Sheet: CPU

File: P26cpu.sch

Sheet: Railcom

File: P26rcm.sch

Sheet: Power

File: P26pwr.sch

P26.0
Railcom sender & Motor driver
Frank Schumacher
Sheet: /
File: P26.sch

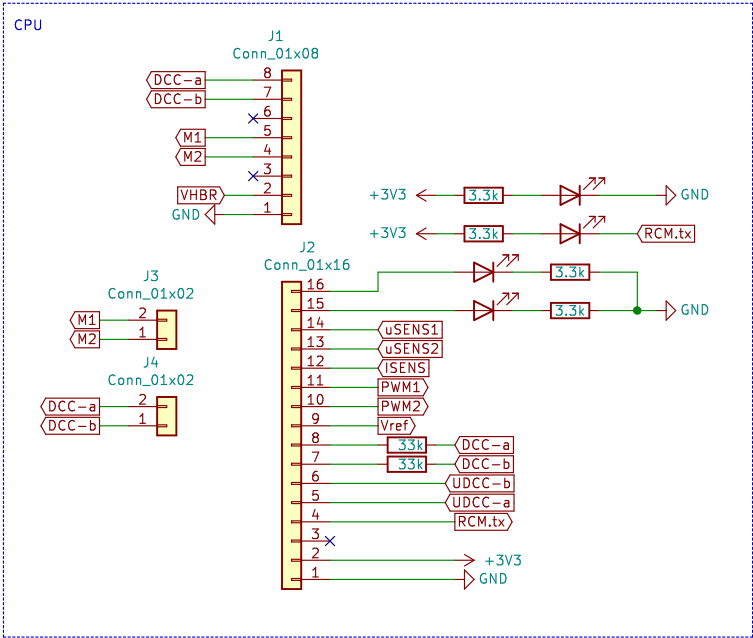**Title: RTB P26 Railcom/Motor IF**

| Size: A4 | Date: 2024−09−29 | **Rev: 0** |
| KiCad E.D.A. kicad (5.1.12)−1 | | Id: 1/4 |

CPU

CPU

J1
Conn_01x08

- 8 — DCC-a
- 7 — DCC-b
- 6 — ✗
- 5 — M1
- 4 — M2
- 3 — ✗
- 2 — VHBR
- 1 — GND

+3V3 ← 3.3k ◁ GND

+3V3 ← 3.3k ◁ RCM.tx

J3
Conn_01x02

- 2 — M1
- 1 — M2

J4
Conn_01x02

- 2 — DCC-a
- 1 — DCC-b

J2
Conn_01x16

- 16 — 3.3k — GND
- 15 — 3.3k — GND
- 14 — uSENS1
- 13 — uSENS2
- 12 — ISENS
- 11 — PWM1
- 10 — PWM2
- 9 — Vref
- 8 — 33k — DCC-a
- 7 — 33k — DCC-b
- 6 — UDCC-b
- 5 — UDCC-a
- 4 — RCM.tx
- 3 — ✗
- 2 — +3V3
- 1 — GND

RcmTX

Railcom TX

+3V3

22

Q2A
BC857BDW1

Q2B
BC857BDW1

10k

RCM.tx

DCC-a

Q1A
BC847BDW1

10k

DCC-b

Q1B
BC847BDW1

GND

Track Voltage Sensors

UDCC-a

DCC-a
220k
9.1k
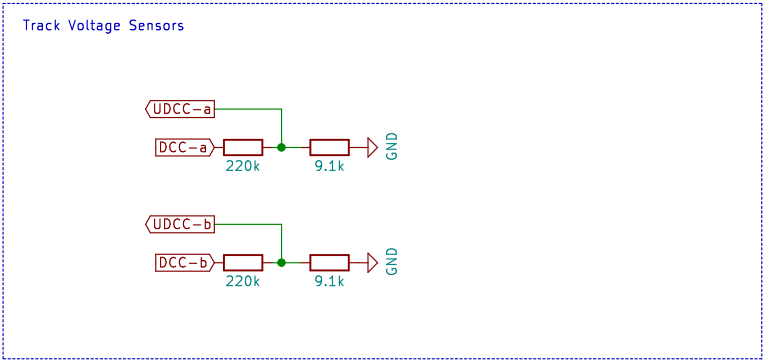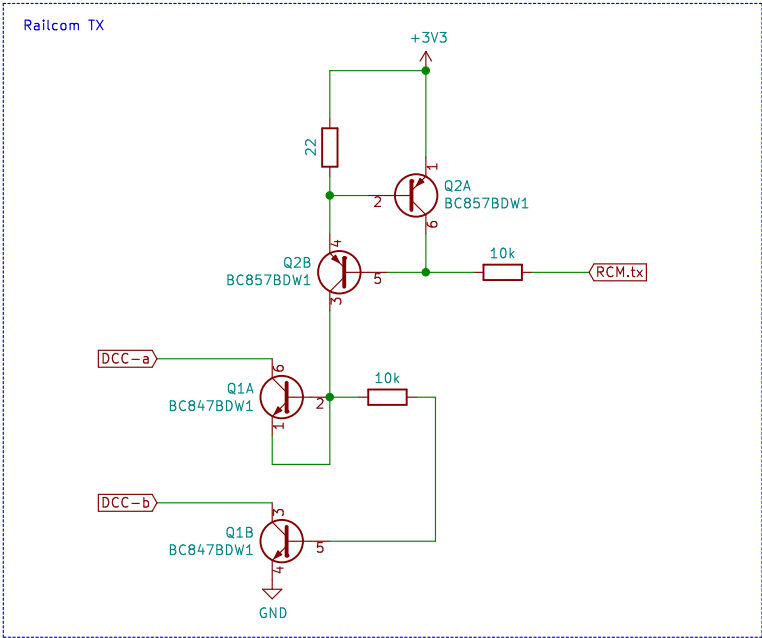GND

