Voltage regulator

5v – 35v
VIN_CIRCUIT

1N4004
D2

LM7812
VI   VO
GND
U1

+ C1
0.22 uF 35V

+ C4
0.1 uF 16V

GNDREF

5V

Place near of Vdd and Vss chip 2 pin

5V

+ C2   C5
10uF   100nF

GNDREF

Place near of Vdd and Vss chip 1 pin

5V

+ C3   C6
10uF   100nF

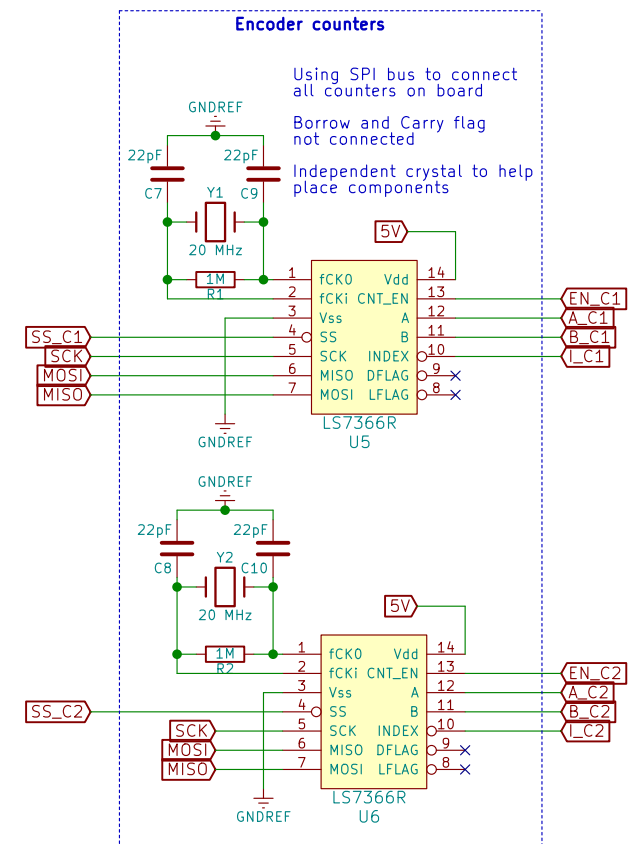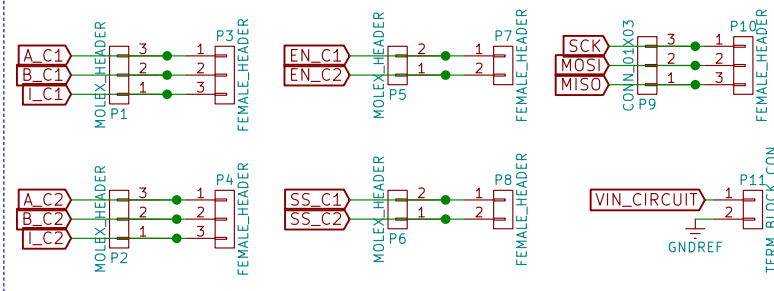GNDREF

PIN HEADER GELILEO

PWM   GPIO_03
MOT_DIS   GPIO_04
SS_C1   GPIO_05
SS_C2   GPIO_06
EN_C1   GPIO_07
EN_C2   GPIO_08
LIMSW_1   GPIO_09
LIMSW_2   GPIO_10
MOSI   GPIO_11
MISO   GPIO_12
SCK   GPIO_13

Encoder counters

Using SPI bus to connect all counters on board

Borrow and Carry flag not connected

Independent crystal to help place components

GNDREF

22pF   22pF
C7   Y1   C9

20 MHz

1M
R1

5V

1 fCK0   Vdd   14
2 fCKi CNT_EN 13
3 Vss   A   12
4 SS   B   11
5 SCK   INDEX   10
6 MISO DFLAG   9
7 MOSI LFLAG   8

LS7366R
U5

SS_C1
SCK
MOSI
MISO

GNDREF

EN_C1
A_C1
B_C1
I_C1

GNDREF

22pF   22pF
C8   Y2   C10

20 MHz

1M
R2

5V

1 fCK0   Vdd   14
2 fCKi CNT_EN 13
3 Vss   A   12
4 SS   B   11
5 SCK   INDEX   10
6 MISO DFLAG   9
7 MOSI LFLAG   8

LS7366R
U6

SS_C2

SCK
MOSI
MISO

GNDREF

EN_C2
A_C2
B_C2
I_C2

PIN HEADER INTERFACE

A_C1   P3
B_C1   3   1
I_C1   2   2
            1   3
MOLEX_HEADER   FEMALE_HEADER
P1

EN_C1   P7
EN_C2   2   1
            1   2
MOLEX_HEADER   FEMALE_HEADER
P5

SCK   P10
MOSI   3   1
MISO   2   2
            1   3
CONN_01X03   FEMALE_HEADER
P9

A_C2   P4
B_C2   3   1
I_C2   2   2
            1   3
MOLEX_HEADER   FEMALE_HEADER
P2

SS_C1   P8
SS_C2   2   1
            1   2
MOLEX_HEADER   FEMALE_HEADER
P6

VIN_CIRCUIT   1
               2
P11
GNDREF
TERM_BLOCK_CON

Sheet: /
File: encoder_counter.sch

Title: Encoder counters with SPI

Size: A4   Date:
KiCad E.D.A. kicad 4.0.2+dfsg1-stable

Rev:
Id: 1/1