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Project PCA000060	Designer Guy Cohen	
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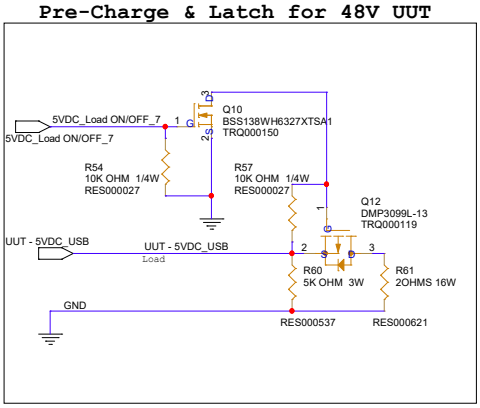
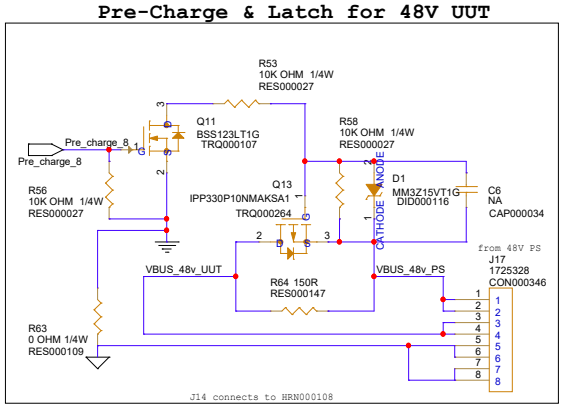
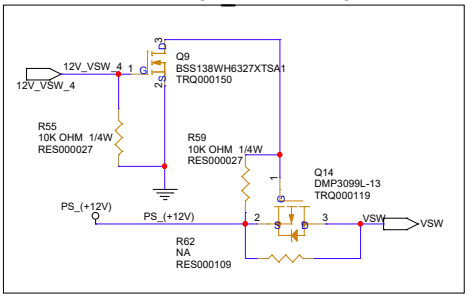
Pre-Charge & Latch for 48V UUT



