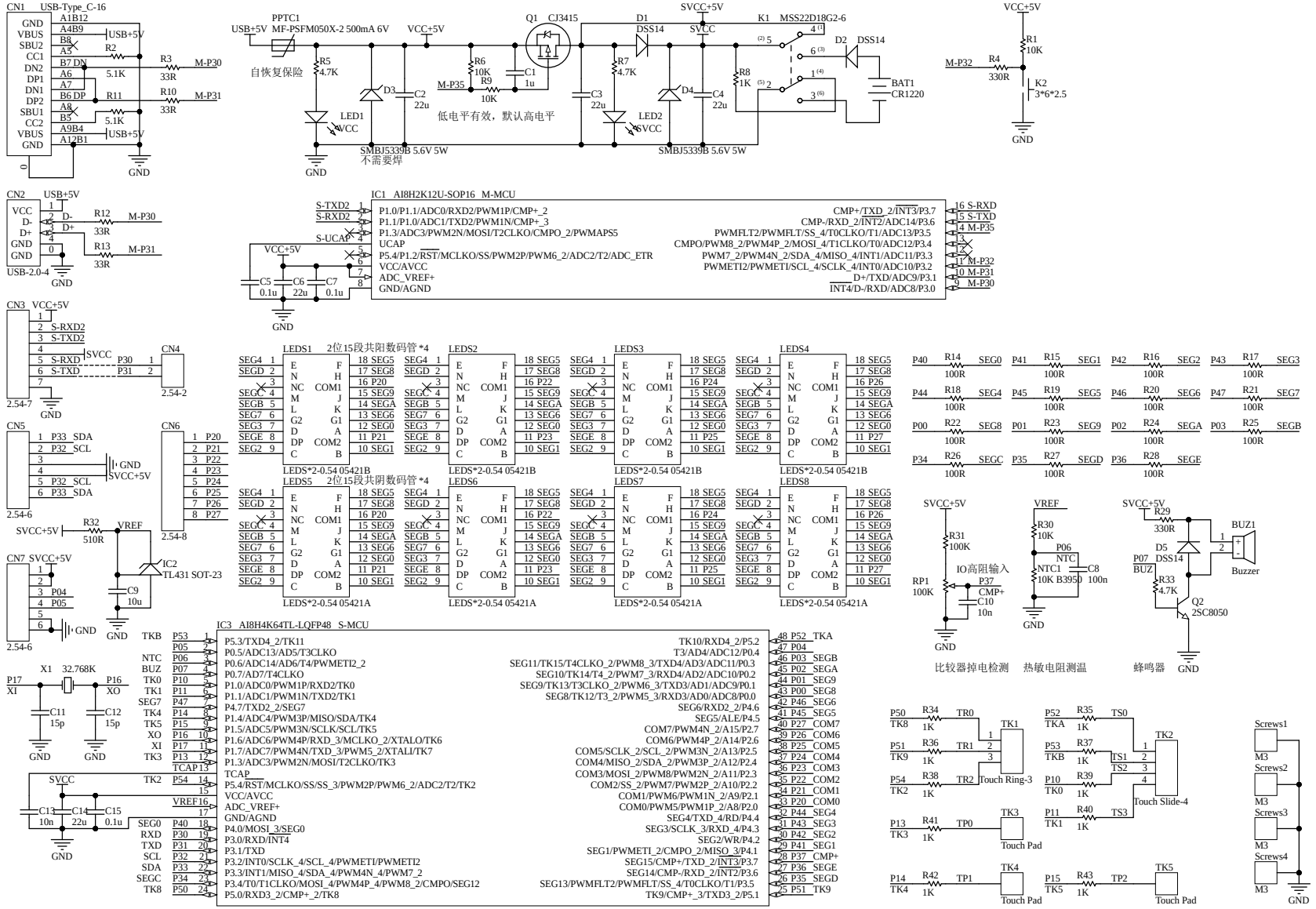
CN1 USB-Type_C-16
GND
VBUS
SBU2
CC1
DN2
DP1
DN1
DP2
SBU1
CC2
VBUS
GND
A1B12
A4B9
B8
A5
B7 DN
A6
A7
B6 DP
A8
B5
A9B4
A12B1
USB+5V
R2
5.1K
R11
5.1K
R3
33R
R10
33R
M-P30
M-P31
PPTC1
USB+5V MF-PSFM050X-2 500mA 6V
自恢复保险
VCC+5V
R5
4.7K
D3
C2
22u
LED1
VCC
SMBJ5339B 5.6V 5W
不需要焊
GND
Q1 CJ3415
R6
10K
R9
10K
M-P35
C1
1u
低电平有效，默认高电平
C3
22u
R7
4.7K
D4
C4
22u
LED2
VCC
SVCC+5V
D1
DSS14
SVCC
K1 MSS22D18G2-6
D2 DSS14
R8
1K
BAT1
CR1220
SMBJ5339B 5.6V 5W
VCC+5V
R1
10K
M-P32
R4
330R
K2
3*6*2.5
GND
CN2 USB+5V
VCC
D-
D+
GND
GND
R12
33R
R13
33R
M-P30
M-P31
USB-2.0-4
GND
IC1 AI8H2K12U-SOP16 M-MCU
S-TXD2
S-RXD2
S-UCAP
VCC+5V
C5 0.1u
C6 22u
C7 0.1u
GND
P1.0/P1.1/ADC0/RXD2/PWM1P/CMP+_2
P1.1/P1.0/ADC1/TXD2/PWM1N/CMP+_3
P1.3/ADC3/PWM2N/MOSI/T2CLKO/CMPO_2/PWMAPS5
UCAP
P5.4/P1.2/RST/MCLKO/SS/PWM2P/PWM6_2/ADC2/T2/ADC_ETR
VCC/AVCC
ADC_VREF+
GND/AGND
CMP+/TXD_2/INT3/P3.7
CMP-/RXD_2/INT2/ADC14/P3.6
PWMFLT2/PWMFLT/SS_4/T0CLKO/T1/ADC13/P3.5
CMPO/PWM8_2/PWM4P_2/MOSI_4/T1CLKO/T0/ADC12/P3.4
PWM7_2/PWM4N_2/SDA_4/MISO_4/INT1/ADC11/P3.3
PWMETI2/PWMETI/SCL_4/SCLK_4/INT0/ADC10/P3.2
D+/TXD/ADC9/P3.1
INT4/D-/RXD/ADC8/P3.0
S-RXD
S-TXD
M-P35
M-P32
M-P31
M-P30
CN3 VCC+5V
S-RXD2
S-TXD2
SVCC
S-RXD
S-TXD
P30
P31
CN4
2.54-2
2.54-7
GND
CN5
P33_SDA
P32_SCL
GND
SVCC+5V
P32_SCL
P33_SDA
2.54-6
CN6
P20
P21
P22
P23
P24
P25
P26
P27
2.54-8
SVCC+5V
R32
510R
VREF
IC2
TL431 SOT-23
C9
10u
GND
CN7 SVCC+5V
