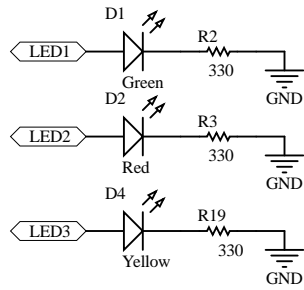
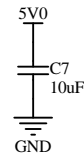
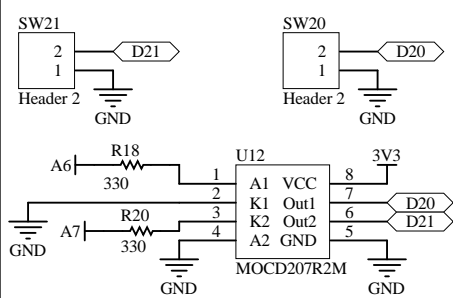


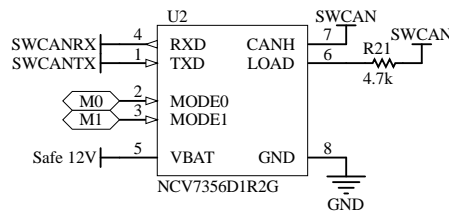
Breakout Headers



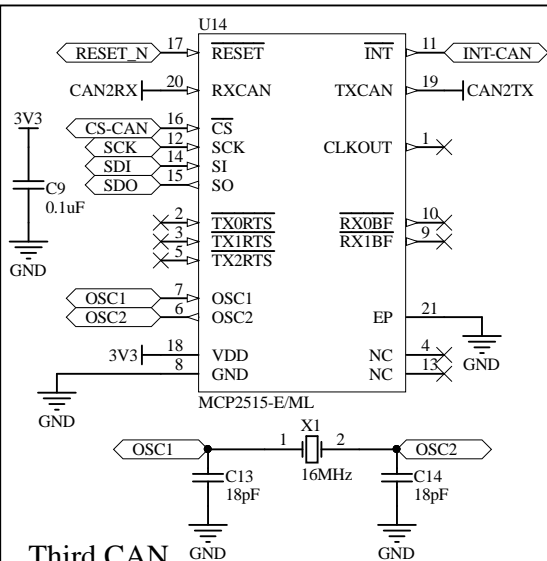
LED Indicators



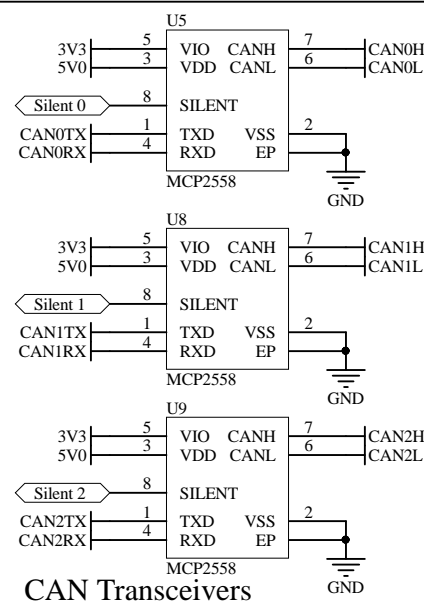
Optically Isolated Inputs



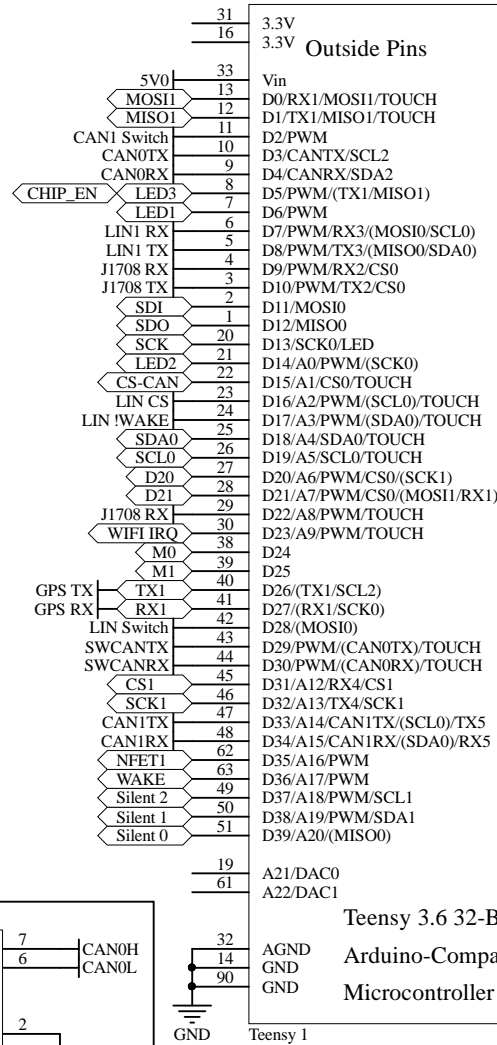
Single Wire CAN (GMLAN)



