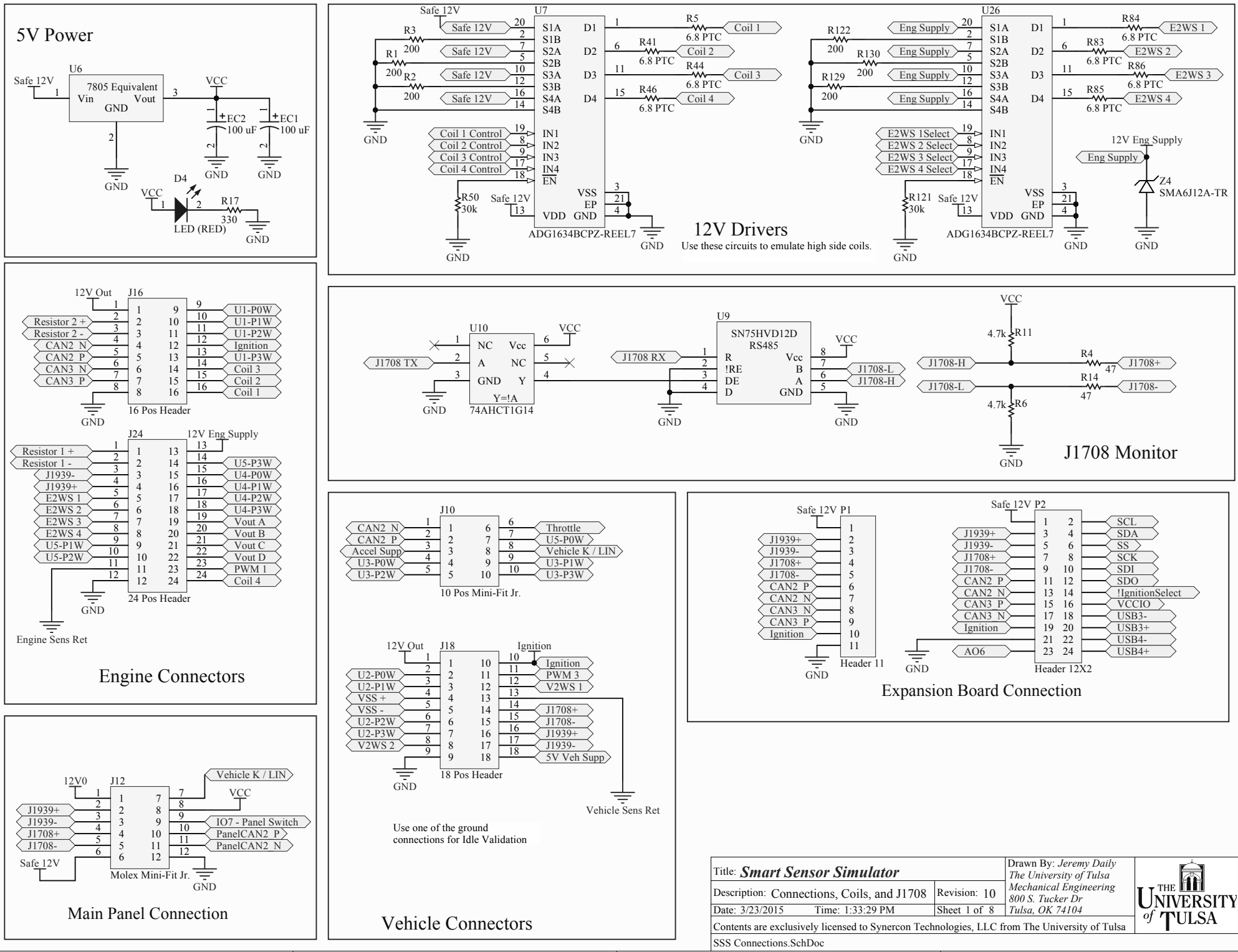
5V Power
U6
7805 Equivalent
Vin
Vout
GND
Safe 12V
VCC
EC2
100 uF
EC1
100 uF
D4
LED (RED)
R17
330
12V Drivers
Use these circuits to emulate high side coils.
U7
ADG1634BCPZ-REEL7
Safe 12V
Coil 1
Coil 2
Coil 3
Coil 4
Coil 1 Control
Coil 2 Control
Coil 3 Control
Coil 4 Control
R1
R2
R3
R41
R44
R46
R50
30k
6.8 PTC
U26
Eng Supply
E2WS 1
E2WS 2
E2WS 3
E2WS 4
E2WS 1Select
E2WS 2 Select
E2WS 3 Select
E2WS 4 Select
R121
R122
R129
R130
R83
R84
R85
R86
12V Eng Supply
Z4
SMA6J12A-TR
J1708 Monitor
U10
74AHCT1G14
U9
SN75HVD12D
RS485
J1708 TX
J1708 RX
J1708-L
J1708-H
J1708+
J1708-
R11
R14
R4
R6
4.7k
47
Engine Connectors
12V Out
J16
16 Pos Header
Resistor 2 +
Resistor 2 -
CAN2_N
CAN2_P
CAN3_N
CAN3_P
U1-P0W
U1-P1W
U1-P2W
Ignition
U1-P3W
Coil 3
Coil 2
Coil 1
J24
24 Pos Header
12V Eng Supply
Resistor 1 +
Resistor 1 -
J1939-
J1939+
E2WS 1
E2WS 2
E2WS 3
E2WS 4
U5-P1W
U5-P2W
U5-P3W
U4-P0W
U4-P1W
U4-P2W
U4-P3W
Vout A
Vout B
Vout C
Vout D
PWM 1
Coil 4
Engine Sens Ret
Vehicle Connectors
J10
10 Pos Mini-Fit Jr.
CAN2_N
CAN2_P
Accel Supp
U3-P0W
U3-P2W
Throttle
U5-P0W
Vehicle K / LIN
U3-P1W
U3-P3W
J18
18 Pos Header
12V Out
Ignition
U2-P0W
U2-P1W
VSS +
VSS -
U2-P2W
U2-P3W
V2WS 2
PWM 3
V2WS 1
J1708+
J1708-
J1939+
J1939-
5V Veh Supp
Vehicle Sens Ret
Use one of the ground
connections for Idle Validation
Expansion Board Connection
Safe 12V P1
Header 11
Safe 12V P2
Header 12X2
SCL
SDA
SS
SCK
SDI
SDO
!IgnitionSelect
VCCIO
USB3-
USB3+
USB4-
USB4+
AO6
Main Panel Connection
12V0
J12
Molex Mini-Fit Jr.
Vehicle K / LIN
IO7 - Panel Switch
PanelCAN2_P
PanelCAN2_N
Title: Smart Sensor Simulator
Description: Connections, Coils, and J1708
Revision: 10
Date: 3/23/2015
Time: 1:33:29 PM
Sheet 1 of 8
Drawn By: Jeremy Daily
The University of Tulsa
Mechanical Engineering
800 S. Tucker Dr
Tulsa, OK 74104
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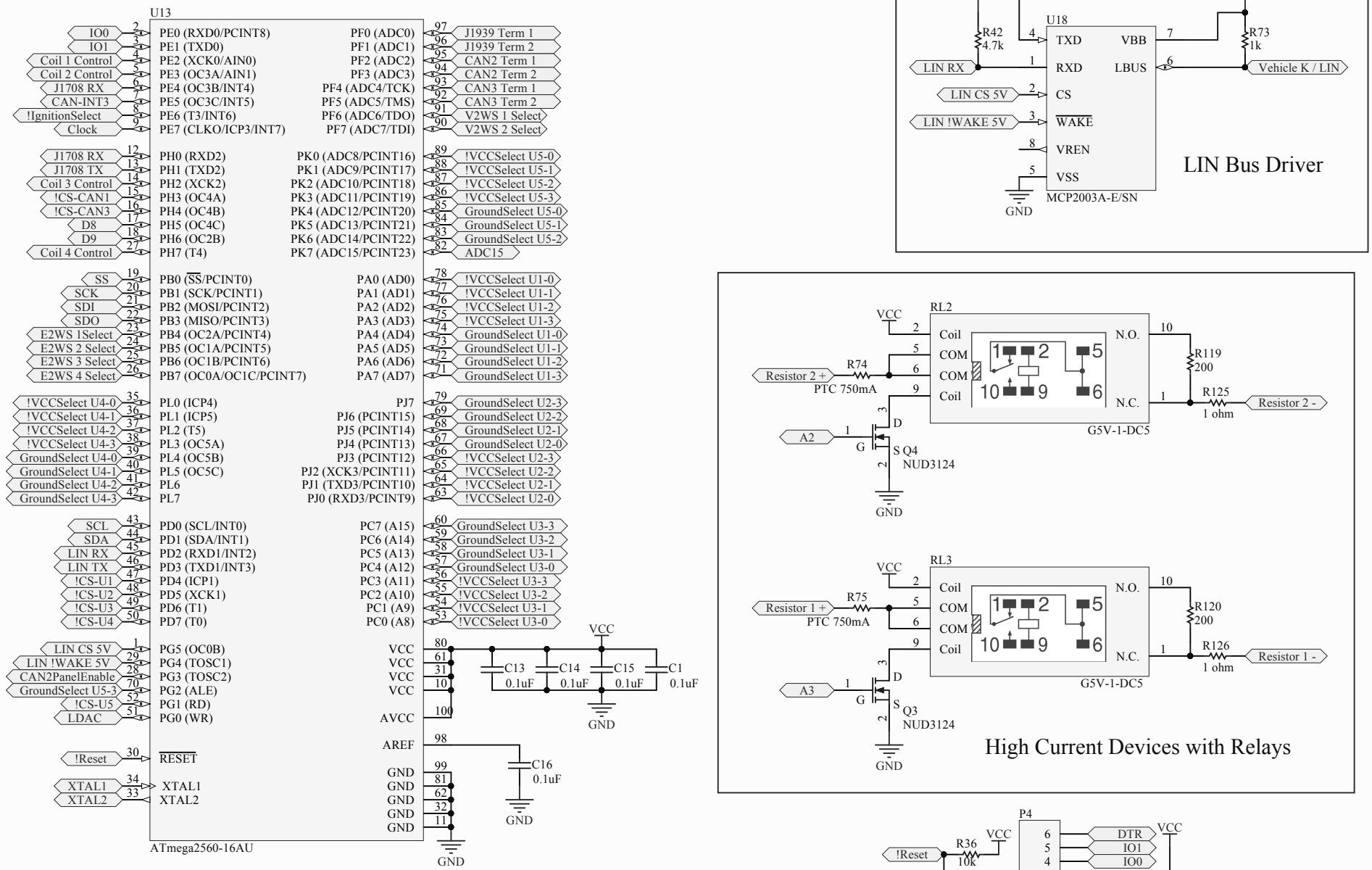
SSS Connections.SchDoc