P04
P05
GND
2.54-6
LEDS1 2位15段共阳数码管*4
LEDS2
LEDS3
LEDS4
LEDS5 2位15段共阴数码管*4
LEDS6
LEDS7
LEDS8
SEG4 SEGD SEGC SEGB SEG7 SEG3 SEGE SEG2
E F N H NC COM1 M J L K G2 G1 D A DP COM2 C B
SEG5 SEG8 P20 SEG9 SEGA SEG6 SEG0 P21 SEG1
P22 P23 P24 P25 P26 P27
LEDS*2-0.54 05421B
LEDS*2-0.54 05421A
P40 R14 SEG0
P41 R15 SEG1
P42 R16 SEG2
P43 R17 SEG3
P44 R18 SEG4
P45 R19 SEG5
P46 R20 SEG6
P47 R21 SEG7
P00 R22 SEG8
P01 R23 SEG9
P02 R24 SEGA
P03 R25 SEGB
P34 R26 SEGC
P35 R27 SEGD
P36 R28 SEGE
100R
SVCC+5V
R31
100K
RP1
100K
IO高阻输入
P37
CMP+
C10
10n
比较器掉电检测
VREF
R30
10K
P06
NTC
NTC1
10K B3950
C8
100n
热敏电阻测温
SVCC+5V
R29
330R
D5
DSS14
P07
BUZ
R33
4.7K
Q2
2SC8050
BUZ1
Buzzer
蜂鸣器
GND
X1 32.768K
P17
XI
P16
XO
C11
15p
C12
15p
GND
IC3 AI8H4K64TL-LQFP48 S-MCU
TKB
NTC
BUZ
TK0
TK1
SEG7
TK4
TK5
XO
XI
TK3
TCAP
TK2
VREF
SEG0
RXD
TXD
SCL
SDA
SEGC
TK8
P53
P05
P06
P07
P10
P11
P47
P14
P15
P16
P17
P13
P54
P40
P30
P31
P32
P33
P34
P50
P5.3/TXD4_2/TK11
P0.5/ADC13/AD5/T3CLKO
P0.6/ADC14/AD6/T4/PWMETI2_2
P0.7/AD7/T4CLKO
P1.0/ADC0/PWM1P/RXD2/TK0
P1.1/ADC1/PWM1N/TXD2/TK1
P4.7/TXD2_2/SEG7
P1.4/ADC4/PWM3P/MISO/SDA/TK4
P1.5/ADC5/PWM3N/SCLK/SCL/TK5
P1.6/ADC6/PWM4P/RXD_3/MCLKO_2/XTALO/TK6
P1.7/ADC7/PWM4N/TXD_3/PWM5_2/XTALI/TK7
P1.3/ADC3/PWM2N/MOSI/T2CLKO/TK3
TCAP
P5.4/RST/MCLKO/SS/SS_3/PWM2P/PWM6_2/ADC2/T2/TK2
VCC/AVCC
ADC_VREF+
GND/AGND
P4.0/MOSI_3/SEG0
P3.0/RXD/INT4
P3.1/TXD
P3.2/INT0/SCLK_4/SCL_4/PWMETI/PWMETI2
