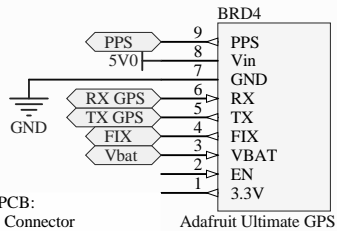
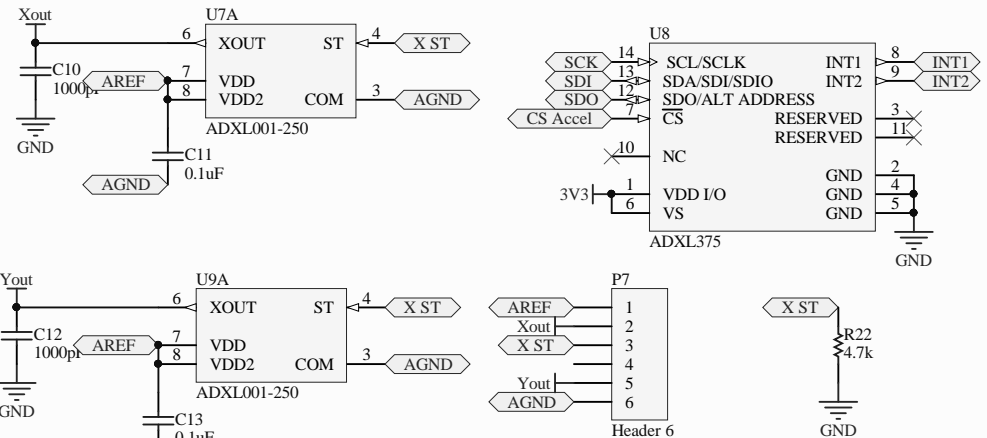
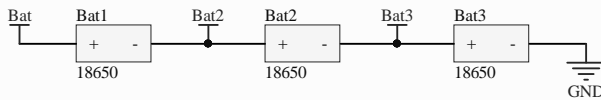