Third CAN



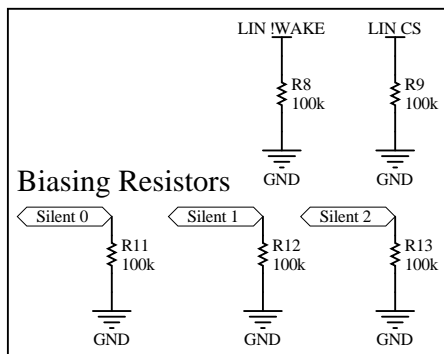
CAN Transceivers



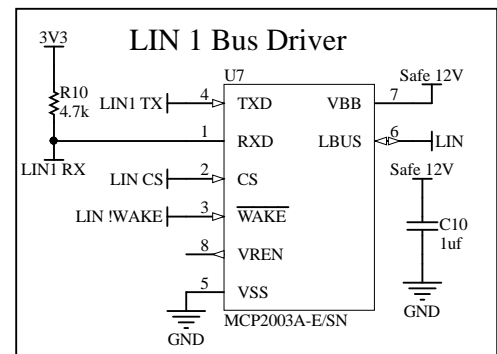
Teensy 3.6 32-Bit

Arduino-Compatible

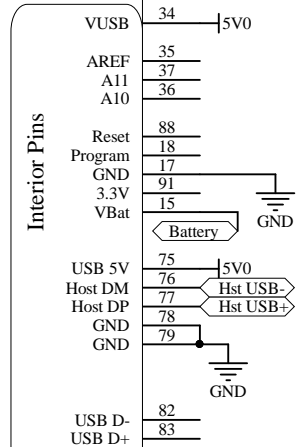
Microcontroller



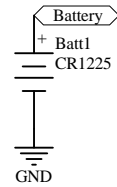
Biasing Resistors



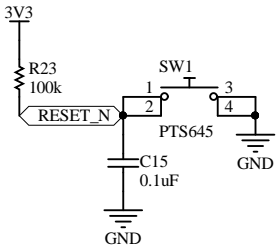
LIN 1 Bus Driver



Interior Pins



Battery



RESET_N

Title: **Secure Handheld J1939 Logger**Subtitle: **Hands-On Heavy Duty Networking**

