+BATT

6 to 60V Operating Voltage Rang

P4
P6

+BATT
470k R12
ADC/V_BAT
C18 10nF
22k R13

[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
Rx 330
LED

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

U1 STM32F303CCT6

7   NRST   PA0   10   GPIO_ADC
44 BOOT0   PA1   11   LED
            PA2   12
1   VBAT   PA3   13
48 VDD_1   PA4   14   CAN_SPEED
24 VDD_2   PA5   15   ADC/I_MOT
36 VDD_3   PA6   16   ADC/V_BAT
            PA7   17
            PA8   29   PWM1
            PA9   30   PWM2
            PA10 31   Mot_En_1
            PA11 32   Mot_En_2
35 VSS_3   PA12 33   I
23 VSS_2   PA13 34   Swdio
47 VSS_1   PA14 37   Swdclk
            PA15 38   TESTPT

+3.3V
C6 100n C7 100n C9 100n

+3.3V_A
9   VDDA/VREF+ PB0   18
            PB1   19
            PB2   20
            PB3   39
            PB4   40   GPIO_A
C8 1uF C10 10n PB5   41   GPIO_B
            PB6   42   A
8   VSSA/VREF− 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
CAN_SPEED 8 RS   VCC 3 CANH   CANH
            4 RXD   7 CANL   CANL
            1 TXD   CANL 6
            5 SHDN GND   2
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
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: _autosave−_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