Title: ***Smart Sensor Simulator***			Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: Mega Processor and Relays		Revision: 10	
Date: 3/23/2015	Time: 1:33:29 PM	Sheet 2 of 8	
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ATMega2560 and USB.SchDoc			

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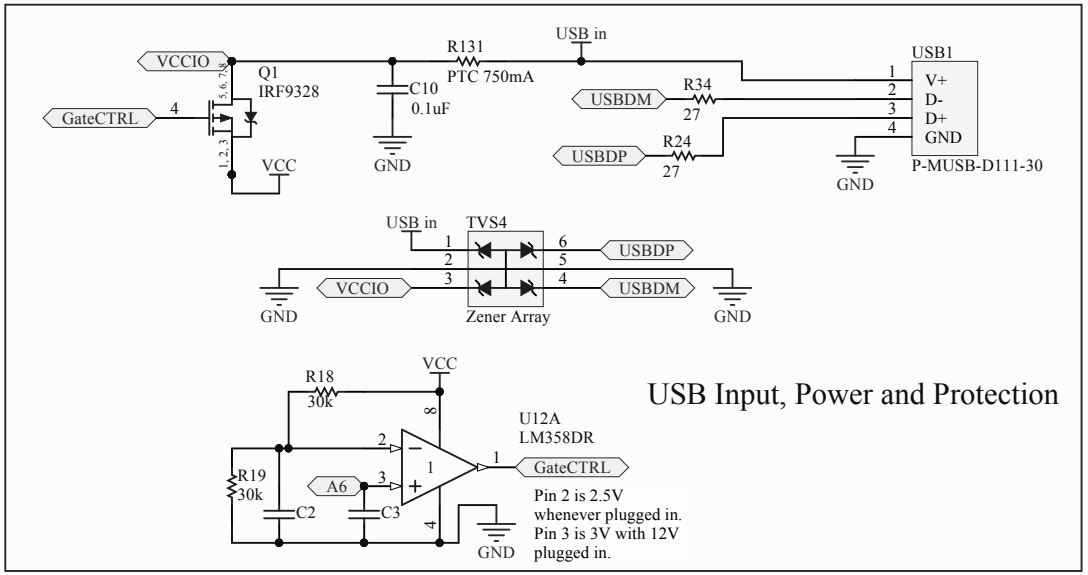

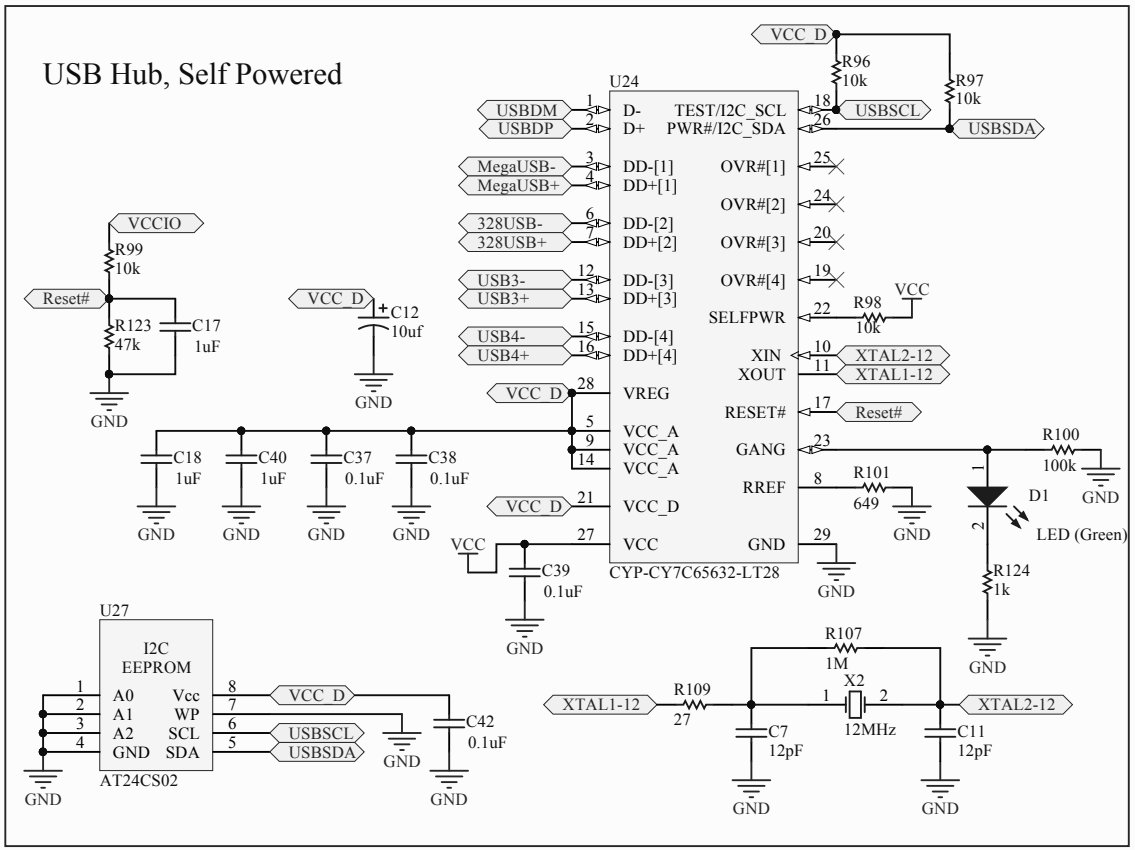

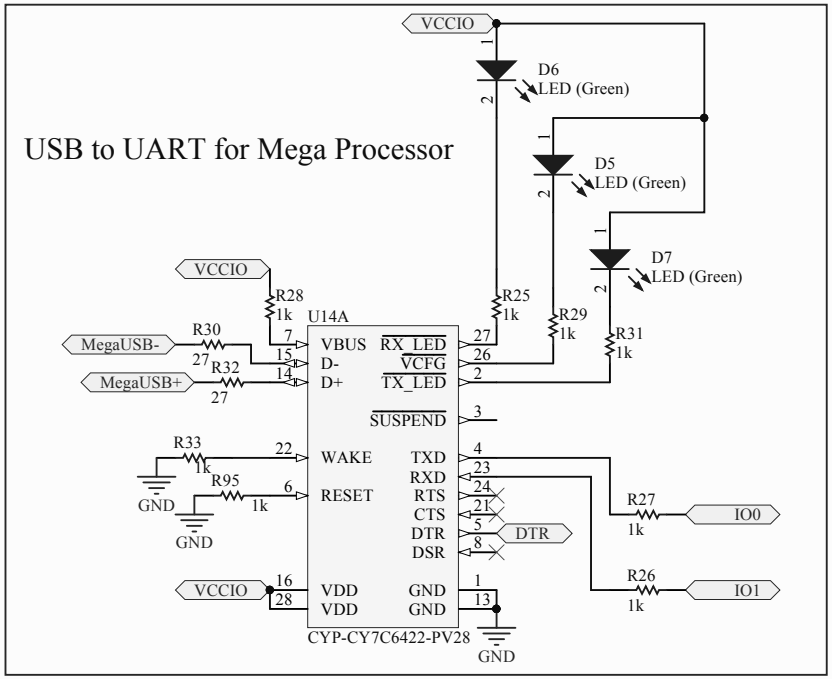

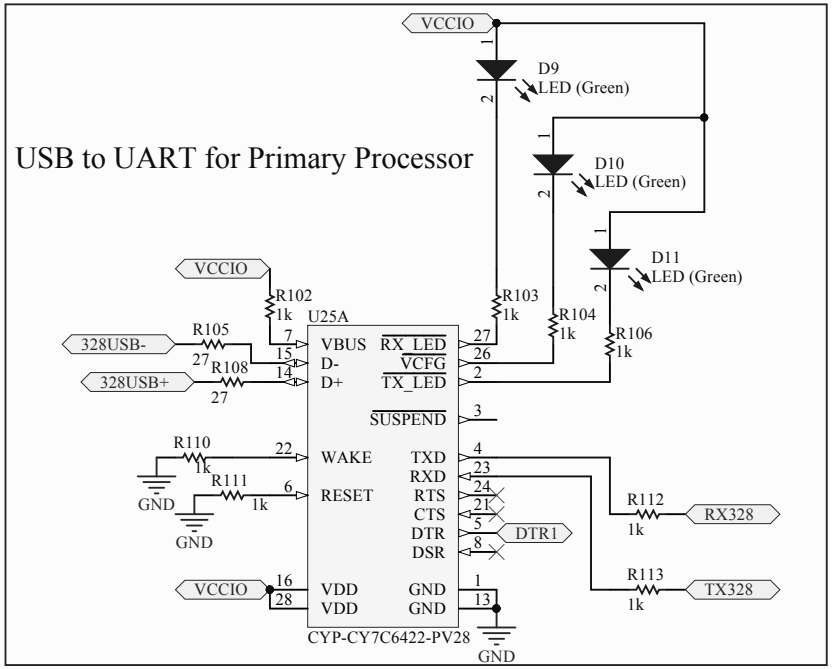

Title: ***Smart Sensor Simulator***		Drawn By: *Jeremy Daily*
Description: USB System	Revision: 10	*The University of Tulsa*
Date: 3/23/2015 Time: 1:33:29 PM	Sheet 3 of 8	*Mechanical Engineering*
		800 S. Tucker Dr
		Tulsa, OK 74104

