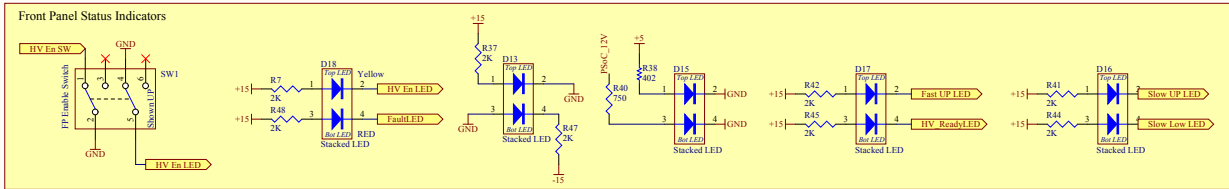
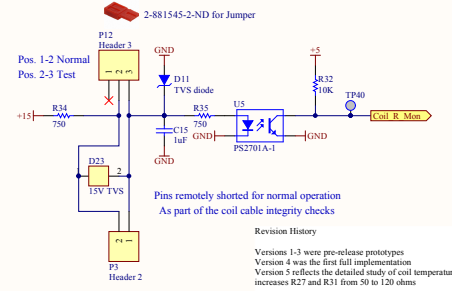
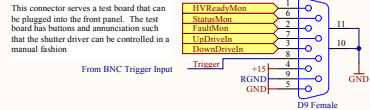
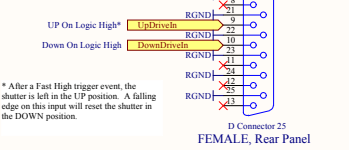
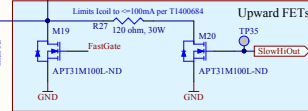
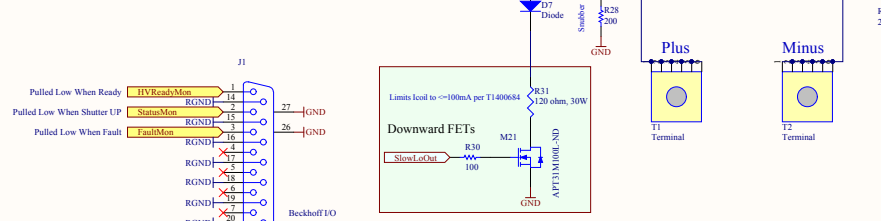
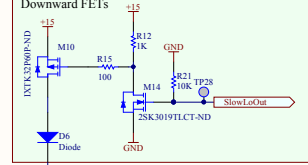
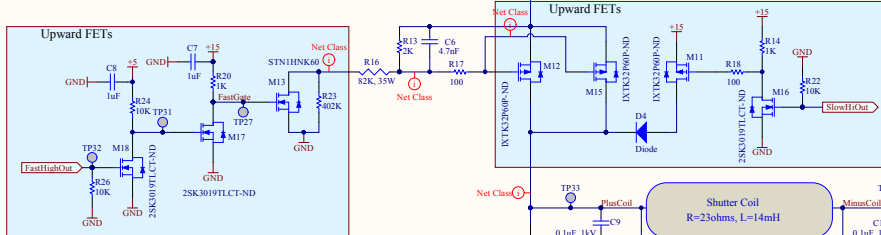
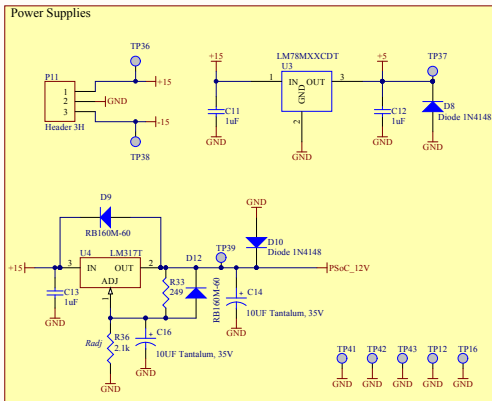
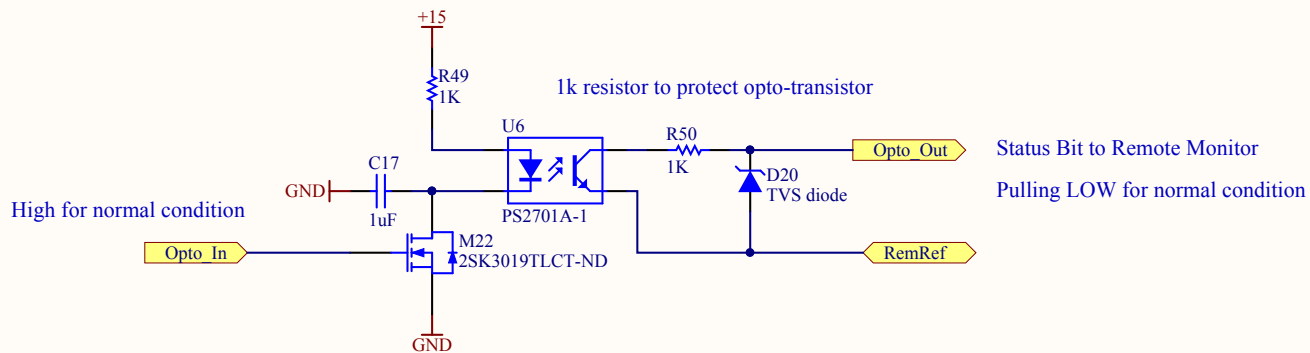


