+BATT

6 to 60V Operating Voltage Rang

P4
P6

+BATT

R12 470k

ADC/V_BAT

C18 10nF
R13 22k

[Uin (max) = 60V, Uadc max = 3.3V]
Gain K = R13/R12+R13 = 0.9553 (-> 73.8V abs. max)
Fc = 1/K*R12*C18*2pi = 0.76kHz

+3.3V

LED D2
R4 330

LED

+5V_protected

MOTOR P2
6 A
5 B   +5V_protected
4
3
2 Mot+
1 Mot-

C17 1uF

+5V

Bus2 P1
4
3
2 CANH
1 CANL

+3.3V

DBG P5
7
6
5 Reset
4 Swdio
3 Swdclk
2 Tx
1 Rx

Reset

C5 100n

+3.3V

C6 100n   C7 100n   C9 100n

+3.3V

+3.3V_A

C8 1uF   C10 10n

U1 STM32F303CCT6
7   NRST
44 BOOT0
1   VBAT
48 VDD_1
24 VDD_2
36 VDD_3
35 VSS_3
23 VSS_2
47 VSS_1
9   VDDA/VREF+
8   VSSA/VREF-

PA0   10 GPIO_ADC
PA1   11 LED
PA2   12
PA3   13
PA4   14 CAN_SPEED
PA5   15 ADC/I_MOT
PA6   16 ADC/V_BAT
PA7   17
PA8   29 PWM1
PA9   30 PWM2
PA10 31 Mot_En_1
PA11 32 Mot_En_2
PA12 33 I
PA13 34 Swdio
PA14 37 Swdclk
PA15 38 TESTPT

PB0   18
PB1   19
PB2   20
PB3   39
PB4   40 GPIO_A
PB5   41 GPIO_B
PB6   42 A
PB7   43 B
PB8   45
PB9   46
PB10 21 Tx
PB11 22 Rx
PB12 25
PB13 26
PB14 27
PB15 28

PC13   2
PC14/OSC32_IN   3
PC15/OSC32_OUT 4
PF0/OSC_IN   5
PF1/OSC_OUT 6

+3.3V

C13 100n

MAX3051
IC3
8 RS   VCC
CAN_SPEED
4 RXD   CANH   CANH
1 TXD   CANL   CANL
5 SHDN GND

U2 DRV8323RS
6   VM   VDRAIN 7
5   VCP   GHA   8
4   CPH   SHA   9
3   CPL   GLA   10
27 DGND
36 DVDD   GHB   17
35 AGND   SHB   16
2   PGND   GLB   15
33 ENABLE
37 INHA   GHC   18
38 INLA   SHC   19
39 INHB   GLC   20
40 INLB
41 INHC   nFAULT 28
72 INLC
30 SDI   SPC   21
29 SDO   SNC   22
31 SCLK   SPB   14
32 nSCS   SNB   13
26 VREF
23 SOC   SPA   11
24 SOB   SNA   12
25 SOA
34 CAL   CB   44
47 VIN   SW   45
48 nSHDN   FB   1
43 BGND   NC   46

Thermal_Pad

CVRA
Sheet: /
File: working.kicad_sch
Title: Motor control board
Size: A3   Date: 11 apr 2015   Rev: V00
KiCad E.D.A. eeschema 7.0.6   Id: 1/1