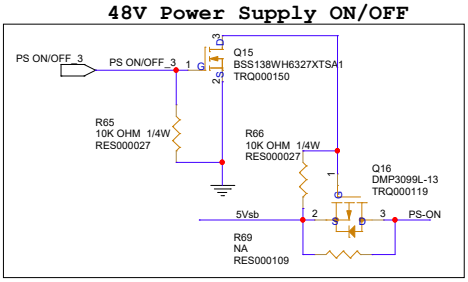
Pre-Charge & Latch for 48V UUT



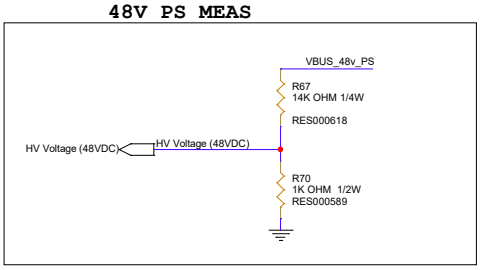
12V VSW_IN - KSI



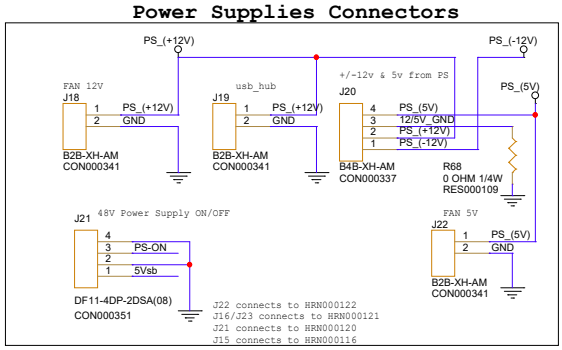
48V Power Supply ON/OFF



48V PS MEAS



Power Supplies Connectors



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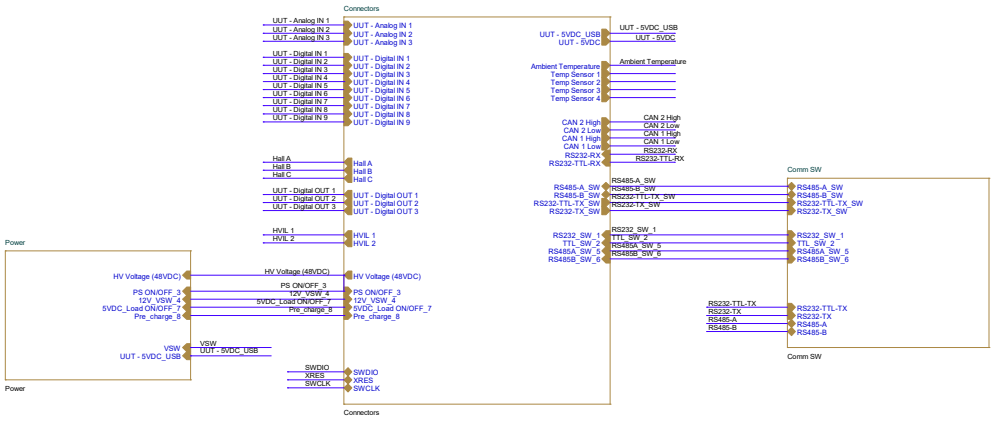
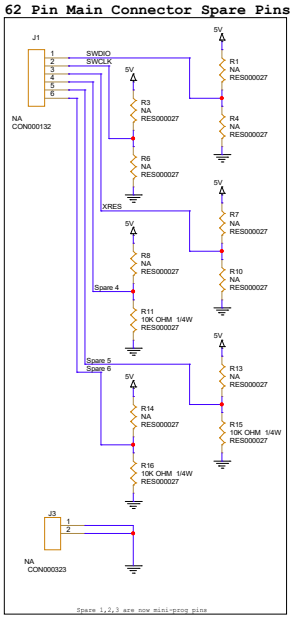
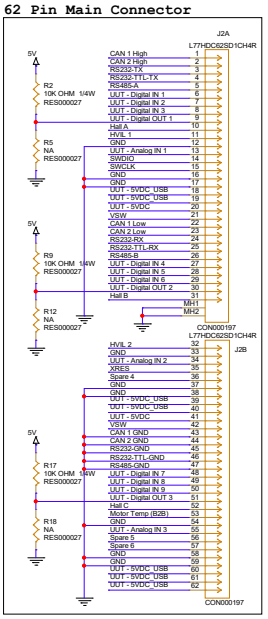
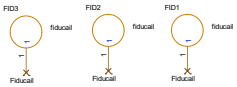


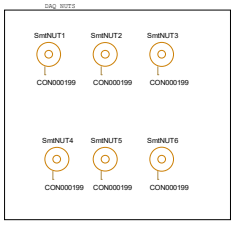
62 Pin Main Connector Spare Pins

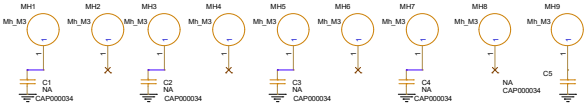


62 Pin Main Connector









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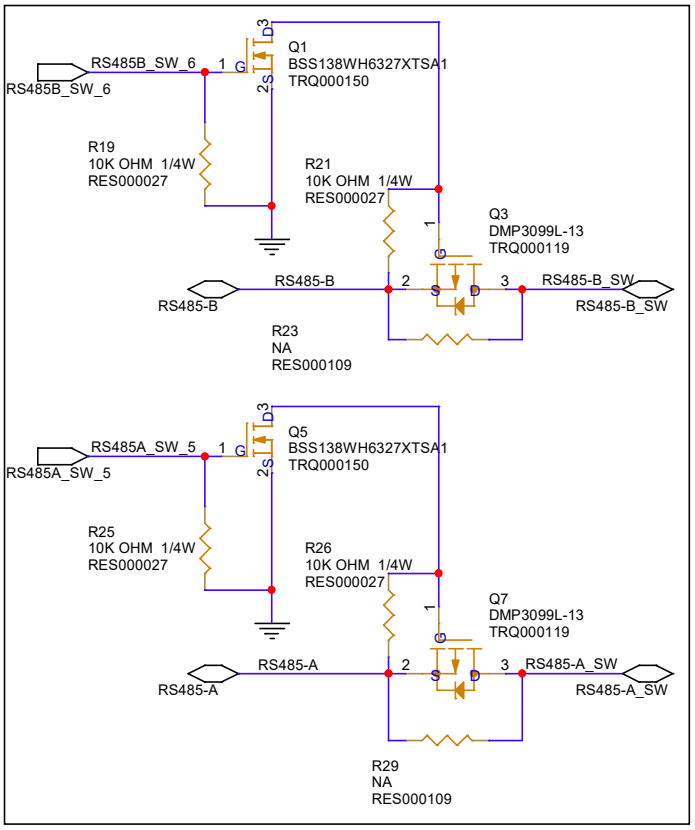
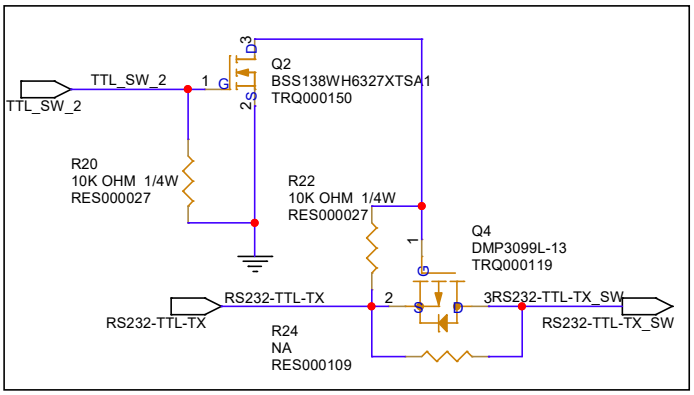
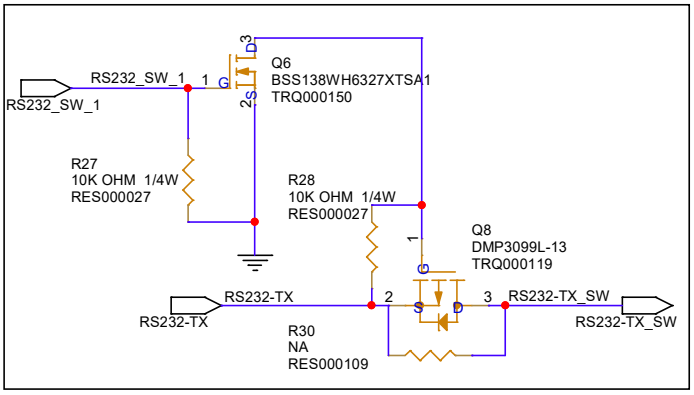
RS-485