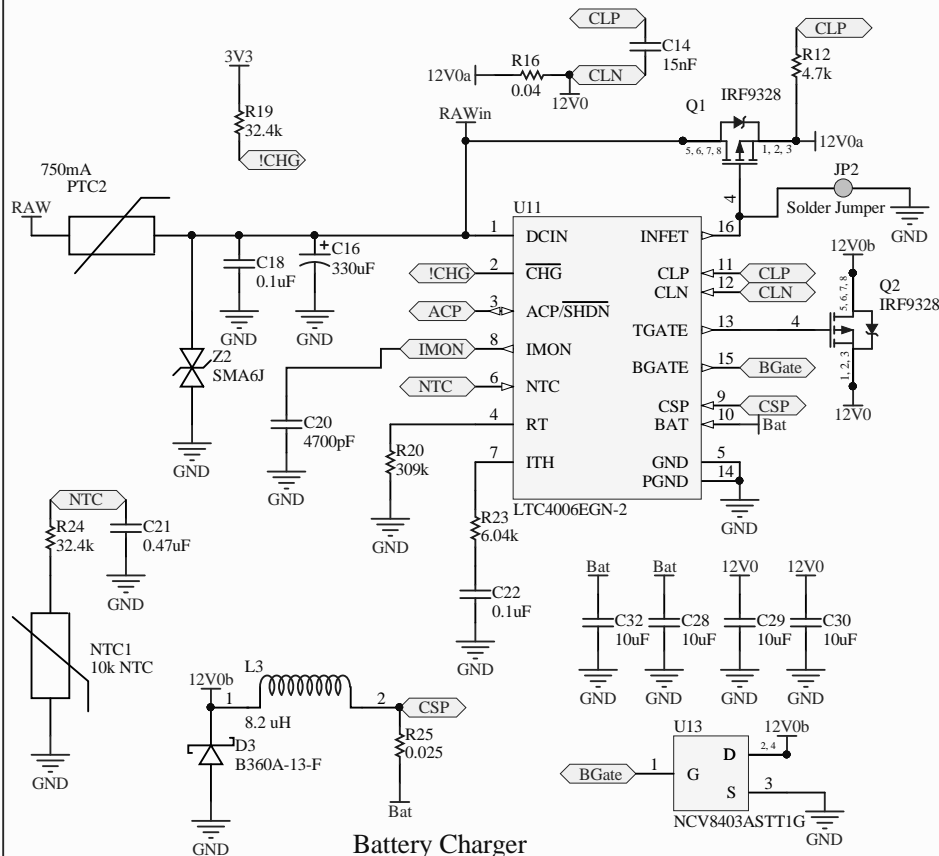
Sensor Breakout Boards



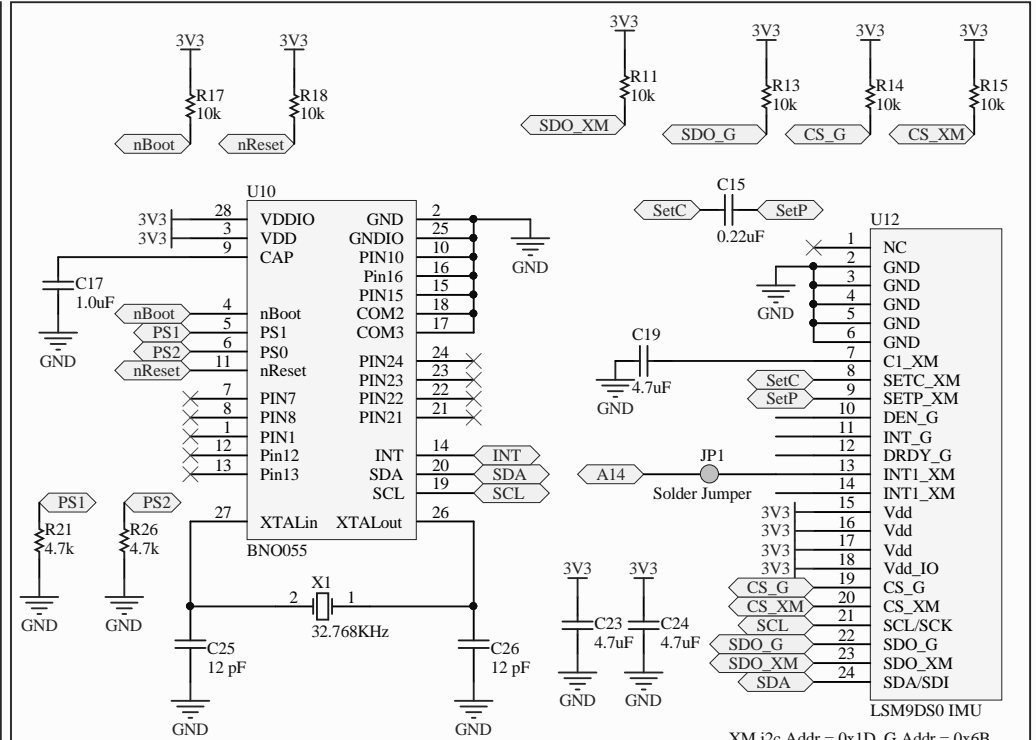
Header For PCB:
Mfg: Sullins Connector
Mfg P/N: PPTC091LFBN-RC
Digikey P/N: S7007-ND
Use #2-56 Screws



High G Accelerometers



Battery Charger



3-D Low G Accelerometers, Rate Gyros, and Magnetometers (9-DOF)

Title: **Sensors and Battery Charger**

Project: TeensyCrashDAQ.PrjPcb
Date: 4/17/2016
Time: 2:22:34 PM
File: C:\Users\jeremy-daily\UTULSA\Documents\GitHub\TeensyCrashDAQ\CrashDAQSensors.SchDoc

Size: Letter
Rev: 1
Sheet 2 of 2

Jeremy Daily
The University of Tulsa
Mechanical Engineering
800 S. Tucker Dr
Tulsa, OK 74104