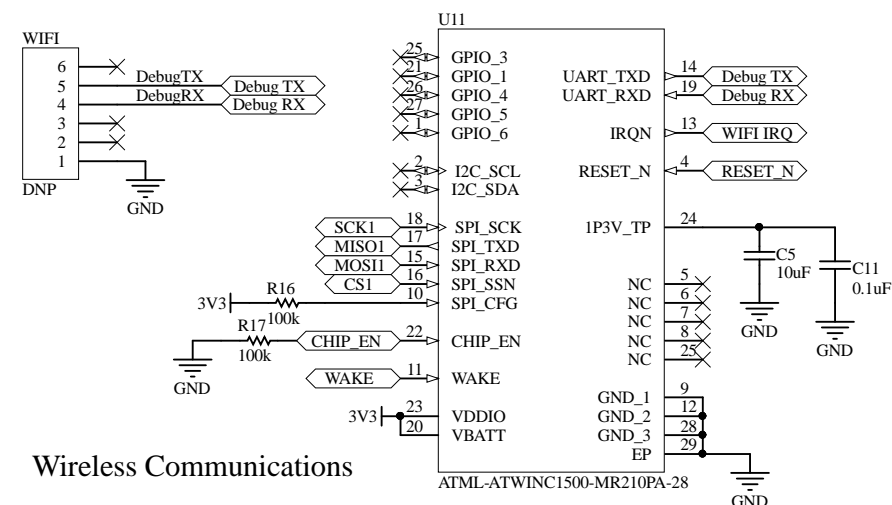
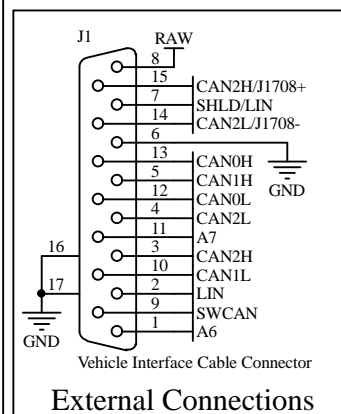
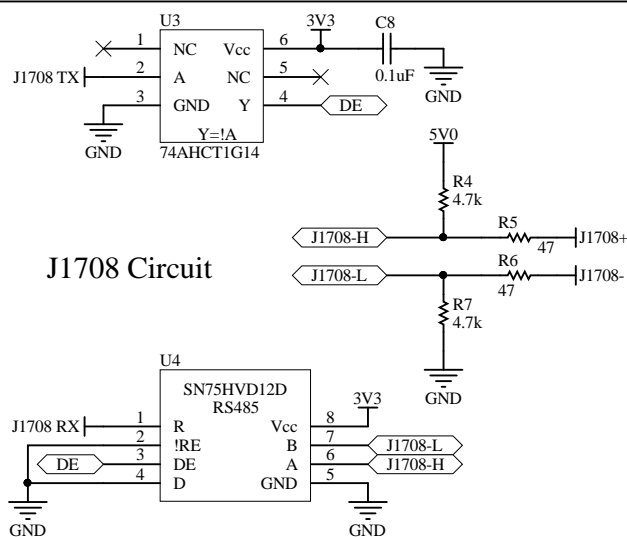
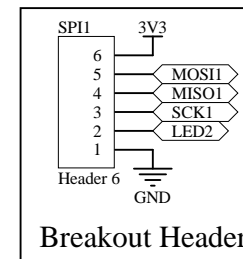
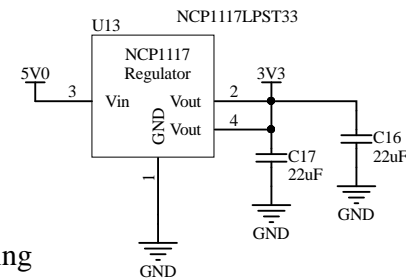
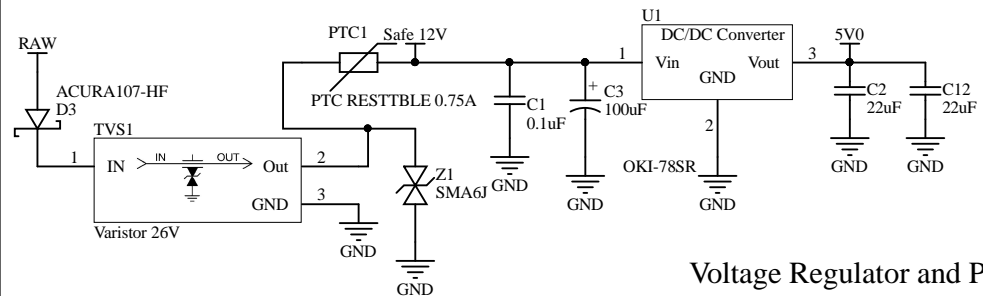
Date: 12/20/2017 Time: 5:29:37 PM Size: Letter Sheet 1 of 1

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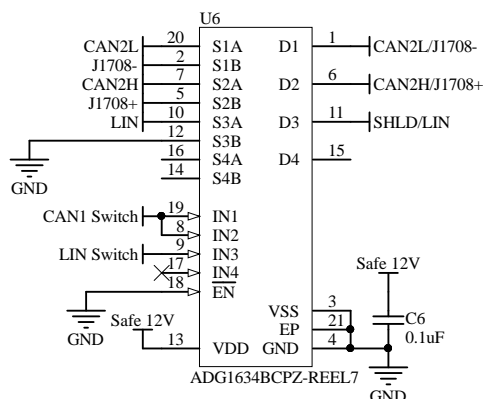
Revision: 1

