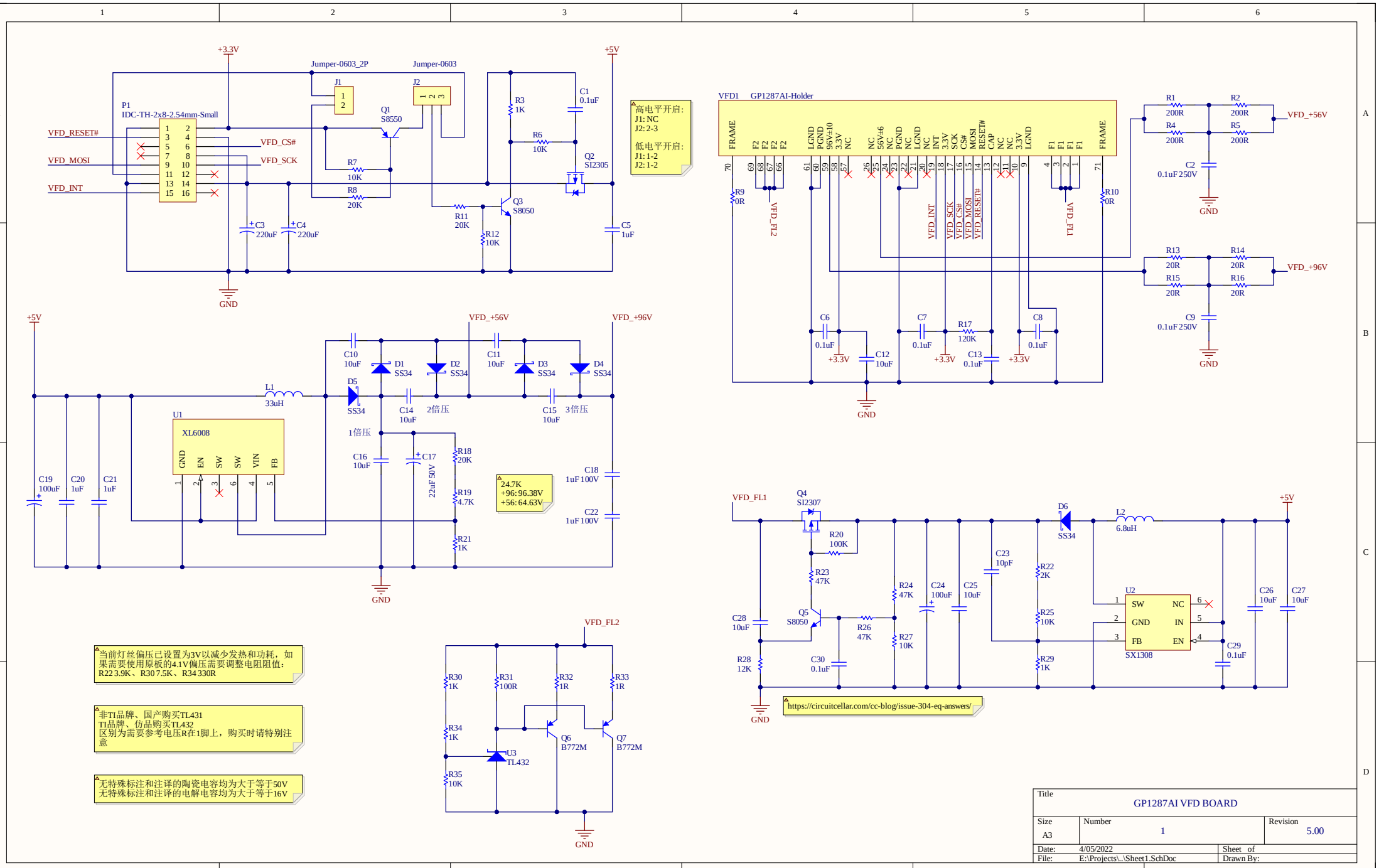
+3.3V
+5V
Jumper-0603_2P
Jumper-0603
J1
J2
P1
IDC-TH-2x8-2.54mm-Small
VFD_RESET#
VFD_MOSI
VFD_INT
VFD_CS#
VFD_SCK
Q1
S8550
R3
1K
C1
0.1uF
R6
10K
Q2
SI2305
R7
10K
R8
20K
R11
20K
R12
10K
Q3
S8050
C3
220uF
C4
220uF
C5
1uF
GND
高电平开启:
J1: NC
J2: 2-3
低电平开启:
J1: 1-2
J2: 1-2
VFD1 GP1287AI-Holder
FRAME
F2
LGND
PGND
96V±10
3.3V
NC
56V±6
LGND
INT
SCK
CS#
MOSI
RESET#
CAP
F1
VFD_FL2
VFD_FL1
R9
0R
R10
0R
R1
200R
R2
200R
R4
200R
R5
200R
VFD_+56V
C2
0.1uF 250V
R13
20R
R14
20R
R15
20R
R16
20R
VFD_+96V
C9
0.1uF 250V
C6
0.1uF
C12
10uF
C7
0.1uF
R17
120K
C13
0.1uF
C8
0.1uF
L1
33uH
U1
XL6008
GND
EN
SW
VIN
FB
C19
100uF
C20
1uF
C21
1uF
C10
10uF
D1
SS34
D2
SS34
C11
10uF
D3
SS34
D4
SS34
D5
SS34
C14
10uF
2倍压
C15
10uF
3倍压
1倍压
C16
10uF
C17
22uF 50V
R18
20K
R19
4.7K
R21
1K
24.7K
+96: 96.38V
+56: 64.63V
C18
1uF 100V
C22
1uF 100V
VFD_FL1
Q4
SI2307
R20
100K
R23
47K
Q5
S8050
R26
47K
R24
47K
R27
10K
C24
100uF
C25
10uF
C23
10pF
D6
SS34
L2
6.8uH
R22
2K
R25
10K
R29
1K
U2
SW
GND
FB
NC
IN
EN
SX1308
C28
10uF
R28
12K
C30
0.1uF
C29
0.1uF
C26
10uF
C27
10uF
https://circuitcellar.com/cc-blog/issue-304-eq-answers/
VFD_FL2
R30
1K
R31
100R
R32
1R
R33
1R
R34
1K
R35
10K
U3
TL432
Q6
B772M
Q7
B772M
当前灯丝偏压已设置为3V以减少发热和功耗，如果需要使用原板的4.1V偏压需要调整电阻阻值：
R22 3.9K、R30 7.5K、R34 330R
非TI品牌、国产购买TL431
TI品牌、仿品购买TL432
区别为需要参考电压R在1脚上，购买时请特别注意
无特殊标注和注译的陶瓷电容均为大于等于50V
无特殊标注和注译的电解电容均为大于等于16V
Title
GP1287AI VFD BOARD
Size
A3
Number
1
Revision
5.00
Date: 4/05/2022
Sheet of
File: E:\Projects\..\Sheet1.SchDoc
Drawn By: