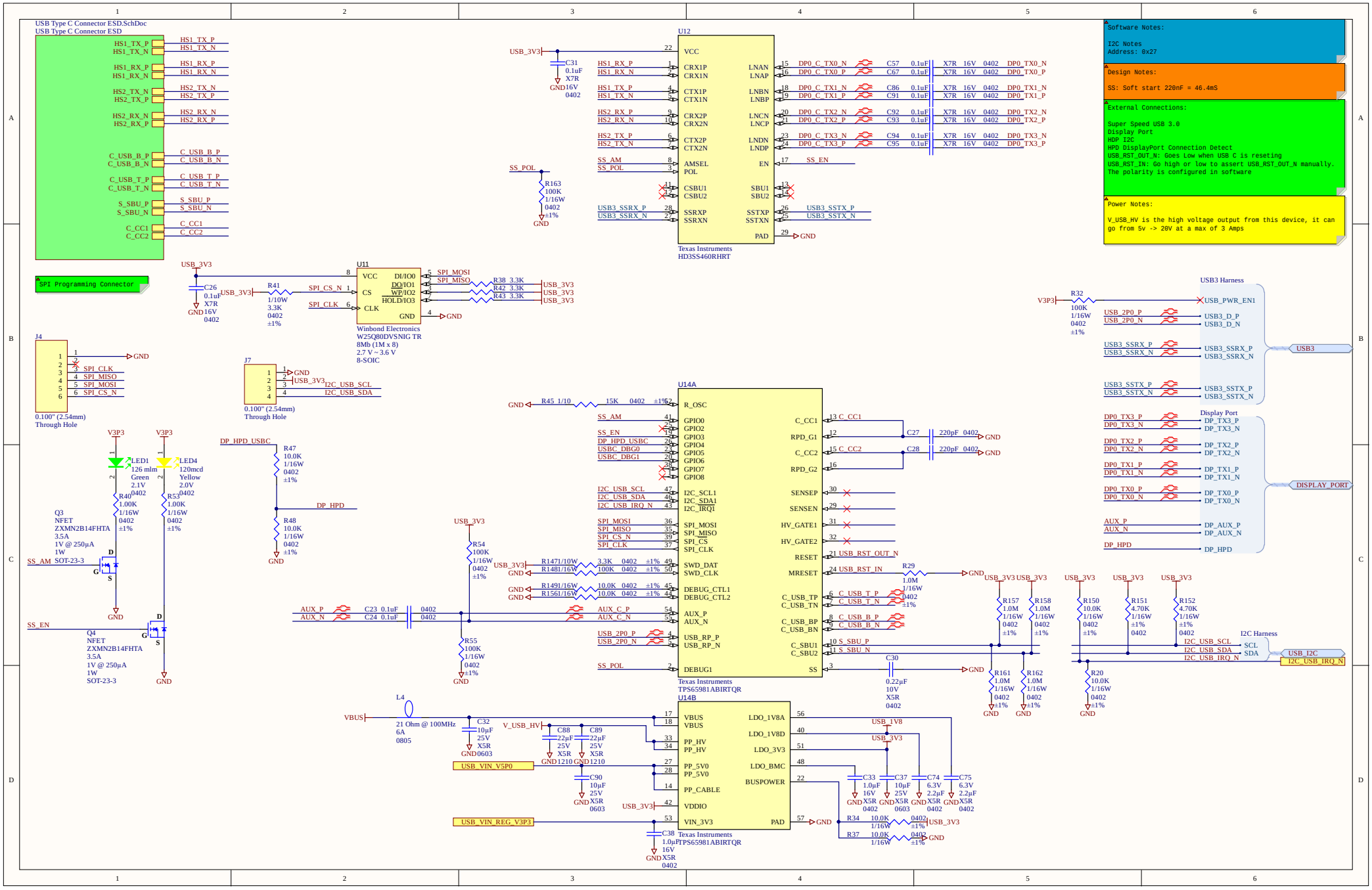
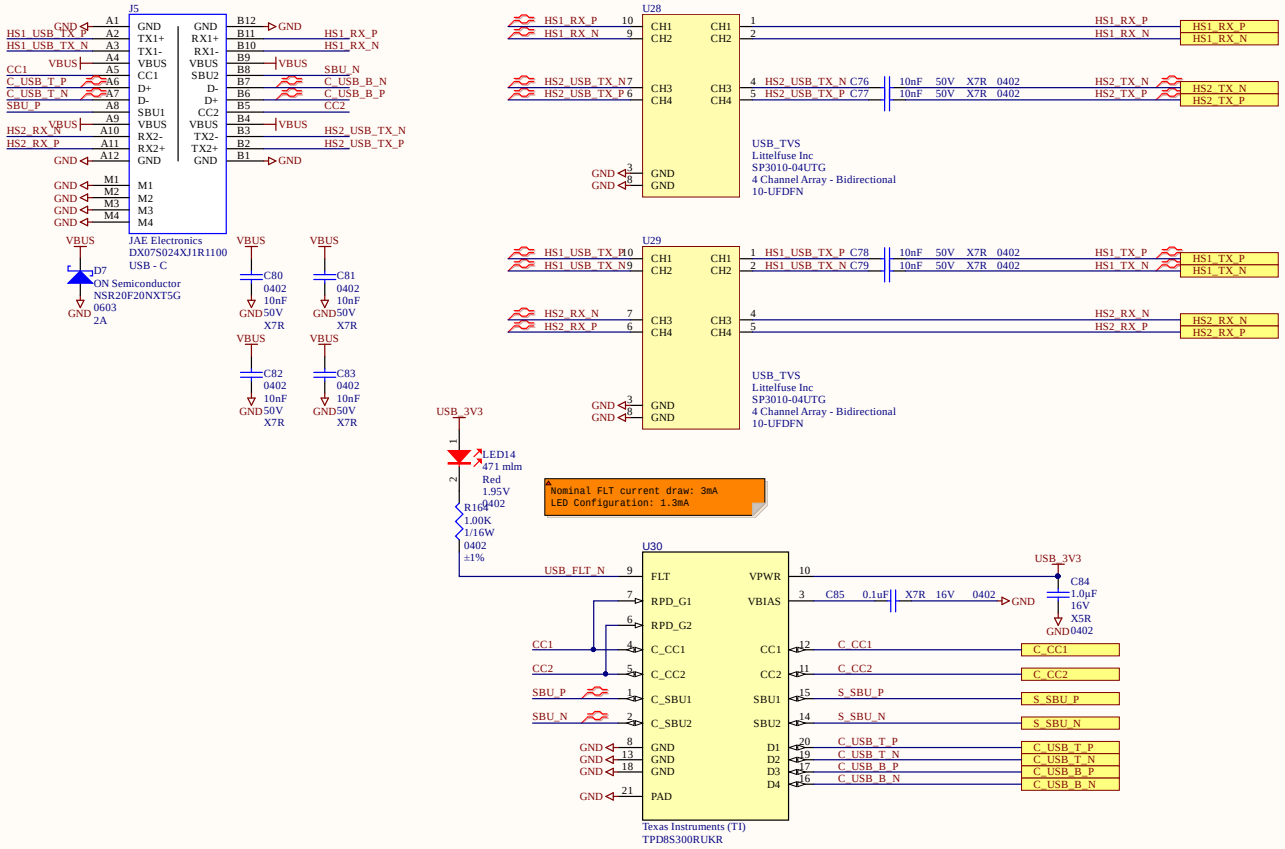

USB Type C Connector ESD.SchDoc
USB Type C Connector ESD
HS1_TX_P
HS1_TX_N
HS1_RX_P
HS1_RX_N
HS2_TX_N
HS2_TX_P
HS2_RX_N
HS2_RX_P
C_USB_B_P
C_USB_B_N
C_USB_T_P
C_USB_T_N
S_SBU_P
S_SBU_N
C_CC1
C_CC2
U12
VCC
CRX1P
CRX1N
CTX1P
CTX1N
CRX2P
CRX2N
CTX2P
CTX2N
AMSEL
POL
CSBU1
CSBU2
SSRXP
SSRXN
LNAN
LNAP
LNBN
LNBP
LNCN
LNCP
LNDN
LNDP
EN
SBU1
SBU2
SSTXP
SSTXN
PAD
Texas Instruments
HD3SS460RHRT
USB_3V3
SS_POL
R163
100K
1/16W
0402
±1%
GND
DP0_C_TX0_N
DP0_C_TX0_P
DP0_C_TX1_N
DP0_C_TX1_P
DP0_C_TX2_N
DP0_C_TX2_P
DP0_C_TX3_N
DP0_C_TX3_P
DP0_TX0_N
DP0_TX0_P
DP0_TX1_N
DP0_TX1_P
DP0_TX2_N
DP0_TX2_P
DP0_TX3_N
DP0_TX3_P
SS_EN
USB3_SSRX_P
USB3_SSRX_N
USB3_SSTX_P
USB3_SSTX_N
Software Notes:
I2C Notes
Address: 0x27
Design Notes:
SS: Soft start 220nF = 46.4mS
External Connections:
Super Speed USB 3.0
Display Port
HDP I2C
HPD DisplayPort Connection Detect
USB_RST_OUT_N: Goes Low when USB C is reseting
USB_RST_IN: Go high or low to assert USB_RST_OUT_N manually.