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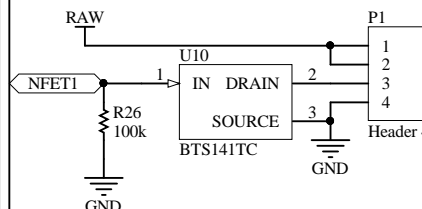




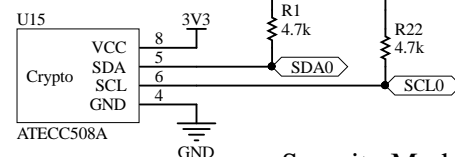
Pin Multiplexing Switch



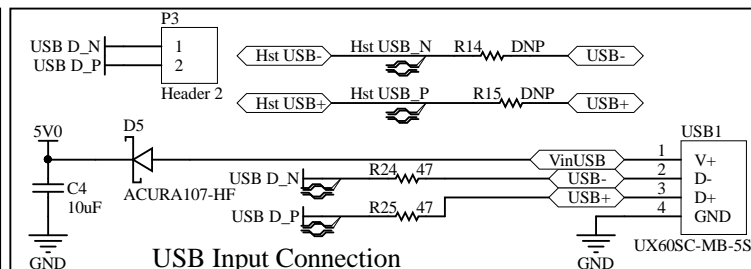
High Current Low-Side Driver



Security Module



USB Input Connection



Fits Bud HH-3642 Enclosure

Title: **Secure Handheld J1939 Logger**

Subtitle: **Wifi, J1708, USB, and Dsub**

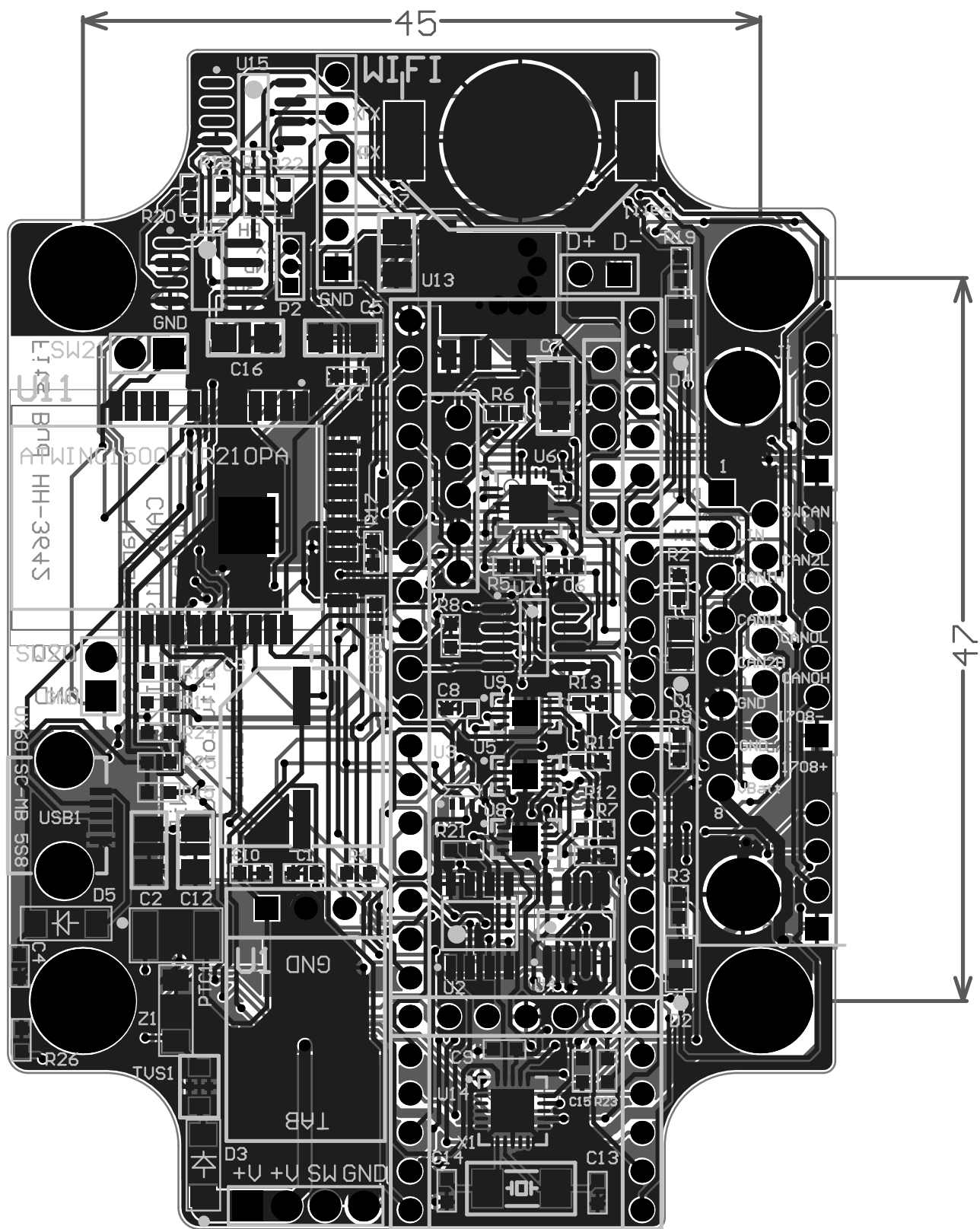
Revision: 1

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Comment	Description	Designator	Footprint	Libref	Manufacturer Part Number 1	Quantity	Supplier 1	Supplier Currency	Supplier Order Qty 1	Supplier Part Number 1	Supplier Stock 1	Supplier Unit Price 1	
CR1225	Lithium Battery Non-Rechargeable (Primary) 3V Coin, 12.5mm	Batt1	Battery Clip - CR1225	CR2032 Battery Holder	ltnx	BAT-4LD-012-3M1	1 Digi-Key	USD		BAT-4LD-012-3M1-ND	897	0.28	0.28
0.1uF	CAP CER 0.1UF 50V X7R 0603, CAP CER 0.1UF 50V 10% X7R 0603, CAP CER 0.1UF 50V 10% X7R 0603, CAP CER 0.1UF 50V X7R 0603, CAP CER 0.1UF 50V 10% X7R 0603	C1, C6, C8, C9, C10, C15	0603	Cap	Murata	GRM188R71H104KX5D	4 Digi-Key	USD	4	490-1519-1-ND	10640764	0.13	0.13
22uF	22uF ±20% 25V Ceramic Capacitor RSR 1206 (216 Metric)	C2, C12, C16, C17	1206	Cap	Murata	GRT31CRA1E224M-201L	4 Digi-Key	USD	4	490-12451-1-ND	12194	2.2	0.55
100uF	Aluminum Electrolytic Capacitors Radial Can - SMD 5000 Mv @ 105°C	C3	81ec_Cap_6	Tantalum Cap. 1	Panasonic ECG	EEI-AC1H101P	1 Digi-Key	USD	1	P119732CT-ND	3527	0.83	0.83
10uF	10uF ±20% 25V Ceramic Capacitor RSR 1608 (1408 Metric)	C4	0603	Cap	Murata	GR188B81E104M-113D	1 Digi-Key	USD	1	490-12323-1-ND	61832	0.55	0.55
10uF	10uF ±20% 50V Ceramic Capacitor RSR 1206 (216 Metric)	C5, C7	1206	Cap	Murata	GRT31CRA1H104M-201L	2 Digi-Key	USD	2	490-12451-1-ND	4584	0.94	0.48
1uF	1uF ±20% 50V Ceramic Capacitor RSR 0603 (1408 Metric)	C10	0603	Cap	Murata	GR188B81H105M-113D	1 Digi-Key	USD	1	490-12331-1-ND	1298	0.21	0.21
