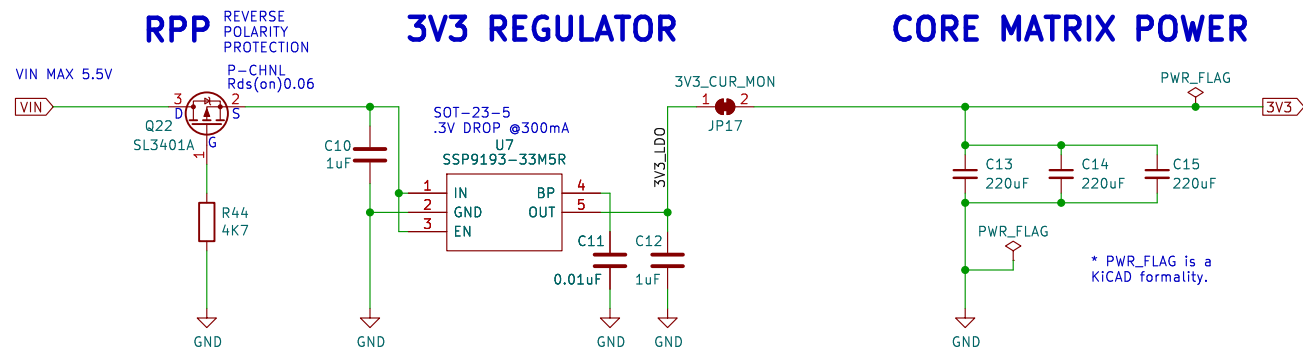


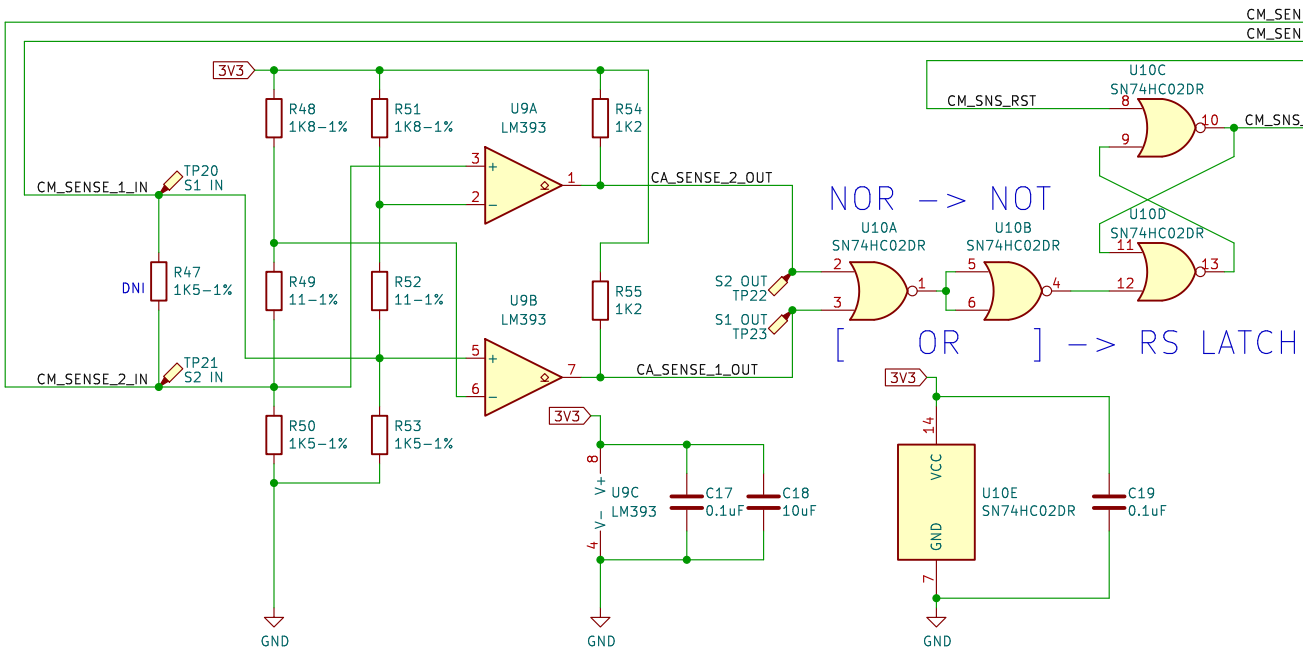
POWER SUPPLY: 5.5V MAX!!!



