MOBIL ROBOT GARIS v0.1

ESP32-S3-WROOM-1-N8 · DRV8833 2 motor · 5 x ITR8307 · TP4056 + DW01A + FS8205A · LiPo 1S · USB-C

Dibangkitkan oleh gen_sch.py.

Mobil robot garis



File: mobil-robot-garis-papan.kicad_sch

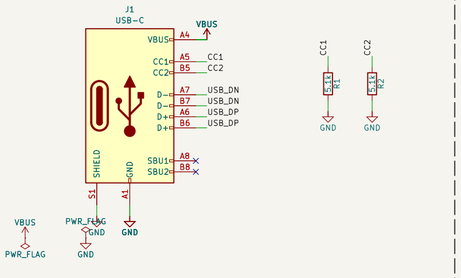
Contoh rancang.in: ESP32-S3 + DRV8833 + 5 sensor garis + LiPo 1S, papan bentuk mobil

rancang.in

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File: mobil-robot-garis.kicad_sch		
Title: MOBIL ROBOT GARIS v0.1		
Size: A3	Date: 2026-10-28	**Rev: 0.1**
KiCad E.D.A. 10.0.8		Id: 1/2

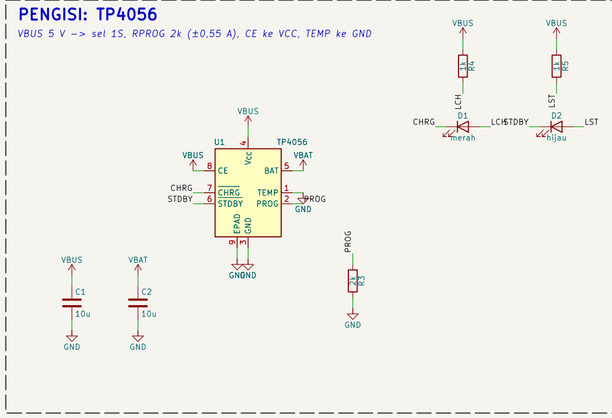
USB-C 5 V + DATA

HRO TYPE-C-31-M-12: pengisian TP4056 dan USB-Serial-JTAG ESP32-S3



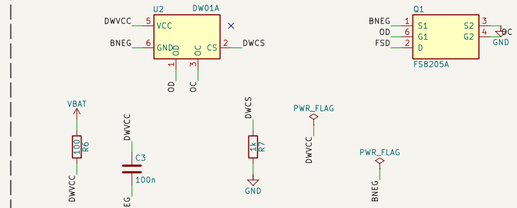
PENGISI: TP4056

VBUS 5 V -> sel 1S, RPROG 2k (±0,55 A), CE ke VCC, TEMP ke GND



PROTEKSI SEL: DW01A + FS8205A

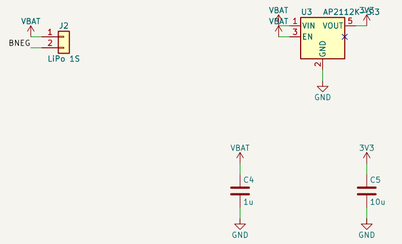
OD/OC ke G1/G2; GND sistem = P−; B− hanya lewat FS8205A



TD (pin 4) dibiarkan terbuka (UNVERIFIED: dibaca dari referensi umum, bukan dari datasheet DW01A).

BATERAI + 3V3: AP2112K

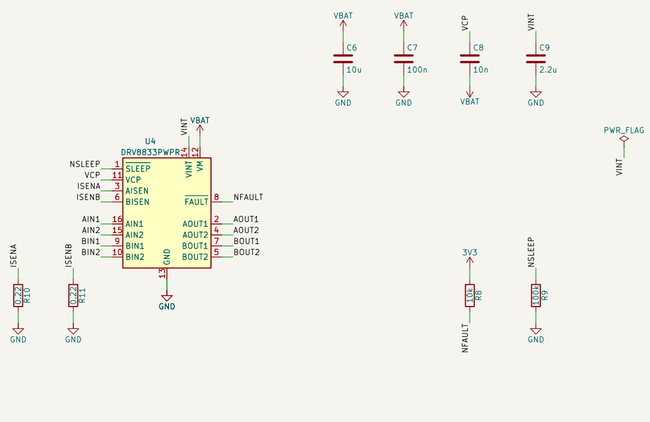
LiPo 1S (3,0–4,2 V) di JST-PH; 3,3 V 600 mA untuk ESP32-S3 dan sensor



Dropout 250 mV: 3,3 V penuh hanya bila sel > ±3,55 V.