TTL



RS-232



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DAQ #1

5V go to pull-up

CON000324
8534-4500PL
DAQ #1

34	+5 V	DAQ1_5V	
33	P2.0	DAQ1_P2.0	
32	D GND		GND
31	P1.3	UUT - Digital OUT 3	UUT - Digital OUT 3
30	P1.2	UUT - Digital OUT 2	UUT - Digital OUT 2
29	P1.1	UUT - Digital OUT 1	UUT - Digital OUT 1
28	P1.0	UUT - Digital IN 9	UUT - Digital IN 9
27	P0.7	UUT - Digital IN 8	UUT - Digital IN 8
26	P0.6	UUT - Digital IN 7	UUT - Digital IN 7
25	P0.5	UUT - Digital IN 6	UUT - Digital IN 6
24	P0.4	UUT - Digital IN 5	UUT - Digital IN 5
23	P0.3	UUT - Digital IN 4	UUT - Digital IN 4
22	P0.2	UUT - Digital IN 3	UUT - Digital IN 3
21	P0.1	UUT - Digital IN 2	UUT - Digital IN 2
20	P0.0	UUT - Digital IN 1	UUT - Digital IN 1
19	D GND		
18	LED		GND
17	V+		
16	VBUS		
15	V-		
14	AI GND		GND
13	AI GND	GND	
12	AI 4 (AI 0-)	UUT - 5VDC_USB	UUT - 5VDC_USB
11	AI 0 (AI 0+)	UUT - 5VDC	UUT - 5VDC
10	AI 5 (AI 1-)	Ambient Temperature	Ambient Temperature
9	AI 1 (AI 1+)	HV Voltage (48VDC)	HV Voltage (48VDC)
8	AI 6 (AI 2-)	Temp Sensor 2	Temp Sensor 2
7	AI 2 (AI 2+)	Temp Sensor 1	Temp Sensor 1
6	AI 7 (AI 3-)	Temp Sensor 4	Temp Sensor 4
5	AI 3 (AI 3+)	Temp Sensor 3	Temp Sensor 3
4	AI GND		
3	AO GND		
2	AO1	UUT - Analog IN 2	UUT - Analog IN 2
1	AO0	UUT - Analog IN 1	UUT - Analog IN 1

J4

DAQ #2

CON000324
8534-4500PL
DAQ #2

34	+5 V	DAQ2_5V	
33	P2.0	DAQ2_P2.0	
32	D GND	GND	
31	P1.3	DAQ2_P1.3	
30	P1.2	HVIL 2	HVIL 2
29	P1.1	HVIL 1	HVIL 1
28	P1.0	DAQ2_P1.0	
27	P0.7	DAQ2_P0.7	
26	P0.6	Hall C	Hall C
25	P0.5	Hall B	Hall B
24	P0.4	Hall A	Hall A
23	P0.3	DAQ2_P0.3	
22	P0.2	Emulator status 2	
21	P0.1	Emulator status 1	
20	P0.0	Interlock	
19	D GND	GND	
18	LED		
17	V+		
16	VBUS		
15	V-		
14	AI GND	GND	
13	AI GND	GND	
12	AI 4 (AI 0-)	Phase U Current (-)	
11	AI 0 (AI 0+)	Phase U Current (+)	
10	AI 5 (AI 1-)	Phase V Current (-)	
9	AI 1 (AI 1+)	Phase V Current (+)	
8	AI 6 (AI 2-)	BUS Current (-)	
7	AI 2 (AI 2+)	BUS Current (+)	
6	AI 7 (AI 3-)	DAQ2_AI7	
5	AI 3 (AI 3+)	Emulator temp	
4	AI GND	GND	
3	AO GND	GND	
2	AO1	UUT - Analog IN 3	UUT - Analog IN 3
1	AO0	DAQ2_AO0	