UDCC-b

DCC-b
220k
9.1k
GND

P26.0
Railcom sender & Motor driver
Frank Schumacher
Sheet: /Railcom/
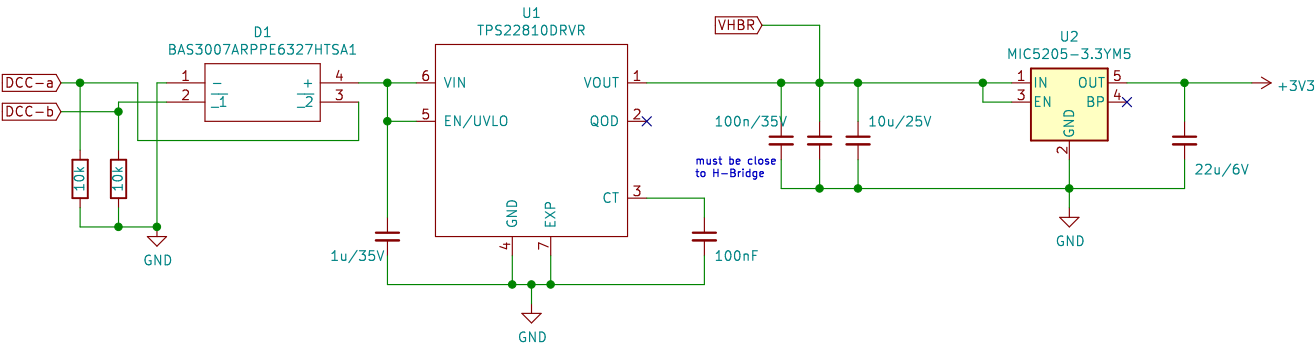File: P26rcm.sch

Title: RTB P26 Railcom/Motor IF

Size: A4 | Date: 2024-09-29 | **Rev: 0**
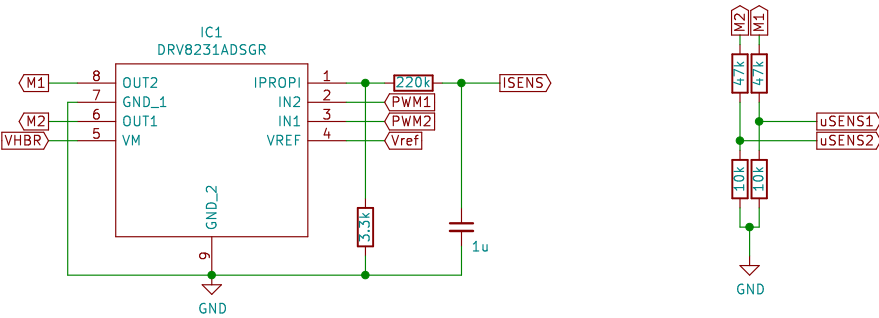KiCad E.D.A. kicad (5.1.12)-1 | Id: 3/4

Power

Power Regulation

D1
BAS3007ARPPE6327HTSA1

DCC-a
DCC-b

10k 10k

GND

U1
TPS22810DRVR

VIN
EN/UVLO
VOUT
QOD
CT
GND EXP

1u/35V

100nF

GND

VHBR

100n/35V 10u/25V

must be close
to H-Bridge

U2
MIC5205-3.3YM5

IN OUT
EN BP
GND

+3V3

22u/6V

GND

Motor Diver

IC1
DRV8231ADSGR

OUT2
GND_1
OUT1
VM
IPROPI
IN2
IN1
VREF
GND_2

M1
M2
VHBR

220k
PWM1
PWM2
Vref

ISENS

3.3k

1u

GND

M2 M1

4k7 4k7

uSENS1
uSENS2

10k 10k

GND

Title: RTB P26 Railcom/Motor IF

Size: A4	Date: 2024-09-29	**Rev: 0**
KiCad E.D.A. kicad (5.1.12)-1		Id: 4/4