USB Hub.SchDoc

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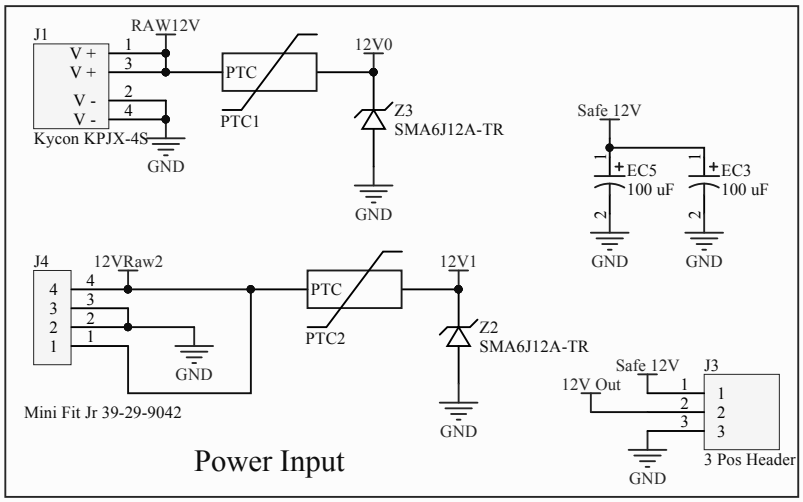

