EXPANSION PORT
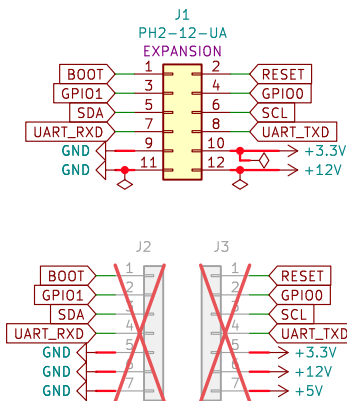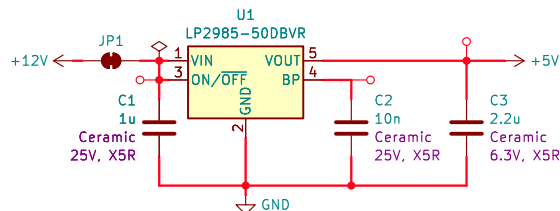
Header for accessories and factory programming
- GPIO0 and GPIO1 are free to be used for any purpose
- UART_RXD and UART_TXD provide the serial port
- SCL and SDA provide the I2C bus (QWIIC)
- RESET and BOOT are wired in parallel with their
  corresponding buttons (active when tied to ground)
- 12 V supply is unregulated, 1 A current available
- 5 V supply is regulated, 150 mA current available
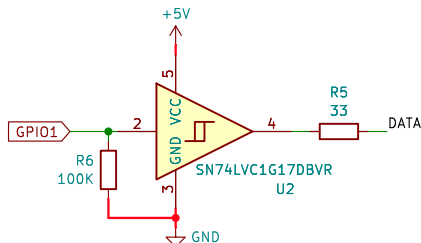- 3.3 V supply is regulated, 600 mA current available

J1
PH2-12-UA
EXPANSION

BOOT	1 · · 2	RESET
GPIO1	3 · · 4	GPIO0
SDA	5 · · 6	SCL
UART_RXD	7 · · 8	UART_TXD
GND	9 · · 10	+3.3V
GND	11 · · 12	+12V

J2

BOOT	1
GPIO1	2
SDA	3
UART_RXD	4
GND	5
GND	6
GND	7

J3

RESET	1
GPIO0	2
SCL	3
UART_TXD	4
+3.3V	5
+12V	6
+5V	7

5 V POWER SUPPLY

Supplies 150 mA, ultra low quiescent current (microamps)

JP1

U1
LP2985-50DBVR

+12V → 1 VIN VOUT 5 → +5V
3 ON/OFF BP 4
2 GND

C1
1u
Ceramic
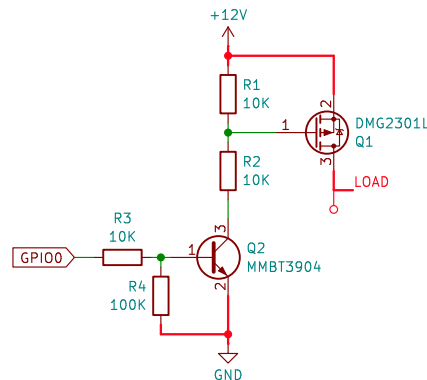25V, X5R

C2
10n
Ceramic
25V, X5R

C3
2.2u
Ceramic
6.3V, X5R

GND

5 V level shifter

The driver can supply up to 32 mA at 5 V
33 ohm resistor reduces signal reflections and protects the output

+5V

GPIO1 → 2

U2
SN74LVC1G17DBVR
5 VCC
GND 3

R6
100K

4 → R5
33 → DATA

GND

High side P-Channel MOSFET for resistive load up to 1 A

Suitable for PWM switching at low frequencies (< 1 KHz)

+12V

R1
10K

DMG2301L
Q1

R2
10K

LOAD

R3
10K

GPIO0 →

Q2
MMBT3904

R4
100K

GND

Output connector for load and data

Suitable for dimmable LED light or addressable LED strip

LOAD — 3
DATA — 2
GND — 1

J4
B3B-XH-A
LIGHT