10pF	CAP CER 10PF 50V 0% NPO 0603	C13, C14	0603	Cap	HIMET	1060C138050CAC-TU	2 Digi-Key	USD	2	399-1052-1-ND	26284	0.2	0.1
Green	LED GREEN DIFFUSED 0805 SMD	D1	0805 Polarized	LED - SMD	Ocean Opto	LGRR17-406-1	1 Digi-Key	USD	1	475-1416-1-ND	28047	0.26	0.26
Red	LED RED DIFFUSED 0805 SMD	D2	0805 Polarized	LED - SMD	Ocean Opto	LSR16-N6-1	1 Digi-Key	USD	1	475-1216-1-ND	36328	0.26	0.26
ACURA107-4F	Diode Schottky 1000V 1A Surface Mount DO-214AC (SMA)	D1, D5	SMA with A and K	Schottky Diode	Loading...	Loading...	2 Digi-Key	Loading...		641-1884-1-ND			
Yellow	LED YELLOW DIFFUSED 0805 SMD	D4	0805 Polarized	LED - SMD	Ocean Opto	2WR16-PS-3e	1 Digi-Key	USD	1	475-2560-1-ND	14384	0.27	0.27
Header 4	Header 4 Pin	DC_P1_UM011	HDR104	Header 4			3						
Vehicle Interface Cable Connector	Receptacle Assembly 15 Position, Right Angle	J1	DSUB 15B-2915	0 Connector 15	Amphenol FC1	D15533E4D000L1	1 Digi-Key	USD	1	609-1498-ND	1063	2.24	2.24
DNP GP-20U7 JST	CONN HEADER RH SIDE 3POS 2MM SMD	J2	0603	Header 2			1 Digi-Key	USD	1	455-1750-1-ND	25282	0.49	0.49
Header 2	Header 2 Pin	J2, SW20, SW21	HDR102	Header 2			3						
PTC RES18B 0.75A	PTC RES18B 0.75A 12V CHIP 1812	PTC1	1812	PTC	Bel	92CC000750F2B	1 Digi-Key	USD	1	107-1745-1-ND	345670	0.21	0.21
4.7k	4.7k 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, High Voltage Thick Film	R1, R4, R7, R10, R21, R22	0603	Chip Resistor	Bohm	K7803EJF4701	6 Digi-Key	USD	6	69484-76ANCT-ND	15206	0.94	0.16
330	330 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, High Voltage Thick Film	R2, R3, R18, R19, R20	0603	Chip Resistor	Bohm	K7803EJF4330	5 Digi-Key	USD	5	6948433ANCT-ND	6190	0.8	0.16
47	47 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, High Voltage Thick Film	R5, R6, R24, R25	0603	Chip Resistor	Bohm	K7803EJF4780	4 Digi-Key	USD	4	6948478ANCT-ND	9530	0.64	0.16