The polarity is configured in software
Power Notes:
V_USB_HV is the high voltage output from this device, it can go from 5v -> 20V at a max of 3 Amps
SPI Programming Connector
U11
VCC
CS
CLK
DI/IO0
DO/IO1
WP/IO2
HOLD/IO3
GND
SPI_MOSI
SPI_MISO
SPI_CS_N
SPI_CLK
R38 3.3K
R42 3.3K
R43 3.3K
R41
3.3K
1/10W
0402
±1%
Winbond Electronics
W25Q80DVSNIG TR
8Mb (1M x 8)
2.7 V ~ 3.6 V
8-SOIC
J4
0.100" (2.54mm)
Through Hole
J7
I2C_USB_SCL
I2C_USB_SDA
V3P3
LED1
126 mlm
Green
2.1V
LED4
120mcd
Yellow
2.0V
R40
1.00K
1/16W
0402
±1%
R53
1.00K
1/16W
0402
±1%
Q3
NFET
ZXMN2B14FHTA
3.5A
1V @ 250µA
1W
SOT-23-3
Q4
NFET
ZXMN2B14FHTA
3.5A
1V @ 250µA
1W
SOT-23-3
DP_HPD_USBC
R47
10.0K
1/16W
0402
±1%
R48
10.0K
1/16W
0402
±1%
DP_HPD
R54
100K
1/16W
0402
±1%
R55
100K
1/16W
0402
±1%
AUX_P
AUX_N
C23 0.1uF
C24 0.1uF
0402
R45 1/10
15K
0402
±1%
U14A
R_OSC
GPIO0
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
I2C_SCL1
I2C_SDA1
I2C_IRQ1
SPI_MOSI
SPI_MISO
SPI_CS
SPI_CLK
SWD_DAT
SWD_CLK
DEBUG_CTL1
DEBUG_CTL2
AUX_P
AUX_N
USB_RP_P
USB_RP_N
DEBUG1
C_CC1
RPD_G1
C_CC2
RPD_G2
SENSEP
SENSEN
HV_GATE1
HV_GATE2
RESET
MRESET
C_USB_TP
C_USB_TN
C_USB_BP
C_USB_BN
C_SBU1
C_SBU2
SS
C27 220pF 0402
C28 220pF 0402
USB_RST_OUT_N
USB_RST_IN
R29
1.0M
1/16W
0402
±1%
C30
0.22µF
10V
X5R
0402
Texas Instruments
TPS65981ABIRTQR
R1471/10W
R1481/16W
R1491/16W
R1561/16W
3.3K
100K
10.0K
10.0K
USB3 Harness
USB_PWR_EN1
USB3_D_P
USB3_D_N
USB3_SSRX_P
USB3_SSRX_N
USB3_SSTX_P
USB3_SSTX_N
USB3
Display Port
DP_TX3_P
DP_TX3_N
DP_TX2_P
DP_TX2_N
DP_TX1_P
DP_TX1_N
DP_TX0_P
DP_TX0_N
AUX_P
AUX_N
DP_HPD
DISPLAY_PORT
R32
100K
1/16W
0402
±1%
USB_2P0_P
USB_2P0_N
R157
1.0M
1/16W
0402
±1%
R158
1.0M
1/16W
0402
±1%
R150
10.0K
1/16W
0402
±1%
R151
4.70K
1/16W
±1%
0402
R152
4.70K
1/16W
±1%
0402
I2C Harness