Comment	Description	Designator	Footprint	LibRef	Manufacturer 1	Manufacturer Part Number 1	Quantity	Supplier 1	Supplier Currency 1	Supplier Order Qty 1	Supplier Part Number 1	Supplier Stock 1	Supplier Subtotal 1	Supplier Unit Price 1
18A60	HOLDER FOR 18A60 BATTERY	Bat1, Bat2, Bat3	18A60 Holder	Battery	KeyStone Electronics	3043P	3	Digi-Key	USD		3 36-1043P-ND	533	4.93	2.31
Adafruit Ultimate GPS	1000pf ±10% 50V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	BM04	GPS	GPS - Adafruit	Adafruit Industries LLC	746	1	Digi-Key	USD		1 1528-1153-ND	32	39.95	39.95
1000pf	0.10µF ±10% 50V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	C10, C12	0603	Cap	Murata Electronics North America	GRM188R71H102K A010	2	Digi-Key	USD		2 490-1494-1-ND	999385	0.2	0.1
0.1µF	0.1µF ±10% 50V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	C11, C13, C18, C22	0603	Cap	Murata Electronics North America	GRM188R71H104K A010	4	Digi-Key	USD		4 490-1519-1-ND	5027036	0.4	0.1
15nf	CAP CER 0.015UF 50V X7R 0603	C14	0603	Cap	Samsumg Electro-Mechanics America, Inc.	CL10B153KBSFNC	1	Digi-Key	USD		1 1276-1963-1-ND	92863	0.1	0.1
0.22µf	0.22µF ±10% 25V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	C15	0603	Cap	Murata Electronics North America	GRM188R71E224K A8B0	1	Digi-Key	USD		1 490-3290-1-ND	444462	0.14	0.14
330uf	CAP ALUM 330UF 20% 50V RADIAL	C16		Elec. Cap 5 x 10mm	Panasonic Electronic Components	ECA-1AH8231	1	Digi-Key	USD		1 95184-ND	24594	0.46	0.46
1.0µf	1µF ±10% 10V X6R Ceramic Capacitor -55°C ~ 85°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	C17	0603	Cap	Murata Electronics North America	GRM188R61A105K A610	1	Digi-Key	USD		1 490-1543-1-ND	1718633	0.1	0.1
4.7µf	4.7µF ±10% 50V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 1206	C19, C23, C24	1206	Cap	Samsumg Electro-Mechanics America, Inc.	CL31B475KBNHNN	3	Digi-Key	USD		3 1276-2798-1-ND	228894	1.00	0.34
4700pf	Multilayer Ceramic Capacitors MLCC - SMD/SMT 0603 4700pf 50volts X7R 10%	C20	0603	Cap	Murata Electronics North America	GRM188R71H472K A010	1	Digi-Key	USD		1 490-1506-1-ND	324051	0.1	0.1
0.47µf	0.47µF ±10% 25V X7R Ceramic Capacitor -55°C ~ 125°C Surface Mount, MLCC 0603 (1608 Metric) 0.063" L x 0.031" W (1.60mm x 0.80mm)	C21	0603	Cap	Murata Electronics North America	GRM188R71E474K A120	1	Digi-Key	USD		1 490-3291-1-ND	362382	0.11	0.11
12 pf	CAP CER 12PF 50V NP0 0603	C25, C26	0603	Cap	Murata Electronics North America	GRM188SC1H120 A010	2	Digi-Key	USD		2 490-1405-1-ND	75987	0.2	0.1
10µf	10µF ±20%, ±80% 16V 10V (P) Ceramic Capacitor 30°C ~ 80°C Surface Mount, MLCC 120	C28, C29, C30, C32	1206	Cap	Yageo	CC1206JX9V078B1 06	4	Digi-Key	USD		4 311-1376-1-ND	99452	0.88	0.22