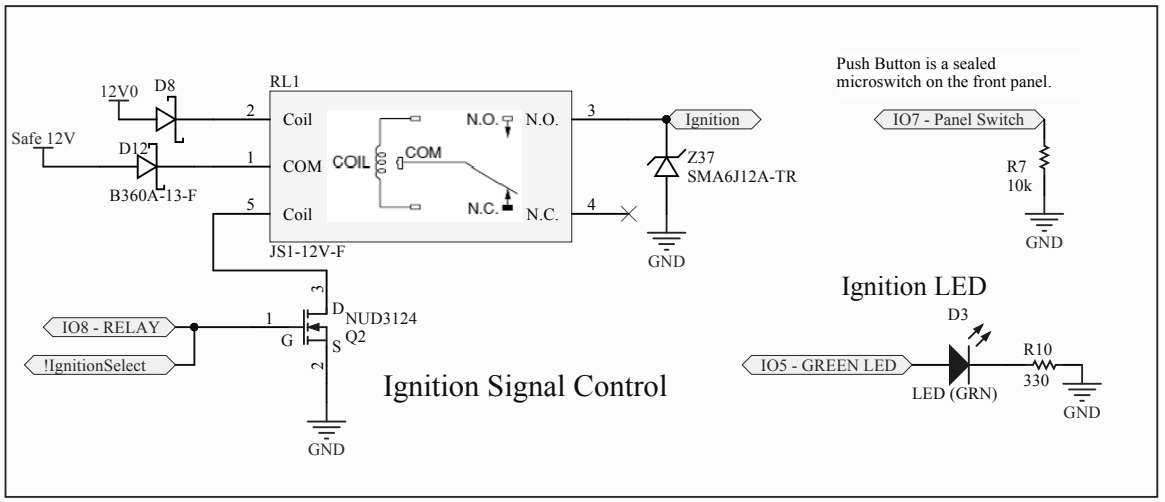

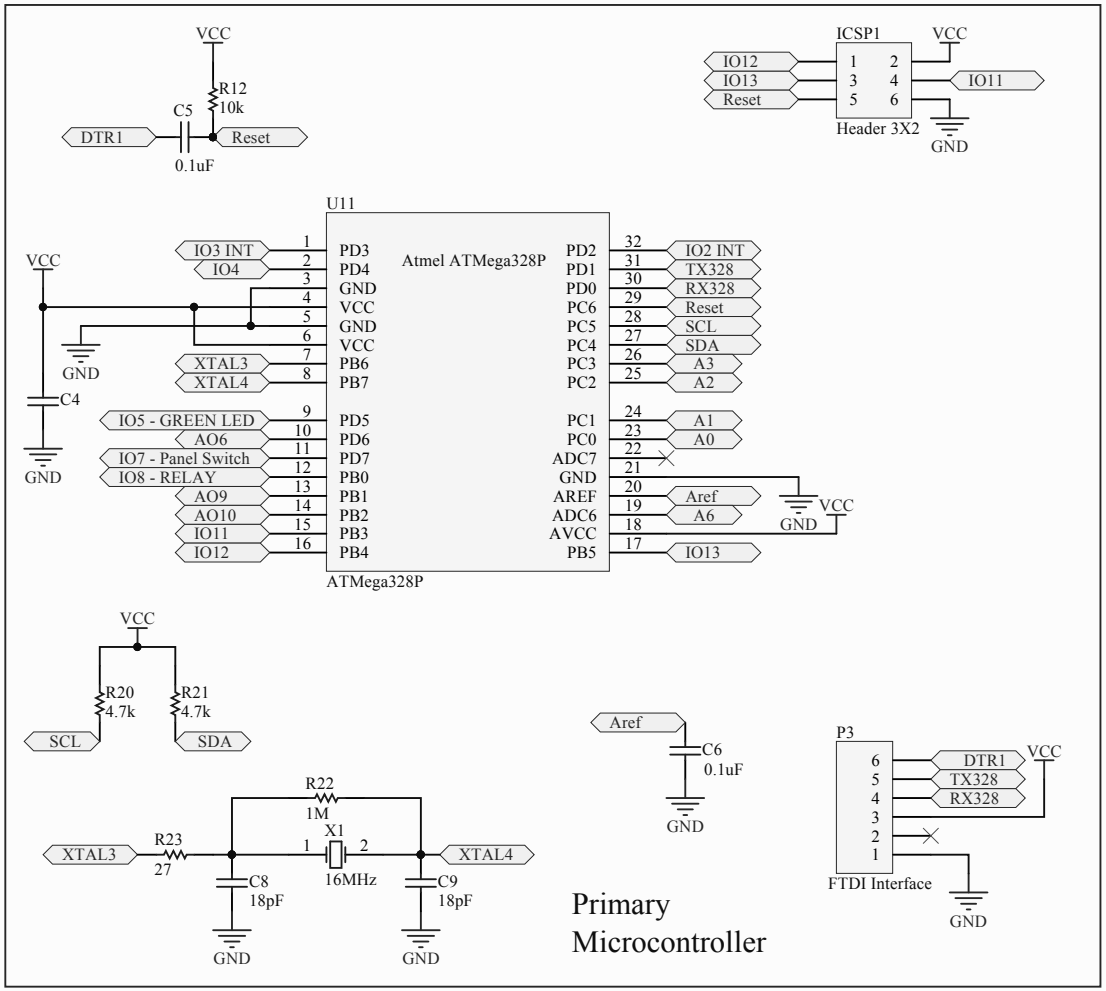

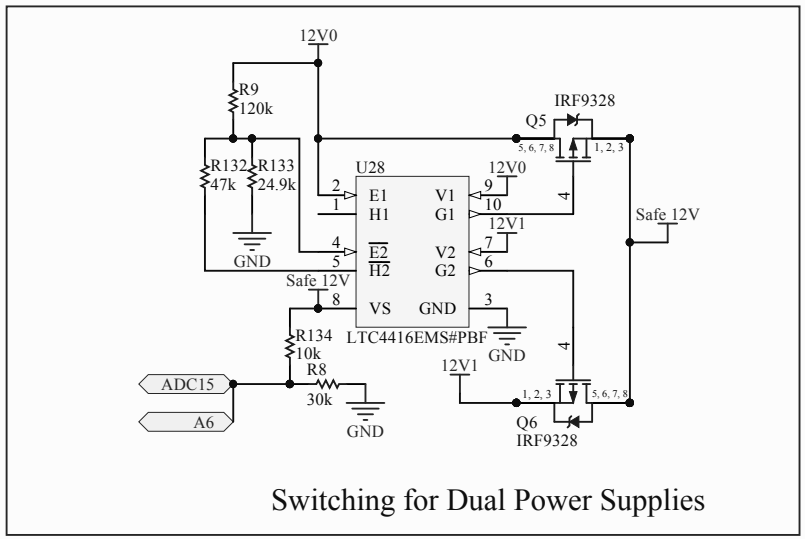

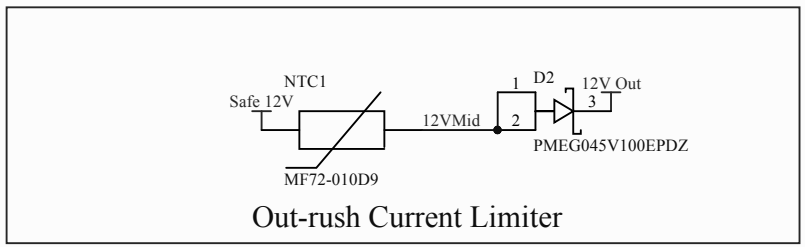

Title: ***Smart Sensor Simulator***			Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: Power Control and Key Switch		Revision: 10	
Date: 3/23/2015	Time: 1:33:30 PM	Sheet 4 of 8	
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Power and Ignition and Primary Processor.SchDoc			

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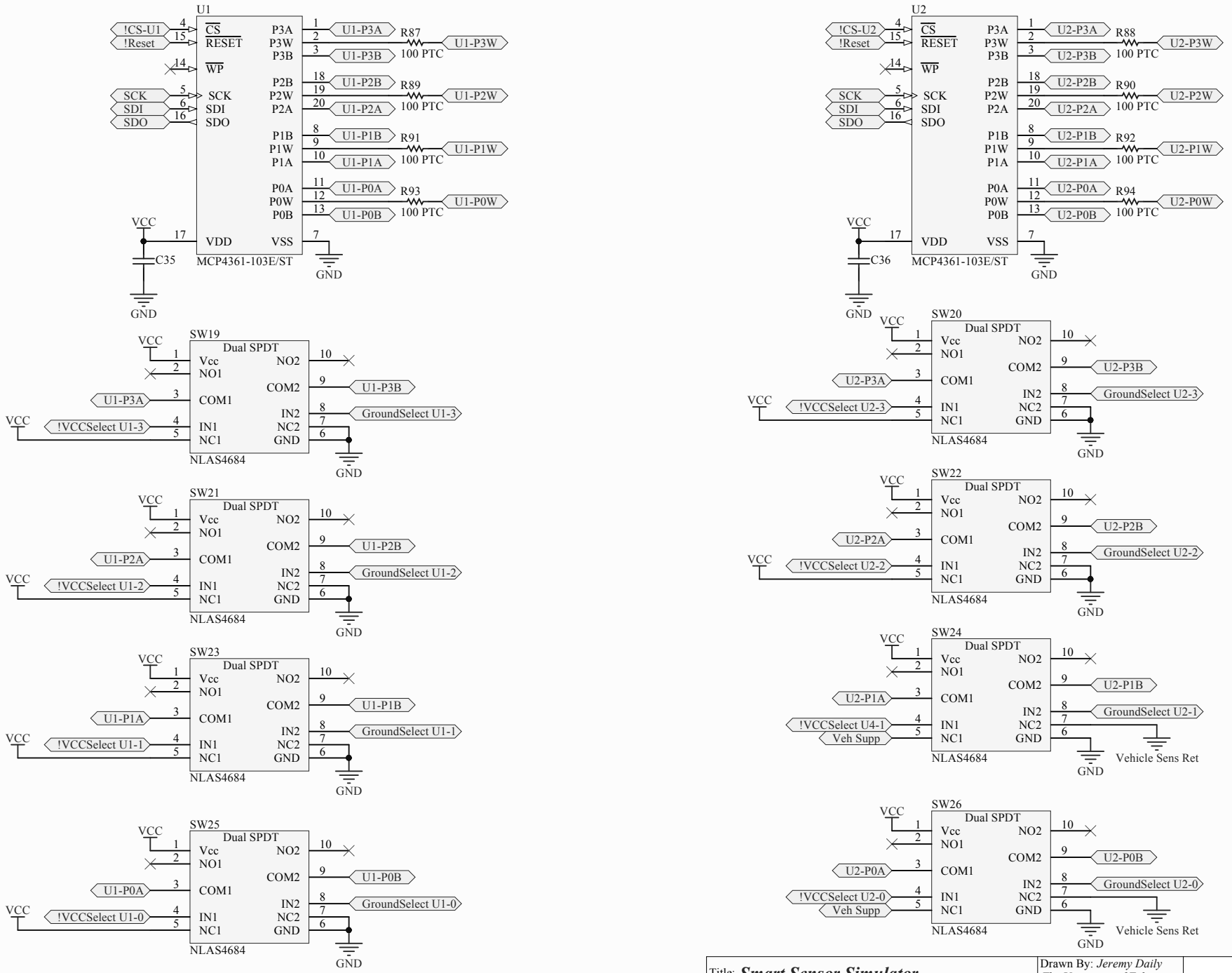

Title: ***Smart Sensor Simulator***		Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: Digital Potentiometers	Revision: 10	
Date: 3/23/2015 Time: 1:33:30 PM	Sheet 5 of 8	
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Digital Pot U1 and U2.SchDoc		

