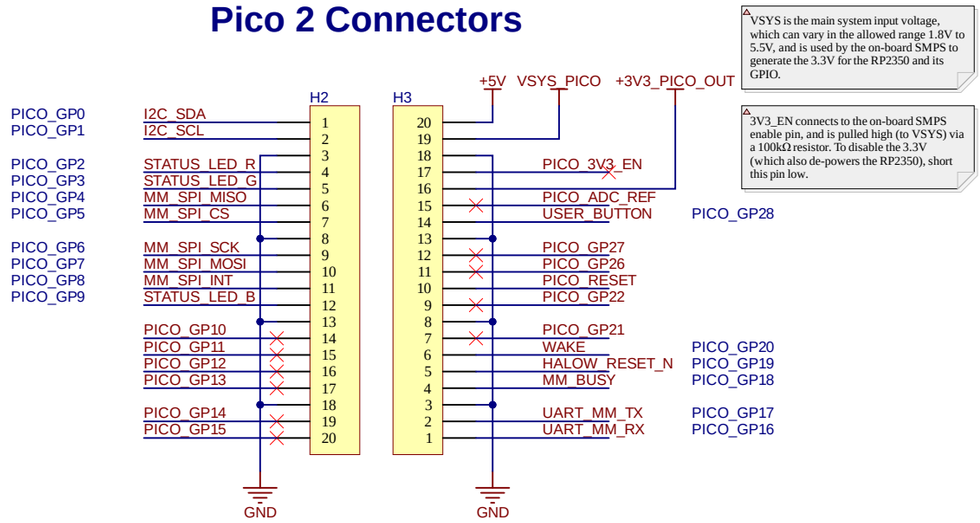
HaLow Module



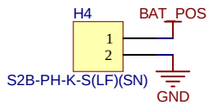
Pico 2 Connectors



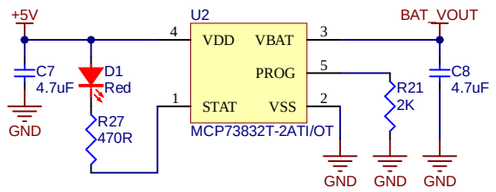
VSYS is the main system input voltage, which can vary in the allowed range 1.8V to 5.5V, and is used by the on-board SMPS to generate the 3.3V for the RP2350 and its GPIO.

3V3_EN connects to the on-board SMPS enable pin, and is pulled high (to VSYS) via a 100kΩ resistor. To disable the 3.3V (which also de-powers the RP2350), short this pin low.

Battery Connector

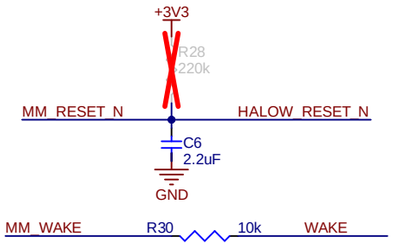


Battery Charging IC

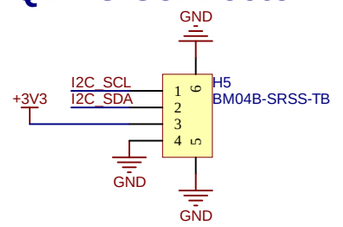


Power Indication

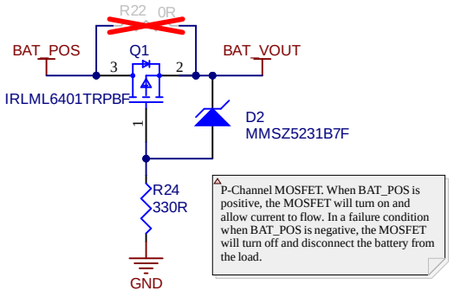
HaLow To Pico Connections



QWIIC Connector

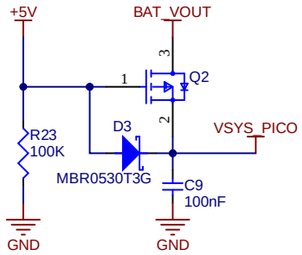


Battery Reverse Polarity Protection



P-Channel MOSFET. When BAT_POS is positive, the MOSFET will turn on and allow current to flow. In a failure condition when BAT_POS is negative, the MOSFET will turn off and disconnect the battery from the load.

Load Sharing Circuit

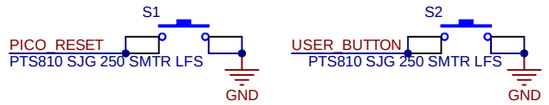


P-Channel MOSFET. When 5V is supplied, Q2 will turn off and disconnect the battery from the load. When 5V is not supplied, Q2 will turn on and connect the battery to the load. Should use a MOSFET with a low R_ds to minimise power loss.

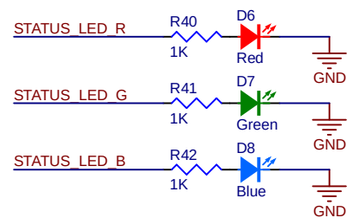
Schottky Diode prevents current flowing from the battery into the 5V source. Need to choose part carefully with low reverse leakage current.

Current Measurement

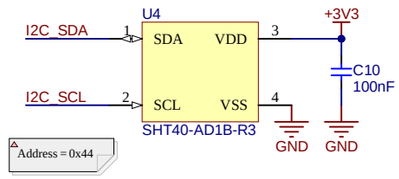
Reset and User Button



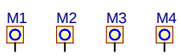
User LEDs



Temperature/Humidity Sensor



Mounting Holes



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Size: A3	Number:	Revision: 1.0
Date: 12/05/2024		Sheet 1 of 2
File: C:\Users\..\pico2hat_halow.SchDoc		Drawn By: J. Garnier

Revision History	
1.0	- First release.

Title: Revision History		
Size: A4	Number:	Revision: 1.0
Date: 12/05/2024		Sheet 2 of 2
File: C:\Users\..\Revision_History.SchDoc		Drawn By: J. Garnier