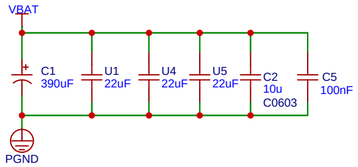
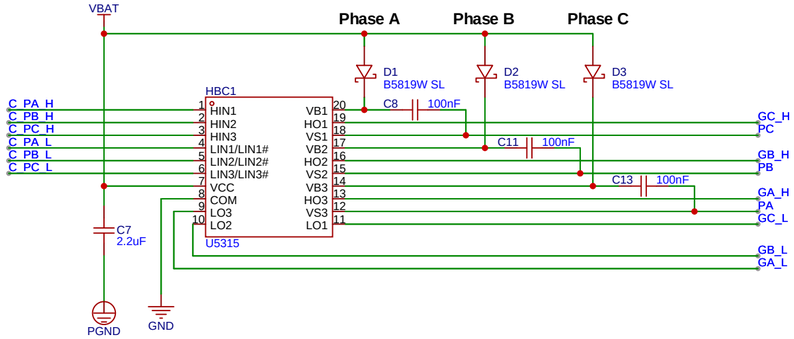
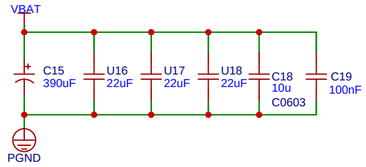
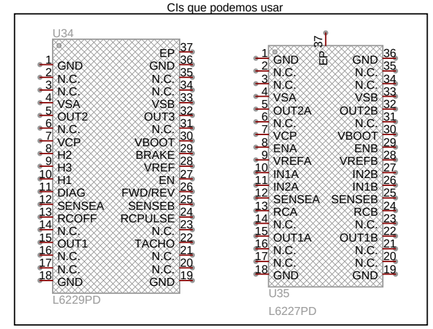
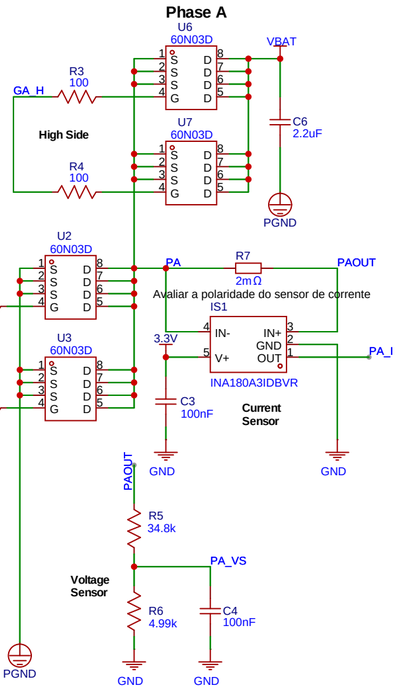
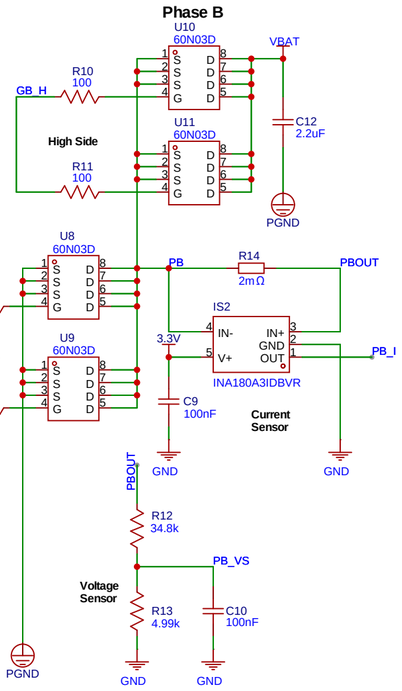