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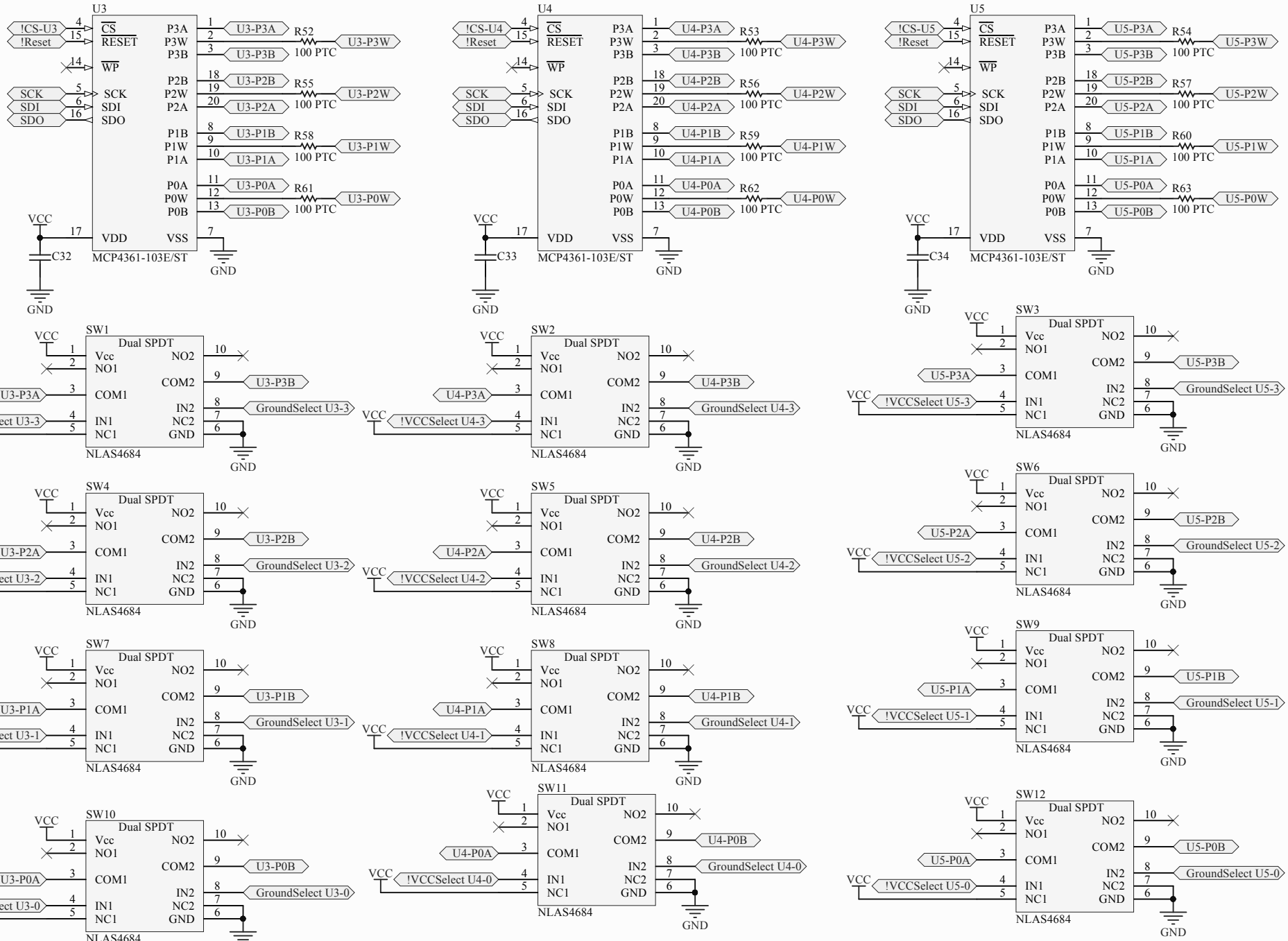

Title: ***Smart Sensor Simulator***		Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: Digital Potentiometers	Revision: 10	
Date: 3/23/2015 Time: 1:33:30 PM	Sheet 6 of 8	
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Digital Pot U3 and U4 and U5.SchDoc		

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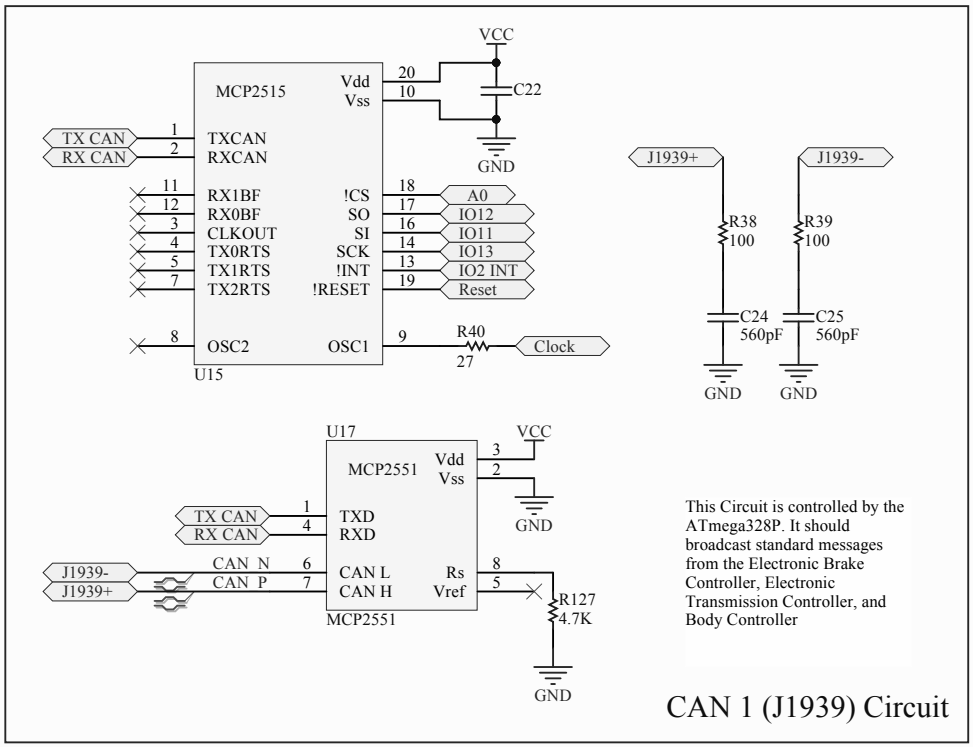