P3.3/INT1/MISO_4/SDA_4/PWM4N_4/PWM7_2
P3.4/T0/T1CLKO/MOSI_4/PWM4P_4/PWM8_2/CMPO/SEG12
P5.0/RXD3_2/CMP+_2/TK8
TK10/RXD4_2/P5.2
T3/AD4/ADC12/P0.4
SEG11/TK15/T4CLKO_2/PWM8_3/TXD4/AD3/ADC11/P0.3
SEG10/TK14/T4_2/PWM7_3/RXD4/AD2/ADC10/P0.2
SEG9/TK13/T3CLKO_2/PWM6_3/TXD3/AD1/ADC9/P0.1
SEG8/TK12/T3_2/PWM5_3/RXD3/AD0/ADC8/P0.0
SEG6/RXD2_2/P4.6
SEG5/ALE/P4.5
COM7/PWM4N_2/A15/P2.7
COM6/PWM4P_2/A14/P2.6
COM5/SCLK_2/SCL_2/PWM3N_2/A13/P2.5
COM4/MISO_2/SDA_2/PWM3P_2/A12/P2.4
COM3/MOSI_2/PWM8/PWM2N_2/A11/P2.3
COM2/SS_2/PWM7/PWM2P_2/A10/P2.2
COM1/PWM6/PWM1N_2/A9/P2.1
COM0/PWM5/PWM1P_2/A8/P2.0
SEG4/TXD_4/RD/P4.4
SEG3/SCLK_3/RXD_4/P4.3
SEG2/WR/P4.2
SEG1/PWMETI_2/CMPO_2/MISO_3/P4.1
SEG15/CMP+/TXD_2/INT3/P3.7
SEG14/CMP-/RXD_2/INT2/P3.6
SEG13/PWMFLT2/PWMFLT/SS_4/T0CLKO/T1/P3.5
TK9/CMP+_3/TXD3_2/P5.1
TKA
TK9
TK8
TKB
P04
P03_SEGB
P02_SEGA
P01_SEG9
P00_SEG8
P46_SEG6
P45_SEG5
P27_COM7
P26_COM6
P25_COM5
P24_COM4
P23_COM3
P22_COM2
P21_COM1
P20_COM0
P44_SEG4
P43_SEG3
P42_SEG2
P41_SEG1
P37_CMP+
P36_SEGE
P35_SEGD
P51_TK9
P52
P53
P10
P11
P12
P13
P14
P15
P16
P17
TK10
TK11
TK12
TK13
TK14
TK15
TK16
TK17
SVCC
C13 10n
C14 22u
C15 0.1u
GND
P50 R34 TR0 TK8 1K
P51 R36 TR1 TK9 1K
P54 R38 TR2 TK2 1K
Touch Ring-3
P13 R41 TP0 TK3 1K
Touch Pad
P14 R42 TP1 TK4 1K
Touch Pad
P52 R35 TS0 TKA 1K
P53 R37 TS1 TKB 1K
P10 R39 TS2 TK0 1K
Touch Slide-4
P11 R40 TS3 TK1 1K
P15 R43 TP2 TK5 1K
Touch Pad
Screws1
Screws2
Screws3
Screws4
M3
GND