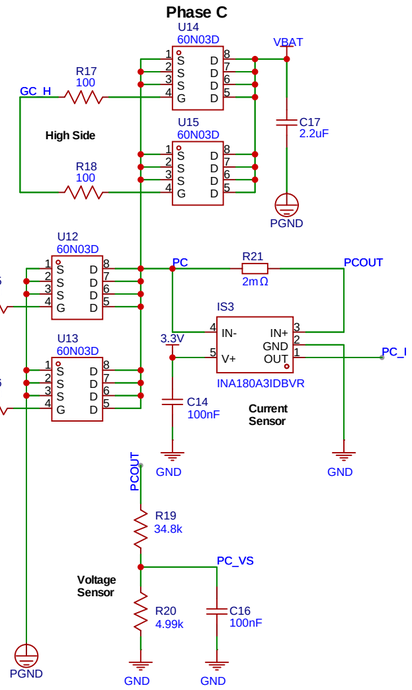


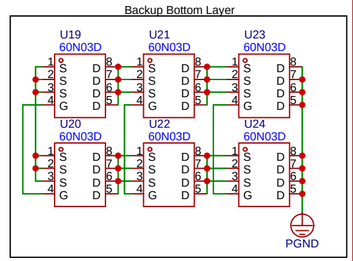


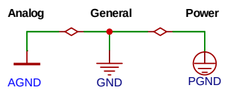






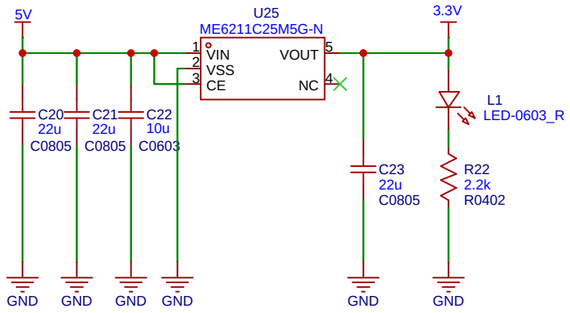




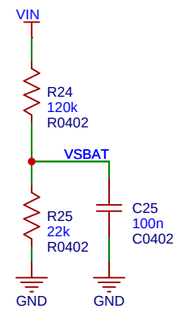


Schematic	UsingHalfBridgeController	Update Date	2025-01-26
		Create Date	2024-12-06
Page	Power	Part Number	JLCPCB-002
Drawn	EasyEDA	BLDC Driver_2025	
Reviewed	EasyEDA		
		VER / SIZE / PAGE 1 OF 3	
EasyEDA		V0.1 / A3	iOsnaaente

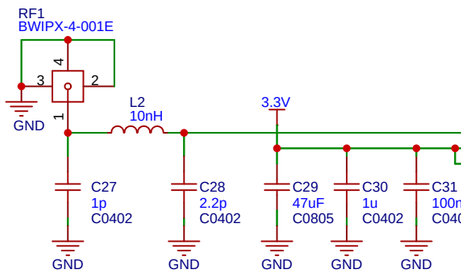
Regulador de tensão - LDO SOT89-3
Vin: 5V-18V Vout: 3.3V



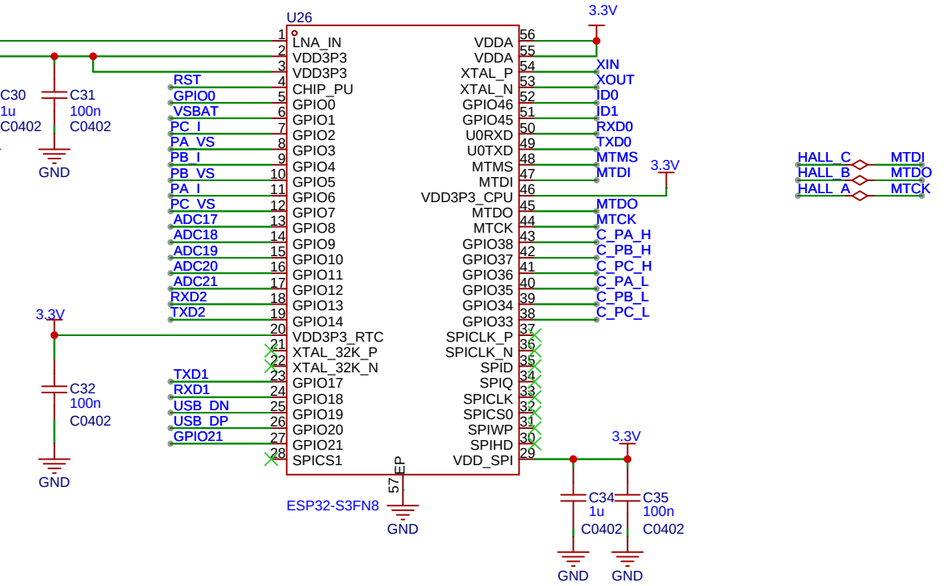
Medição de VBat



Antena



ESP32 S3



HALL_C MTDI
HALL_B MTDO
HALL_A MTCK

Table 2-11. Chip Boot Mode Control

Boot Mode	GPIO0	GPIO46
Default Configuration	1 (Pull-up)	0 (Pull-down)
SPI Boot (default)	1	Any value
Joint Download Boot[1]	0	0

[1] Joint Download Boot mode supports the following download methods:

- USB Download Boot:
  - USB-Serial-JTAG Download Boot
  - USB-OTG Download Boot
- UART Download Boot

Push buttons

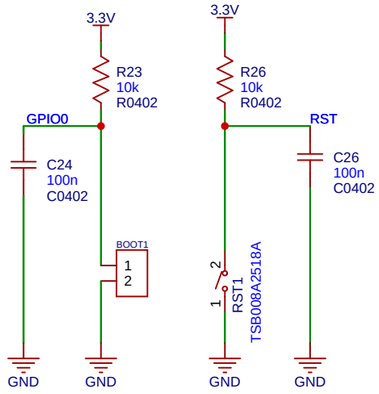
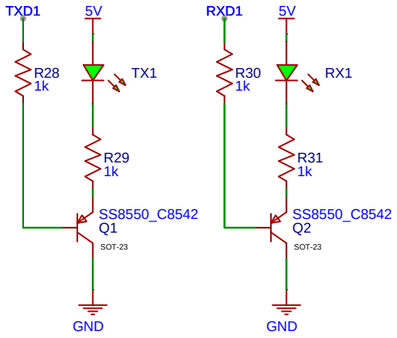


Table 39-6. SAR ADC Input Signals

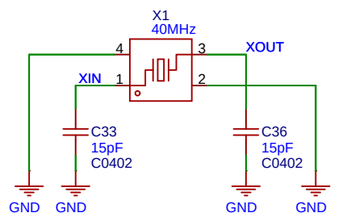
Pin/Signal	Channel	ADC Selection
GPIO1	0	SAR ADC1
GPIO2	1	
GPIO3	2	
GPIO4	3	
GPIO5	4	
GPIO6	5	
GPIO7	6	
GPIO8	7	
GPIO9	8	
GPIO10	9	
GPIO11	0	SAR ADC2
GPIO12	1	
GPIO13	2	
GPIO14	3	
GPIO15	4	
GPIO16	5	
GPIO17	6	
GPIO18	7	
GPIO19	8	
GPIO20	9	
Internal voltage	n/a	

Leds ESP

Leds UART



Clock 40MHz



2.6 Strapping Pins

At each startup or reset, a chip requires some initial configuration parameters, such as in which boot mode to load the chip, voltage of flash memory, etc. These parameters are passed over via the strapping pins. After reset, the strapping pins operate as regular IO pins.

The parameters controlled by the given strapping pins at chip reset are as follows:

- **Chip boot mode** – GPIO0 and GPIO46
- **VDD_SPI voltage** – GPIO45
- **ROM messages printing** – GPIO46
- **JTAG signal source** – GPIO3

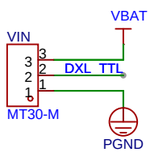
GPIO0, GPIO45, and GPIO46 are connected to the chip's internal weak pull-up/pull-down resistors at chip reset. These resistors determine the default bit values of the strapping pins. Also, these resistors determine the bit values if the strapping pins are connected to an external high-impedance circuit.

Table 2-9. Default Configuration of Strapping Pins

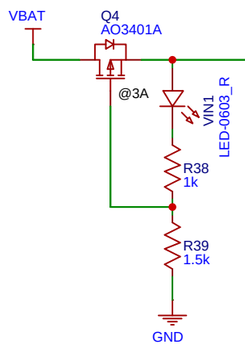
Strapping Pin	Default Configuration	Bit Value
GPIO0	Pull-up	1
GPIO3	Floating	–
GPIO45	Pull-down	0
GPIO46	Pull-down	0

Schematic	UsingHalfBridgeController	Update Date	2024-12-16
		Create Date	2024-12-07
Page	Microcontroller	Part Number	JLCPCB-002
Drawn	EasyEDA	BLDC Driver_2025	
Reviewed	EasyEDA		
		VER / SIZE / PAGE 2 OF 3	
EasyEDA		V0.1 / A3	iOsnaaente