CORE MATRIX SENSE

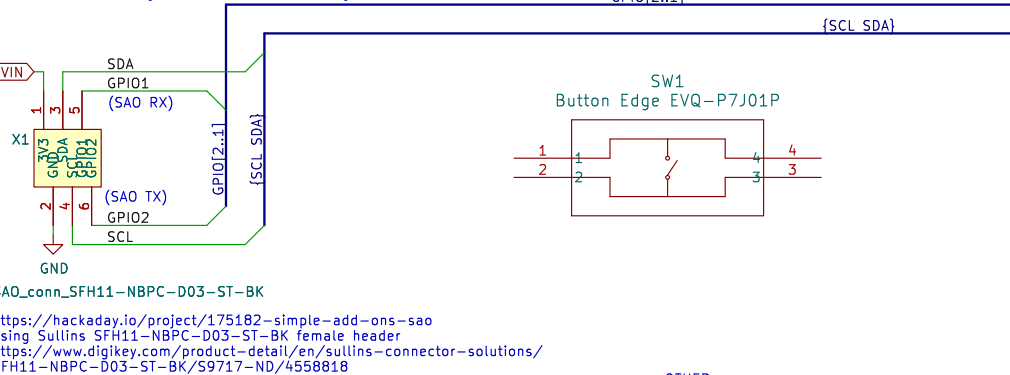
SENSE SIGNAL DIFFERENTIAL AMPLIFIERS

SENSE SIGNAL OUTPUT LATCH



SAO, I2C

SAO #1 (IN/BOTTOM)



5.5V MAX!!!

SAO_conn_SF11-NBPC-D03-ST-BK

<https://hackaday.io/project/175182-simple-add-ons-sao>
using Sullins SFH11-NBPC-D03-ST-BK female header
<https://www.digikey.com/product-detail/en/sullins-connector-solutions/SFH11-NBPC-D03-ST-BK/S9717-ND/4558818>

OTHER:
AMBIENT PROX. SENSOR
OLED
ANDIXOR IO Exp. MCP23017
ANDIXOR EEPROM AT24C32r
NFC CLICK PN7120

I2C ADDRESS TABLE

All 7-bit addresses should be greater than 0x07 and less than 0x78 (120).

CORE4 USAGE:
CORE MATRIX IO EXP. MCP23017 0x27 (39)

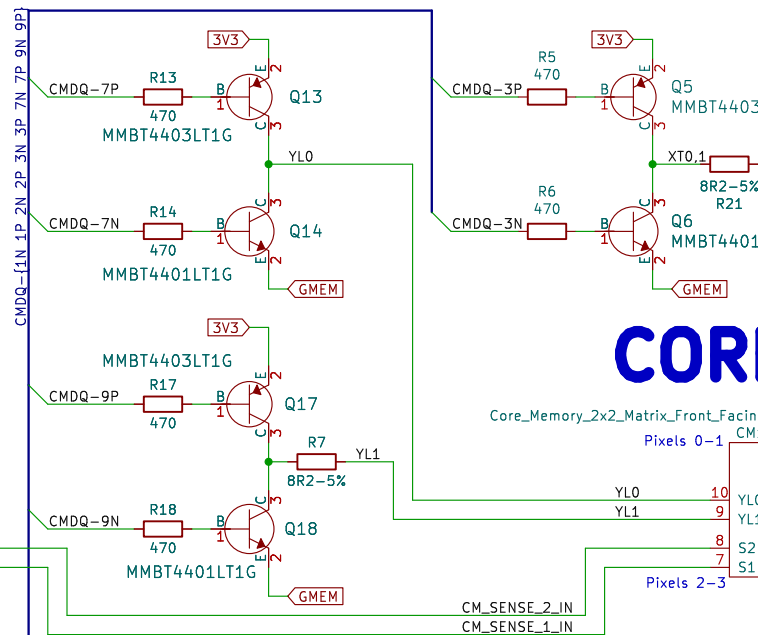
CORE16/64/c USAGE:
AMBIENT LIGHT SENSOR 0x29 (47)
HALL SENSOR 1 0x30 (48)
HALL SENSOR 2 0x31 (49)
HALL SENSOR 3 0x32 (50)
HALL SENSOR 4 0x33 (51)
EEPROM (BOARD ID) 0x50 (80)
SAO OLED V2 EEPROM 0x58 (88)