See T1400186 for design notes



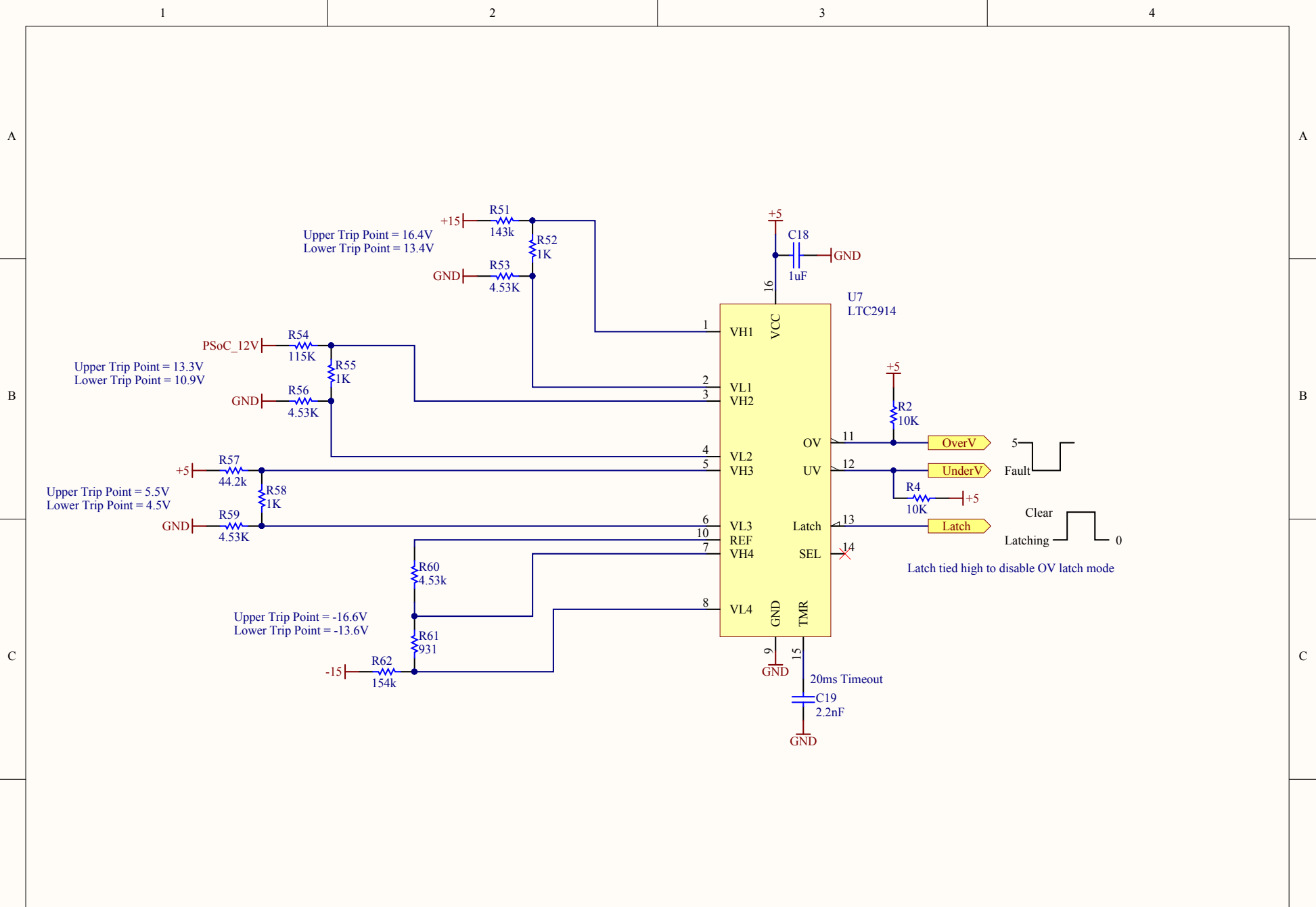
- Part1: T0220 Resistor Heatsink
- Part2: W47264-101E-ND
- Part3: Board Standoff
- Part4: Red Jumper