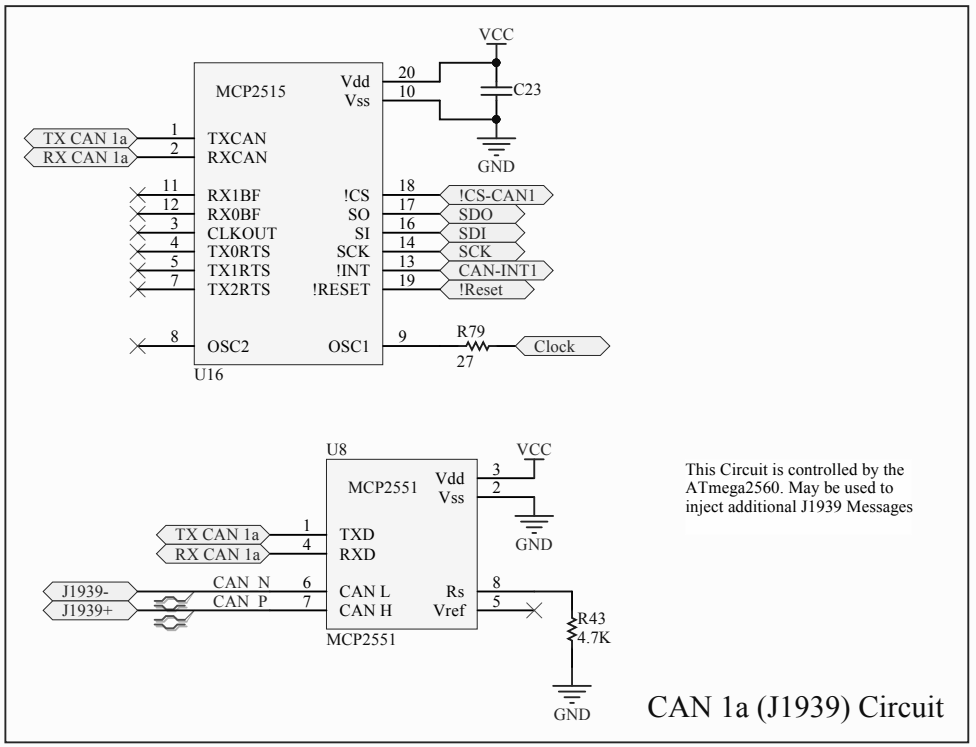

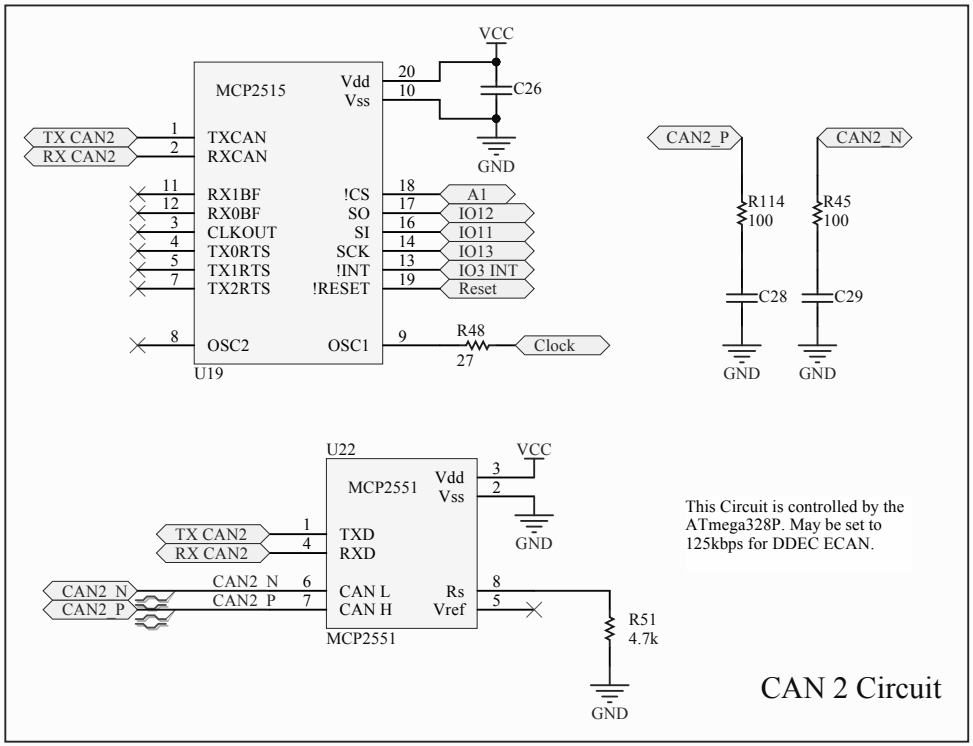

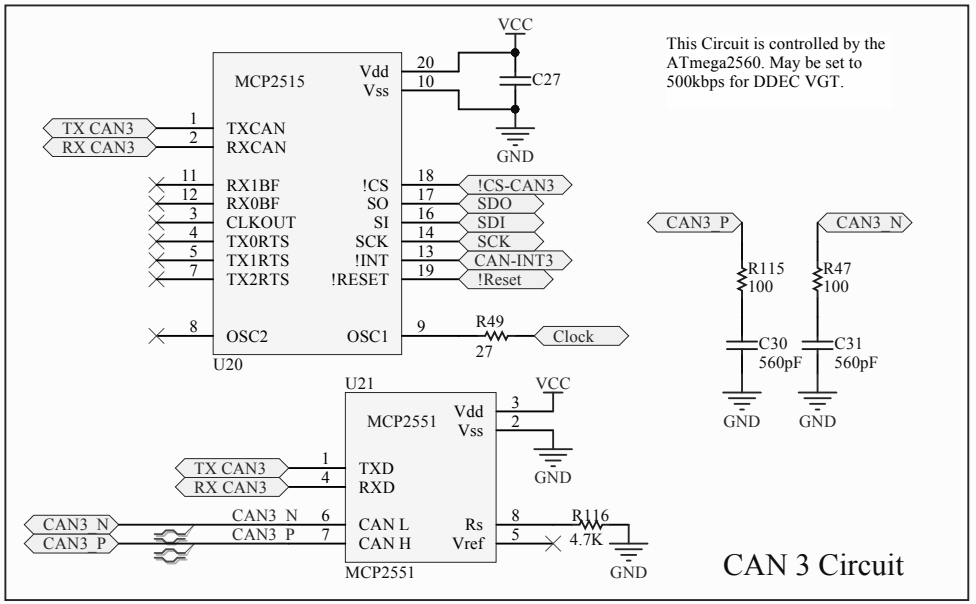

Title: ***Smart Sensor Simulator***		Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: CAN Circuits	Revision: 10	
Date: 3/23/2015 Time: 1:33:30 PM	Sheet 7 of 8	
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CAN Controllers.SchDoc		

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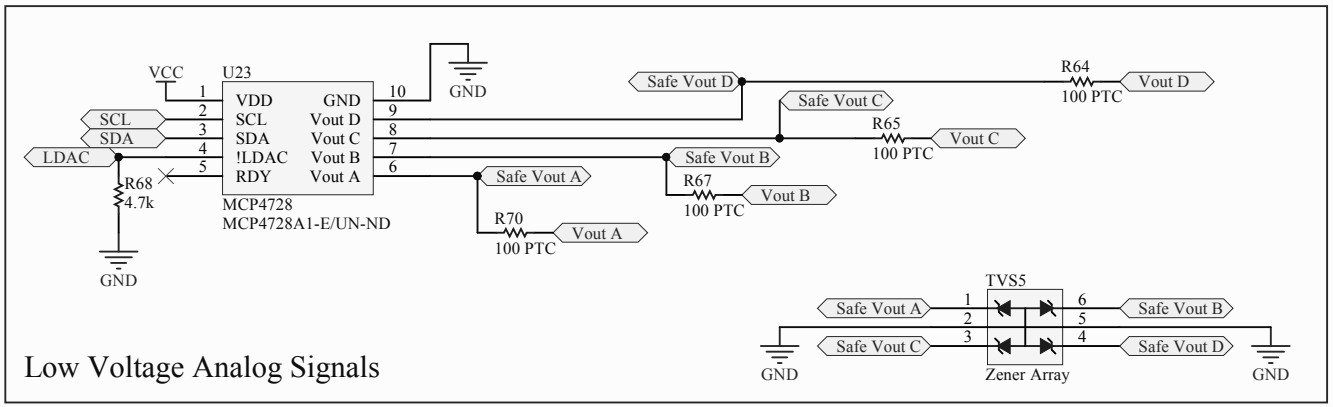