CORE MATRIX DRIVER

QxN (NPN) is normally low, high to activate matrix transistor.
QxP (PNP) is normally high, low to activate matrix transistor.
Drive Transistor
Current: 3.3/470=7mA

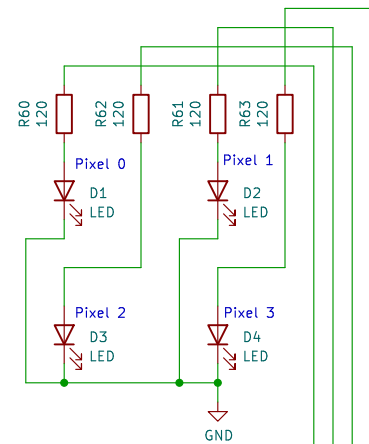
CORE MATRIX ROW DRIVERS

CORE MATRIX TOP COLUMN DRIVERS

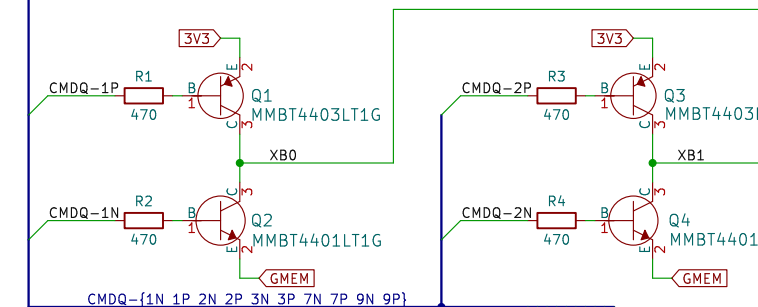


CORE MATRIX

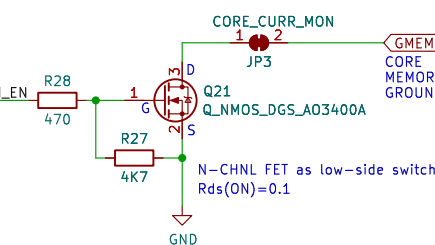
LED ARRAY



CORE MATRIX BOTTOM COLUMN DRIVERS

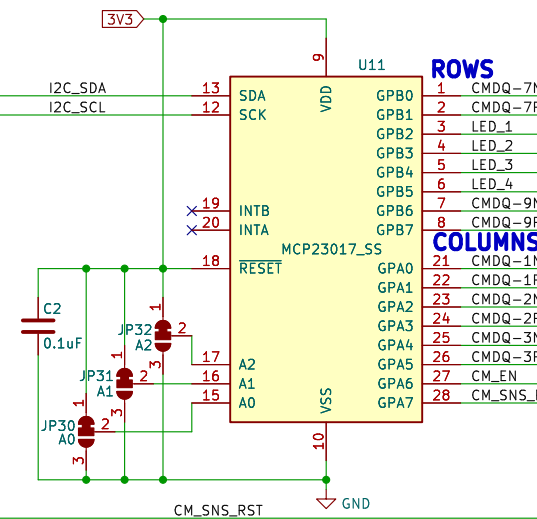


CORE MATRIX ENABLE



GPIO EXPANDER

Learn about I2C GPIO Expanders here:
<https://learn.adafruit.com/adafruit-mcp23017-i2c-gpio-expander>
7 Address bits: 010 0[A2-A1-A0]
HEX 0x20 to 0x27 (default 27)
DEC 32 to 39 (default 39)



All non-polarized capacitors are X7R or X5R ceramic unless otherwise noted.

Visit www.Core64.io for information on assembly and optional features.

Concept and design by Andy Geppert © www.Machineldeas.com

Sheet: /
File: SAO_Core4.kicad_sch

Title: SAO Core4

Size: B Date: 2024-08-31

KiCad E.D.A. 8.0.4

Rev: 0.2

Id: 1/1

WIP