Table 8-1. ILIM and VBATREG Resistor Map

RESISTOR (kOhm)	CURRENT LIMIT	V_{BATREG} (V)	V_{LOWV} (V)
> 180	Charge Diabled, ILIM 500		
130	ILIM500	4.1	3.0
100	ILIM1100		
75	ILIM500	4.4	
56	ILIM1100		
43	ILIM500	4.35	
33	ILIM1100		
24	ILIM100	4.2	
18	ILIM500		
13	ILIM1100		
9.1	ILIM500	4.05	
6.8	ILIM1100		
5.1	ILIM1100	3.65	2.0
3.6	ILIM500	3.6	
2.4	ILIM1100		
<1.5	Battery Only Mode		

8.3.7 Protection Mechanisms

8.1.1.4 ISET Pin Detection

After valid VIN is plugged in and $\overline{CE}$ pin is pulled LOW, the device checks the resistor on the ISET pin for shortcircuit ($R_{ISET} < R_{ISET\_SHORT}$). If the condition is detected, charger remains in the FAULT state until the input or $\overline{CE}$ pin are toggled. If the ISET pin is open-circuit, the charger will charge with very low charging current in the order of 1.5 mA. This pin is monitored while charging, and changes in R_{ISET} while the charger is operating will immediately translate to changes in charge current. An external pull-down resistor (±1% or better recommended to minimize charge current error) from ISET pin to GND sets the charge current as:

$$I_{CHG} = (K_{ISET}) / (R_{ISET}) \quad (1)$$

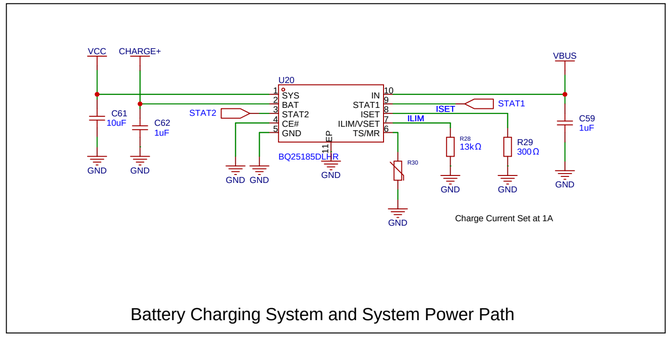
- I_{CHG} is the desired fast charge current
- K_{ISET} is a gain factor found in the electrical specification (typically 300 AΩ)
- R_{ISET} is the pull-down resistor from ISET pin to GND

For charge currents below 50 mA, an extra RC circuit using a 50 pF capacitance is recommended on ISET to achieve more stable current signal. The ISET pin can also be used to monitor device current when the device is not in ICHG regulation. The voltage on the ISET pin is proportional to the device charging current. To measure the charge current when the device is charging, the following formula can be used:

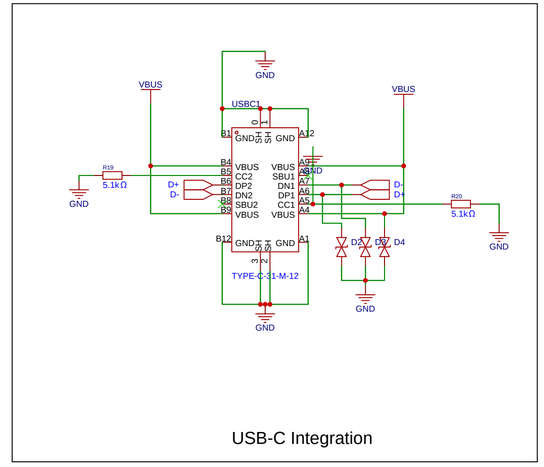
$$I_{CHG}=(K_{ISET}\ V_{ISET}) / (R_{ISET}) \quad (2)$$

- V_{ISET} is the measured voltage at the ISET pin in volts.
- I_{CHG} is the calculated measured charge current

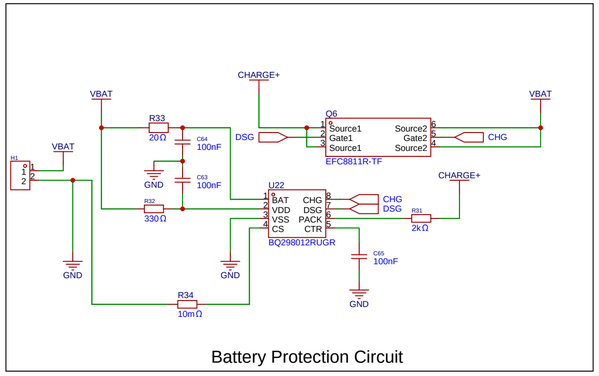
Battery Connector



Battery Charging System and System Power Path



USB-C Integration



Battery Protection Circuit

Schematic	Schematic1	Update Date	2024-06-25
		Create Date	2024-04-15
Page	Battery Charging System.Schematic1	Part Number	JLCPCB-001
Drawed	EasyEDA Pro	Wireless Charger Transmitter Circuit Reuben	
Reviewed	EasyEDA Pro		
		VER / SIZE / PAGE 3 OF 4	
EasyEDA	V0.1 / A3	EasyEDA.com	