In order to deterministically annunciate a fault condition, the input to this stage is held at +5V such that the output will pull low. The remote readout for this monitor normally floats high, and will be actively pulled low by this stage. A loss of power on this monitor, or a disconnected cable, will show as a fault condition to the remote readout stage.

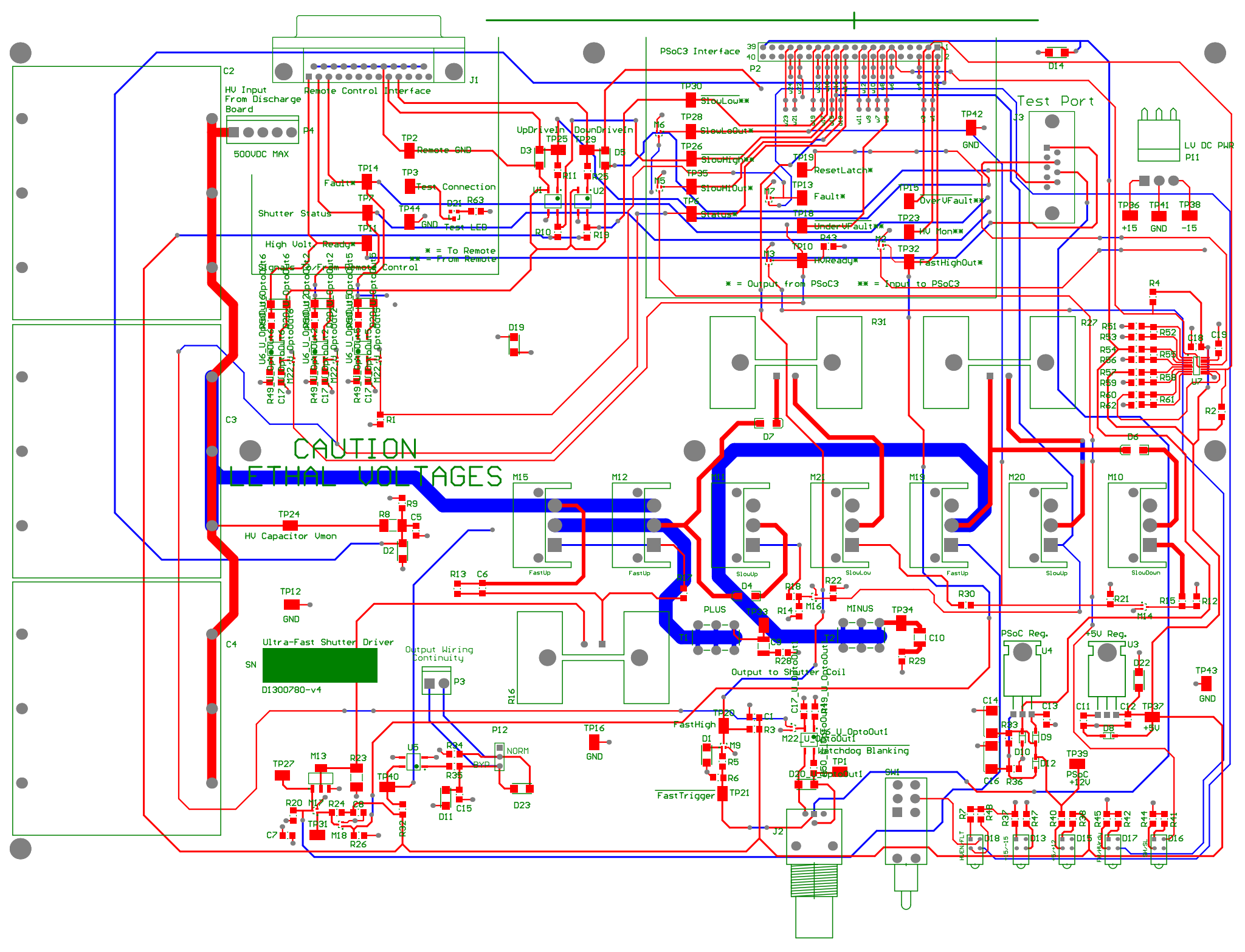
Last Edited: 10/23/2014

Title <b>Opto-isolated Output Monitor</b>		LIGO Project California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: A	DCC Number: D1300780	Revision: v5	Engineer: Shao, R. Abbott	Date: 10/23/2014	Time: 12:43:46 PM
File: C:\Rich's Files\Mycadfiles\ISC\FastShutterPulser\Pulser v5\OptoOut.SchDoc				Sheet 2 of 3	