100k	100k 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, High Voltage Thick Film	R8, R9, R11, R12, R13, R16, R17, R23, R26	0603	Chip Resistor	Bohm	K7803EJF1003	9 Digi-Key	USD	9	6948100KANCT-ND	15209	1.44	0.16
DNP	1% 1/10W 0603	R14, R15	0603	Chip Resistor	Panasonic ECG	ERJ-3E4F180V	2 Digi-Key	USD	2	P410HCT-ND	372248	0.2	0.1
Header 6	Header 6 Pin	SP1	HDR106	Header 6			1						
PT5645	PT5645 Series 6 open Tact Switches	SW1	Switch PT5645	Switch - Tactile, 1	ITT C&K	1754433AA33MTR-KD1J5	1 Digi-Key	USD	1	CDW112CT-ND	319871	0.16	0.16
Tensy 3.6 Through Hole	24 Position Header Connector (3007 (0.24mm) Through Hole - No Gold)	Tensy1	Tensy 3.6	Tensy 3.6 Through Hole	Sullins	PPPC41U1FBN-RC	1 Digi-Key	USD	1	137057-ND	2425	1.43	1.43
Varistor 26V	24.5V 50A Varistor 1 Circuit Surface Mount 0805 (2012 Metric)	TVS1	Transflood	Transflood	Kyocera AVX	V24P126C8072ED-1	1 Digi-Key	USD	1	478-10038-1-ND	2000	0.78	0.78
DM-785R	BV DC/DC Converter (7805 replacement)	U1	DM-785R	7805	Murata	DM-785R-S/1.2-W34H-C	1 Digi-Key	USD	1	1811-2692-ND	9345	4.3	4.3
NCV735AD1R0G	Single Wire CAN Transceiver, 5 to 27 V, 8-Pin SOIC, Pb-Free, Tube	U2	0805	ON Semiconductor	NCV735AD1G		1 Digi-Key	USD	1	NCV735AD1R0G05-1-ND	0	1.72	1.72
16ANCT1014	IC SCHMITT TRIGG 16V GATE 50T1353	U3	SOT-353	16ANCT1014	Disodes	16ANCT1014SE-1	1 Digi-Key	USD	1	16ANCT1014SE-1-ND	4964	0.25	0.25
SN75HVD08DR	IC RS485 10MB 32V 8-SOIC	U4	SOIC 5MM, N	SN75HVD12D (2.3V RS485)	Telex Instruments	SN75HVD08DR	1 Digi-Key	USD	1	296-37993-1-ND	16989	4.06	4.06
MCP2508	Microchip CAN FD Transceiver with Sleep Mode	U5, UL, UP	TSFN	MCP2508FD	Loading...	Loading...	3 Arrow	Loading...		MCP2508FD1-1A-ND			
ADG1634BCPZ-REEL7	IC SWITCH QUAD SPDT 20T CSP	U6	ADG-CP-20-4-N	ADG1634BCPZ-REEL7	Analog Devices	REEL7	1 Digi-Key	USD	1	ADG1634BCPZ-REEL7CT-ND	3340	6.48	6.48