SCL
SDA
USB_I2C
I2C_USB_IRQ_N
R161
1.0M
1/16W
0402
±1%
R162
1.0M
1/16W
0402
±1%
R20
10.0K
1/16W
0402
±1%
L4
21 Ohm @ 100MHz
6A
0805
VBUS
C32
10µF
25V
X5R
0603
V_USB_HV
C88
22µF
25V
X5R
1210
C89
22µF
25V
X5R
1210
C90
10µF
25V
X5R
0603
USB_VIN_V5P0
USB_VIN_REG_V3P3
U14B
VBUS
PP_HV
PP_5V0
PP_CABLE
VDDIO
VIN_3V3
LDO_1V8A
LDO_1V8D
LDO_3V3
LDO_BMC
BUSPOWER
PAD
USB_1V8
C33
1.0µF
16V
X5R
0402
C37
10µF
25V
X5R
0603
C74
6.3V
2.2µF
X5R
0402
C75
6.3V
2.2µF
X5R
0402
R34
10.0K
1/16W
0402
±1%
R37
10.0K
1/16W
0402
±1%
C38
1.0µF
16V
X5R
0402
C31
0.1uF
X7R
16V
0402
C26
0.1uF
X7R
16V
0402
C57 0.1uF
C67 0.1uF
C86 0.1uF
C91 0.1uF
C92 0.1uF
C93 0.1uF
C94 0.1uF
C95 0.1uF
X7R 16V 0402


J5
JAE Electronics
DX07S024XJ1R1100
USB - C
GND
TX1+
TX1-
VBUS
CC1
D+
D-
SBU1
VBUS
RX2-
RX2+
GND
RX1+
RX1-
VBUS
SBU2
D-
D+
CC2
VBUS
TX2-
TX2+
GND
M1
M2
M3
M4
HS1_USB_TX_P
HS1_USB_TX_N
CC1
C_USB_T_P
C_USB_T_N
SBU_P
HS2_RX_N
HS2_RX_P
HS1_RX_P
HS1_RX_N
SBU_N
C_USB_B_N
C_USB_B_P
CC2
HS2_USB_TX_N
HS2_USB_TX_P
D7
ON Semiconductor
NSR20F20NXT5G
0603
2A
C80
C81
C82
C83
0402
10nF
50V
X7R
U28
CH1
CH2
CH3
CH4
HS1_RX_P
HS1_RX_N
HS2_USB_TX_N
HS2_USB_TX_P
HS2_USB_TX_N C76
HS2_USB_TX_P C77
HS2_TX_N
HS2_TX_P
USB_TVS
Littelfuse Inc
SP3010-04UTG
4 Channel Array - Bidirectional
10-UFDFN
U29
HS1_USB_TX_P
HS1_USB_TX_N
HS1_USB_TX_P C78
HS1_USB_TX_N C79
HS1_TX_P
HS1_TX_N
HS2_RX_N
HS2_RX_P
USB_3V3
LED14
471 mlm
Red
1.95V
0402
R164
1.00K
1/16W
0402
±1%
Nominal FLT current draw: 3mA
LED Configuration: 1.3mA
U30
FLT
RPD_G1
RPD_G2
C_CC1
C_CC2
C_SBU1
C_SBU2
VPWR
VBIAS
CC1
CC2
SBU1
SBU2
D1
D2
D3
D4
PAD
USB_FLT_N
C85
0.1uF
X7R
16V
0402
C84
1.0uF
16V
X5R
C_CC1
C_CC2
S_SBU_P
S_SBU_N
C_USB_T_P
C_USB_T_N
C_USB_B_P
C_USB_B_N
Texas Instruments (TI)
TPD8S300RUKR

Board Stack Report