Last Edited: 10/23/2014

Title <b>Voltage Monitor</b>		LIGO Project California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: A	DCC Number: D1300780	Revision: v5	Engineer: Shao, R. Abbott	Date: 10/23/2014	Time: 12:43:46 PM
File: C:\Rich's Files\Mycadfiles\ISC\FastShutterPulser\v5\VoltageMonitor.SchDoc				Sheet 3 of 3	



CAUTION  
LETHAL VOLTAGES

Ultra-Fast Shutter Driver  
SN  
D1300780-v4

High Voltage Ready\*\*  
Control

\* = To Remote  
\*\* = From Remote

PSoC3 Interface

Test Port

PSoC Reg.

+5V Reg.

FastTrigger

Output to Shutter Coil

HV Capacitor Umon

Shutter Status

HV Input From Discharge Board

LU DC PWR

+15 GND -15

+5V

PSoC +12V

Designator	Comment	Description	Quantity	Part #	Manufacturer	Stock #	Unit Cost	Total Cost
C1, C5, C7, C8, C11, C12, C13, C15, C17, U_OpnaOut, C17, U_OpnaOut, C17, U_OpnaOut, C17, U_OpnaOut, C18		Capacitor	13	1276-1204-ND				
C2, C3, C4	100uF, 50VDC	20mm High Voltage Capacitor	2	BC202-ND				
C5	4.7uF	Capacitor	1	44E7636-17-ND				
C8, C10	0.1uF, 16V	Capacitor	2	3994752-27-ND				
C14, C16	50V	Polarized Cap	2	478-1721-1-ND				
C19	2.2uF	Capacitor	1	10759233-1-ND				
D1	TVS diode	Single TVS diode	1	390435-1-ND				
D2, D22	5V TVS	Transient Voltage Suppressor	2	390435-1-ND				
D3, D6, D11, D12, U_AnaOut, D20, U_OpnaOut, D20, U_OpnaOut, D20, U_OpnaOut, D20, U_OpnaOut		TVS diode	7	390435-1-ND				
D4, D6, D7	Diode	Diode	3	390435-1-ND				
D8, D10	Diode 1N4148	High Conductance Fast Diode	2	1144897FPMBC				
D9, D12	1N4148	High Conductance Fast Diode	2	1144897FPMBC				
D17, D18, D19, D21	Green LED	Dual Green LED	4	67132-1-ND				
D14	12V TVS	Transient Voltage Suppressor	1	390435-1-ND				
D18	Green LED	LED	1	390435-1-ND				
D19, D23	12V TVS	Transient Voltage Suppressor	2	390435-1-ND				
D21	Green LED	LED	1	390435-1-ND				
J1	0 Connector 25	Microelectronics Assembly, 25 Position, Right Angle	1	66170-0255-AJ-120-ND				
J2	0 Connector 25	Microelectronics Assembly, 25 Position, Right Angle	1	66170-0255-AJ-120-ND				
J3	09 Female	Microelectronics Assembly, 9 Position, Right Angle	1	66170-0255-AJ-120-ND				
M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, U_OpnaOut, M22, U_OpnaOut, M22, U_OpnaOut		MOSFET	14	2820117LET-ND				
M11, M12, M13, M15		Channel MOSFET	4	1K1C12P02F-ND				
M13	BTN1N800	Microelectronics Channel MOSFET	1	4974688-1-ND				
M19, M20, M21		Channel MOSFET	3	3A7311M3SL-ND				
P2	Header 20x2	Header, 2 Pin	1	1W1810-ND				
P3	Header 2	Header, 2 Pin	1	1A376-ND				
P4	MOLEX 6-156	Header, 6 Pin	1	1W1810-ND				
P11	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P12	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P13	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P14	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P15	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P16	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P17	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P18	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P19	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P20	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P21	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P22	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P23	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P24	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P25	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
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P27	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P28	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P29	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P30	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P31	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
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P33	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P34	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P35	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P36	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P37	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
P38	Header 3Pin	Header, 3 Pin	1	1W1810-ND				
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