

8.2.2.2 Setting the Output Voltage

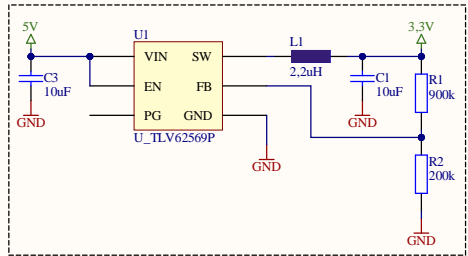
An external resistor divider is used to set output voltage according to Equation 2.

When sizing R2, in order to achieve low current consumption and acceptable noise sensitivity, use a maximum of 200 kΩ for R2. Larger currents through R2 improve noise sensitivity and output voltage accuracy but increase current consumption.

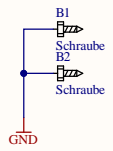
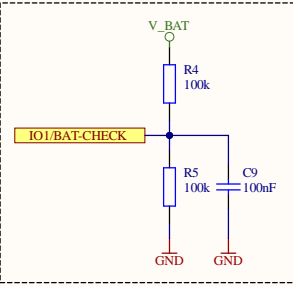
$$V_{OUT} = V_{FB} \times \left(1 + \frac{R1}{R2}\right) = 0.6V \times \left(1 + \frac{R1}{R2}\right) \quad \begin{matrix} V_{OUT} = 3.3V & R2 = 200k \\ V_{FB} = 0.6V & R1 = 900k \end{matrix} \quad (2)$$

A feed forward capacitor, C3 improves the loop bandwidth to make a fast transient response (shown in Figure 19). 6.8-pF capacitance is recommended for R2 of 100-kΩ resistance. A more detailed discussion on the optimization for stability vs. transient response can be found in SLVA289.

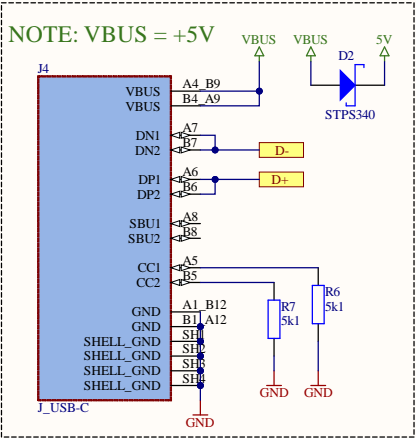
DC-DC Converter



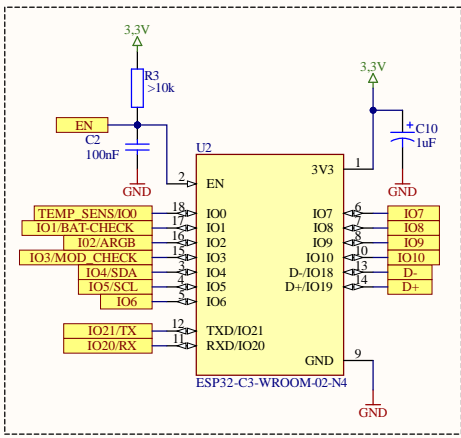
Battery Monitoring



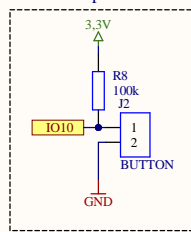
USB-C Connector



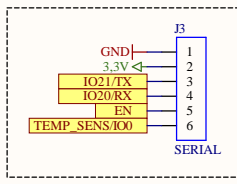
Microcontroller



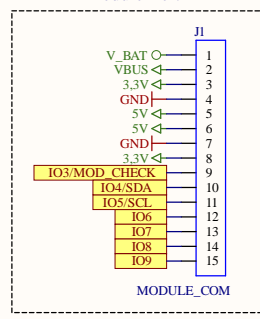
Input



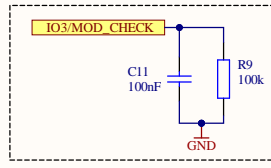
Serial-Connection



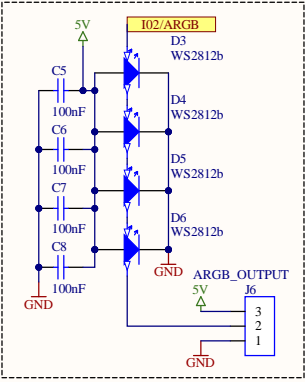
Module-Port



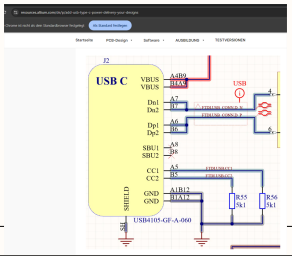
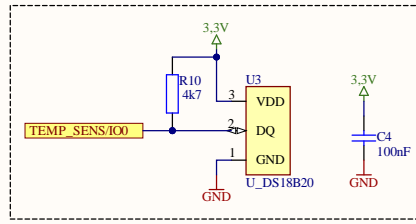
Module-Detection



ARGB-Leds



Temperatur Sensor



04.09.2024

Title			Revision		
NODE			V2.2		
Size	Number				
A4					
Date:	3.22.2025		Sheet of		
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30 (mm)

70 (mm)