J5

RS232,RS485 & TTL Comm

RX & TX are referenced to UUT

rs232
J6
3 GND
2 RS232-TX_SW → RS232-TX_SW
1 RS232-RX → RS232-RX
B3B-XH-AM
CON000340

rs485
J8
3 RS485-B_SW → RS485-B_SW
2 RS485-A_SW → RS485-A_SW
1 GND
B3B-XH-AM
CON000340

TTL
J9
4 RS232-TTL-TX_SW → RS232-TTL-TX_SW
3 RS232-TTL-RX → RS232-TTL-RX
2 GND
1 Vcc_TTL
B4B-XH-AM
CON000337

Vcc TTL Connector
J11
1
2
NA
CON000323

J6 (RS232) connects to HRN000119
J8 (RS485) connects to HRN000118
J9 (TTL) connects to HRN000117

CAN-BUS

R40 and R41 are Termination resistor
R45 AND R46 are for shielding

J7
S2
S1
9
8
7 CAN 2 High → CAN 2 High
6
5
4
3 GND
2 CAN 2 Low → CAN 2 Low
1
LD09P24A4GV00LF
CON000326

R31 NA RES000109
R32 RES000532 120 OHM 1/4W
R33 NA RES000109

J10
S2
S1
9
8
7 CAN 1 High → CAN 1 High
6
5
4
3 GND
2 CAN 1 Low → CAN 1 Low
1
LD09P24A4GV00LF
CON000326

R34 RES000532 120 OHM 1/4W

Can-Bus connects to HRN000107

Current Sensors

current sensors
J12

25	BUS Current (+)		BUS Current (-)
24	PS_(-12V)		
23	PS_(+12V)	R37 17.8 OHM 1/4W AXIAL	R38 0 OHM 1/4W
22	Phase V Current (+)		Phase V Current (-)
21	PS_(-12V)		
20	PS_(+12V)	R39 17.8 OHM 1/4W AXIAL	R40 0 OHM 1/4W
19	Phase U Current (+)		Phase U Current (-)
18	PS_(-12V)		
17	PS_(+12V)		
16	25_spare_3		
15	25_spare_2		
14	25_spare_1		
13	GND		
12	Emulator temp		
11	GND		
10	Emulator status 2		
9	Emulator status 1		
8	GND		
7	Interlock		
6	GND		
5	Ambient Temperature		
4	Temp Sensor 4		
3	Temp Sensor 3		
2	Temp Sensor 2	5V	
1	Temp Sensor 1	5V	

618025211821
CON000352

R35 RES000622 17.8 OHM 1/4W AXIAL
R36 0 OHM 1/4W RES000109
PS_(+12V)
PS_(-12V)

R41 10K OHM 1/4W RES000027	R42 10K OHM 1/4W RES000027	R43 10K OHM 1/4W RES000027	R44 10K OHM 1/4W RES000027	R45 10K OHM 1/4W RES000027	R46 10K OHM 1/4W RES000027	5V
R47 NA RES000027	R48 NA RES000027	R49 NA RES000027	R50 NA RES000027	R51 NA RES000027	R52 NA RES000027	

GPIO Expander

GPIO
J13

9	GND	
8	Pre_charge_8	Pre_charge_8
7	5VDC_Load ON/OFF_7	5VDC_Load ON/OFF_7
6	RS485B_SW_6	RS485B_SW_6
5	RS485A_SW_5	RS485A_SW_5
4	12V_VSW_4	12V_VSW_4
3	PS ON/OFF_3	PS ON/OFF_3
2	TTL_SW_2	TTL_SW_2
1	RS232_SW_1	RS232_SW_1

B9B-XH-AM
CON000334

J13 connects to HRN000115

DAQS Spares

DAQ1_5V	DAQ2_5V	GND	DAQ1_P2.0	DAQ2_AI7	DAQ2_P2.0	DAQ2_P1.3	DAQ2_P1.0	DAQ2_P0.7	GND	25_spare_3	25_spare_2	25_spare_1			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

J16
NA
CON000318

Mini Prog 4

Flashing can only be done while power on

J15

1		VTARG	1
2	SWDIO	SWDIO	2
3			3
4	SWCLK	SWCLK	4
5			5
6		TDO/SWO	6
7			7
8		TDI	8
9			9
10	XRES	XRES	10

J14

NA
CON000353

FTSH-105-01-L-DV-K
CON000007

J25 Is Spare

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