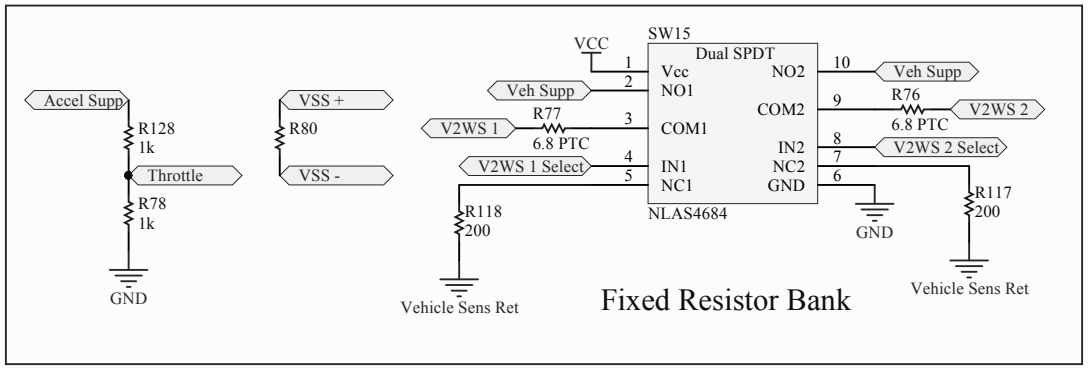

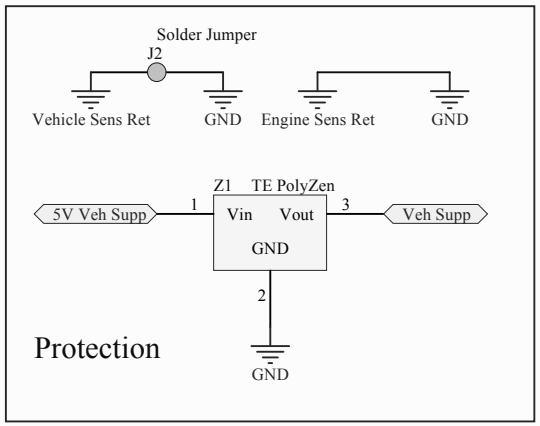

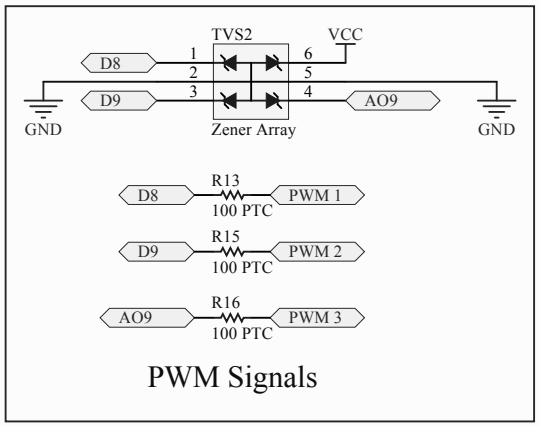

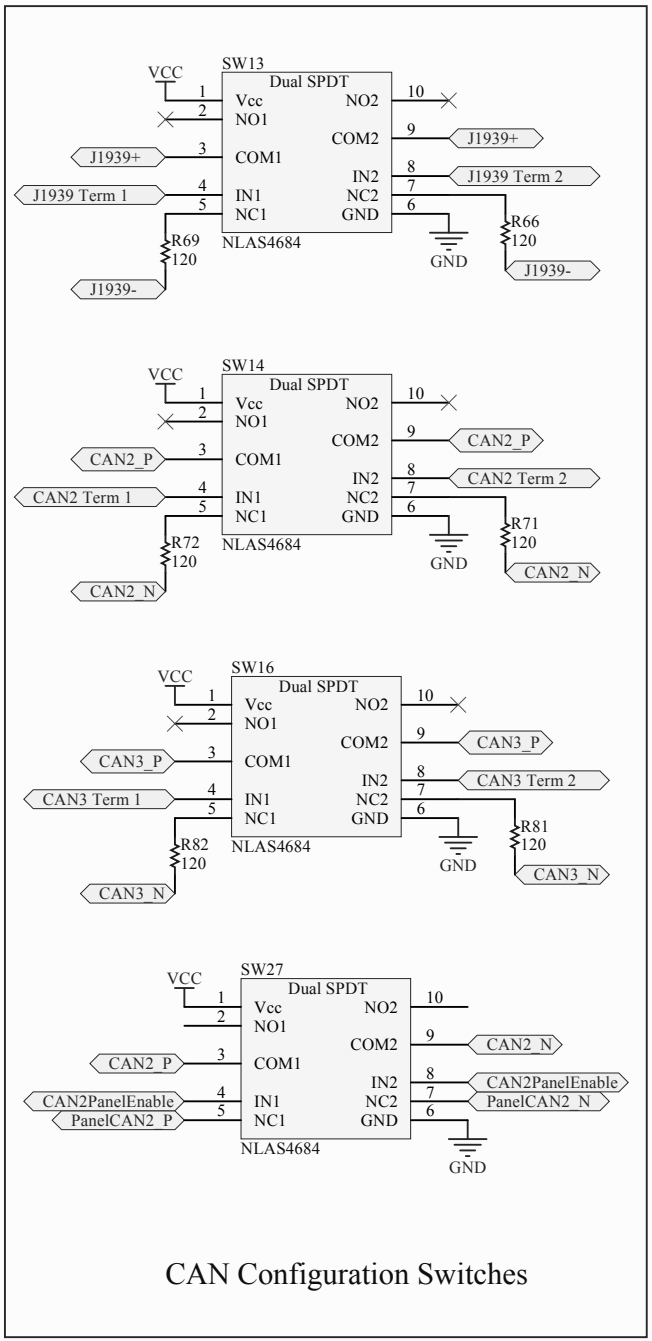

Light Pipe
LP1
Light Pipe
LP2

BRK1
Board Bracket

Fiducial Mark
F1
Fiducial Mark
F2
Fiducial Mark
F3

Title: ***Smart Sensor Simulator***		Drawn By: *Jeremy Daily* *The University of Tulsa* *Mechanical Engineering* *800 S. Tucker Dr* *Tulsa, OK 74104*
Description: Analog Out, CAN Conf.	Revision: 10	
Date: 3/23/2015 Time: 1:33:30 PM	Sheet 8 of 8	
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Resistor Bank.SchDoc		

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