6 to 60V Operating Voltage Rang

+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

D2 LED

R4 330

LED

P4 +BATT
P6

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

+5V_protected

C17 1uF
+5V_protected

Bus2 P1
4 +5V
3
2 CANH
1 CANL

DBG P5
7 +3.3V
6
5 Reset
4 Swdio
3 Swdclk
2 Tx
1 Rx

Reset

C5 100n

+3.3V

VDD_1 48
VDD_2 24
VDD_3 36

C6 100n   C7 100n   C9 100n

VSS_3 35
VSS_2 23
VSS_1 47

+3.3V
+3.3V_A

C8 1uF   C10 10n

U1
STM32F303CCT6

7   NRST
44 BOOT0
1   VBAT

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

9   VDDA/VREF+
8   VSSA/VREF-

PC13 2
PC14/OSC32_IN 3
PC15/OSC32_OUT 4

PF0/OSC_IN 5
PF1/OSC_OUT 6

+3.3V
C13 100n

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

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
33 PGND   GLB   15
37 ENABLE
38 INHA   GHC   18
39 INLA   SHC   19
40 INHB   GLC   20
41 INLB
72 INHC   nFAULT 28
30 INLC
29 SDI   SPC   21
31 SDO   SNC   22
32 SCLK   SPB   14
26 nSCS   SNB   13
24 VREF
25 SOC   SPA   11
34 SOB   SNA   12
47 SOA
48 CAL   CB   44
43 VIN   SW   45
    nSHDN   FB   1
    BGND   NC   46
              Thermal_Pad

CVRA
Sheet: /
File: _autosave-_autosave-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