MCP2003A-E/SN	41 0802 Transceiver, 8-Pin SOIC, Extended Temperature, Tape and Reel	U7	SOIC 5MM, N	MCP2003AT-E/SN	Microchip	MCP2003A-E/SN-ND	1 Digi-Key	USD	1	MCP2003A-E/SN-ND	2717	0.86	0.86
BTS141TC	Short Low-Side Power Switch 40V VDS, 12 A ID, -40 to 150 deg.C, TC-103A-3-Z, Boil, Green	U10	HF-PC-10263-3-Z-N	BTS141TC	Infineon	BTS141TC	1 Digi-Key	USD	1	BTS141TC18-ND	1000		
ATMLATWNC1500-MR210PA-28	SMARTCONNECT ATWNC1500-AU 1-MO	U11	ATMLATWNC1500-MR210PA-28-V	ATMLATWNC1500-MR210PA-28	Loading...	Loading...	1 Digi-Key	Loading...		ATWNC1510-MR210PB1140-ND			
MOCD00782M	Optoisolator Transistor Output 2500Vrms, 2 Channel, 8-SO Tht	U12	SOIC-8	Optoisolator - Dual	Fairchild Semiconductor	MOCD00782-M	1 Digi-Key	USD	1	MOCD00782MCT-ND	94330	1.34	1.34
NCP1117UP5T33	Linear Voltage Regulator IC Positive Fixed Output 3.3V 1A SOT-223	U13	SOT-223	NCP1117 2.5V	ON Semiconductor	NCP1117UP5T33T3-G	1 Digi-Key	USD	1	NCP1117UP5T33T3-GOSCT-ND	6531	0.49	0.49
MCP2515-E/RAL	CAN Controller CAN 2.2 SPI Interface 20-QFN (44)	U14	25NARL20-M	MCP2515-E/RAL	Microchip	MCP2515-E/RAL	1 Digi-Key	USD	1	MCP2515-E/RAL-ND	661	2.28	2.28
ATECC508A	Authentication Chip IC Networking and Communications 8-SOIC	U15	SOIC-8	ATECC508A	Microchip / Atmel	ATECC508A-SSHDA-T	1 Digi-Key	USD	1	ATECC508A-SSHDA-TCT-ND	7041	0.82	0.82
U860SC AMB-558	USB - mini B USB 2.0 Receptacle Connector 5 Position Surface Mount, Right Angle, Through Hole	U18B1	USB Mini U8605	USB-Rugged	Hirose	U860SC-AMB-558	1 Digi-Key	USD	1	111158CT-ND	12732	1.06	1.06
DNP	CONN HEADER FINAL 1 PPOS 1" GOLD	W1F1	HDR106	Header 6	Sullins	PPPC41U1FBN-RC	1 Digi-Key	USD	1	137039-ND	9261	0.53	0.53
16MHz	CRYSTAL 16MHz 10PF SMD	X1	XTAL 2 pad	Crystal Oscillator	IXC	16-16-000MAA1-T	1 Digi-Key	USD	1	1885-1086-1-ND	30471	0.72	0.72
SMA6J	TVS DIODE 30VWM 36-BVC SMA	Z1	SMA	Diode - Bidirectional	MCC	SMA6J24CA-TP	1 Digi-Key	USD	1	1PFA6JCT-ND	0	0.49	0.49