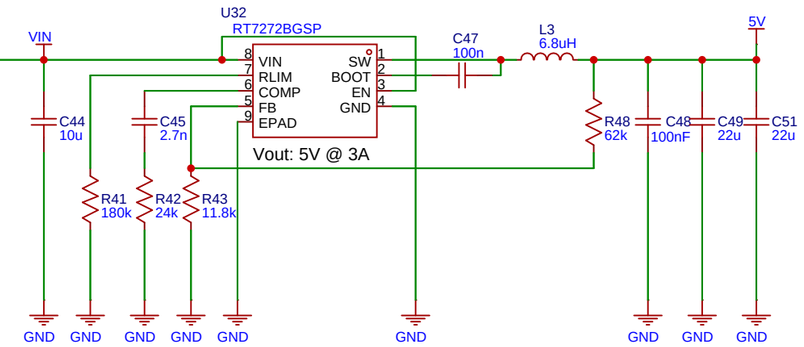
Conector de bateria



Proteção contra inversão de polaridade



Regulador de tensão - Buck
Vin: 4.5/36V



Typical Application Circuit

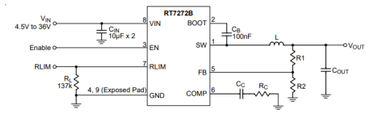
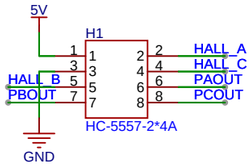
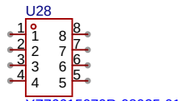
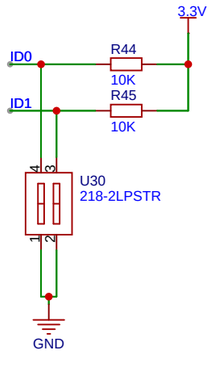


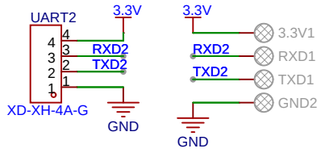
Table 1. Suggested Component Values

V_{OUT} (V)	R1 (kΩ)	R2 (kΩ)	R_C (kΩ)	L (µH)	C_C (nF)	C_{OUT} (µF)
12	47	3.35	47	10	2.7	22 x 2
8	27	3	36	8.2	2.7	22 x 2
5	62	11.8	24	6.8	2.7	22 x 2
3.3	75	24	16	4.7	2.7	22 x 2
2.5	25.5	12	12	3.6	2.7	22 x 2
1.2	30	60	6.8	2.2	2.7	22 x 2

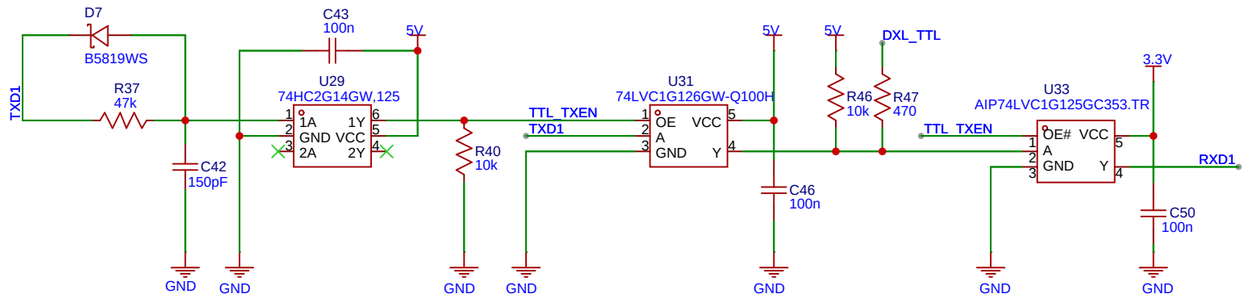




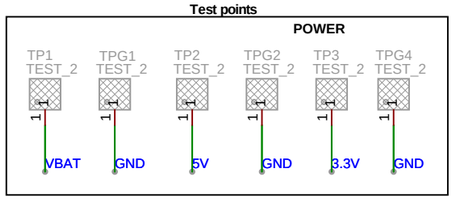




Conversor TTL



Test points



Schematic	UsingHalfBridgeController	Update Date	2024-12-16
		Create Date	2024-12-07
Page	Connectors	Part Number	JLCPCB-002
Drawn	EasyEDA	BLDC Driver_2025	
Reviewed	EasyEDA		
		VER / SIZE / PAGE 3 OF 3	
EasyEDA		V0.1 / A3	iOsnaaente