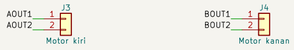
DRIVER MOTOR: DRV8833PWPR

2 motor DC, VM = VBAT (maks 10,8 V), 1,5 A RMS per jembatan (PowerPAD)



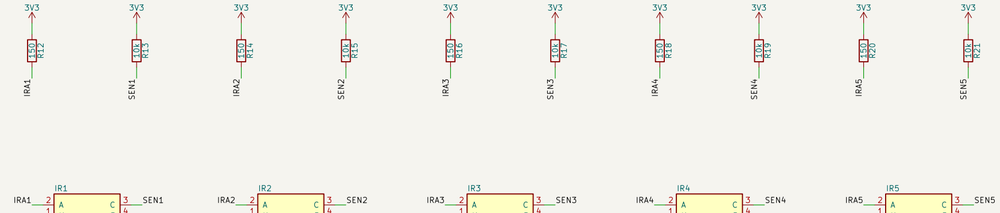
MOTOR KIRI / KANAN

JST-PH 2 pin: M+ M−



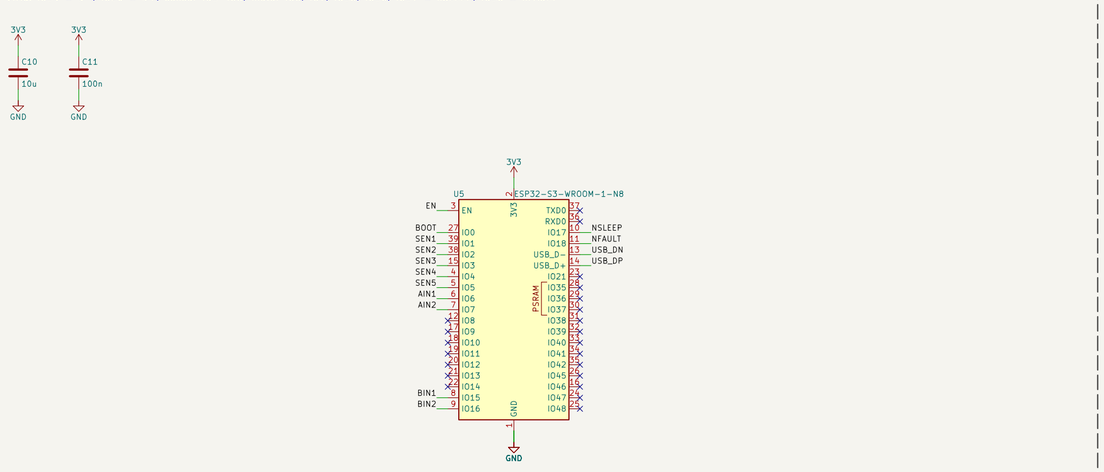
SENSOR GARIS: 5 x ITR8307

LED 150 ohm dari 3V3 (±14 mA), fototransistor pull-up 10k ke ADC1 GPIO1–5 (UNVERIFIED: pull-up dari uji)



MCU: ESP32-S3-WROOM-1-N8

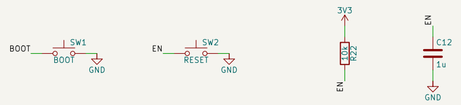
USB-Serial-JTAG: IO19 = D−, IO20 = D+; sensor IO1–IO5; motor IO6, IO7, IO15, IO16; IO17 = nSLEEP; IO18 = nFAULT



GPIO0 = BOOT. IO35–IO37 libres (kompatibel N8R8/N16R8). Tidak ada pin strapping lain yang dipakai.

RESET + BOOT

EN: RC 10k + 1u; BOOT = IO0



Contoh rancang.in: ESP32-S3 + DRV8833 + 5 sensor garis + LiPo 1S, papan bentuk mobil

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Sheet: /Mobil robot garis/

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