B360A-13-F	DIODE SCHOTTKY 1A0V 3A SMD	D3		SMA with A and K	Diodes Incorporated	B360A-13-F	1	Digi-Key	USD		1 B360A-FDICT-ND	134402	0.43	0.43
Solder Jumper	0HP	J#1, J#2		Solder Jumper			2							
0.2 uH	FIXED IND 0.2UH 5.0A 25 x 8.0MM	L3		Inductor - 3045	Würth Electronics Inc.	7447797820	1	Digi-Key	USD		1 732-2213-1-ND	1584	3.4	3.4
10k NTC	10K NTC 0603 SMD	NTC1	0603	NTC	Murata Electronics North America	NCP150H103F03R 3	1	Digi-Key	USD		1 490-4800-1-ND	137416	0.23	0.23
Header 4	Header - 4-Pin	J7		Header 4			1							
750mA	PTC RES 180 40V 750MA SMD 2920	PTC2	2920	PTC	Littelfuse Inc.	29X05L750JMR	1	Digi-Key	USD		1 F5633CT-ND	14686	0.72	0.72
BF 9328	ACSP/ET-P CH 30V 12A 8-S03C	Q1, Q2	50HC-8	BF 9328 P-FET	Infineon Technologies Americas Corp.	BF 9328PBF	2	Digi-Key	USD		2 08F9328PBF-ND	2091	1.42	0.71
10k	10K Ohm ±1% 0.1W, 1/10W Surface Mount Resistor Thick Film ±100ppm/°C 0603	R11, R13, R14, R15, R17, R18	0603	Chip Resistor	Panasonic Electronic Components	ERJ-3ERF1002V	6	Digi-Key	USD		6 P100KCT-ND	6095954	0.6	0.1
4.7k	4.7k Ohm ±1% 0.1W, 1/10W Surface Mount Resistor Thick Film ±100ppm/°C 0603	R12, R21, R22, R26	0603	Chip Resistor	Panasonic Electronic Components	ERJ-3ERF4701V	4	Digi-Key	USD		4 P4.70KCT-ND	2991220	0.4	0.1
0.04	0.04 Ohm ±1% 7W Surface Mount Resistor Metal Element ±75ppm/°C 2818	R16	2818	Chip Resistor	Wohay Dale	WSRM2818B040GF JA	1	Digi-Key	USD		1 541-2632-1-ND	3496	1.35	1.35
32.4k	32.4k Ohm ±1% 0.1W, 1/10W Surface Mount Resistor Thick Film ±100ppm/°C 0603	R19, R24	0603	Chip Resistor	Panasonic Electronic Components	ERJ-3ERF3242V	2	Digi-Key	USD		2 P32.40KCT-ND	136805	0.2	0.1
309k	RES SMD 309K 04M 1% 1/10W 0603	R20	0603	Chip Resistor	Panasonic Electronic Components	ERJ-3ERF3092V	1	Digi-Key	USD		1 P309KCT-ND	103006	0.1	0.1
0.04k	0.04k Ohm ±1% 0.1W, 1/10W Surface Mount Resistor Thick Film ±100ppm/°C 0603	R23	0603	Chip Resistor	Stackpole Electronics Inc.	RMCF0603F0404C 1-1-ND	1	Digi-Key	USD		1 RMCF0603F0404C-1-ND	18907	0.1	0.1
0.025	0.025 Ohm ±1% 7W Surface Mount Resistor Metal Element ±75ppm/°C 2818	R25	2818	Chip Resistor	Wohay Dale	WSRM2818B025GF JA	1	Digi-Key	USD		1 541-2629-1-ND	2500	1.35	1.35
ADXL001-250	IC ACCELEROMETER 250G 8KHZ	U7, U9	ADXL-8-1-V	ADXL227F-A	Analog Devices Inc.	ADXL001-250BEZ	2	Digi-Key	USD		2 ADXL001-250BEZ-2-ND	43	64.62	32.31
ADXL375	±1.7 200G IC ACCEL 390KHZ 3M 14GA	U8	ADXL-CC-14-1-V	ADXL343BCGZ	Analog Devices Inc.	ADXL375BCGZ-RL7	1	Digi-Key	USD		1 ADXL375BCGZ-1-RL7CT-ND	3085	10.99	10.99
BM055	BM055 - Inertial Measurement Unit Absolute Orientation 9-Axis Sensor	U10	BM055 LGA	BM055	Bosch Sensortec	BM055	1	Mouser	USD		1 262-BM055	5803	10.99	10.99
LTC4004EGN-2	4 x A High Efficiency Standalone Li-Ion Battery Charger, 6 to 28 V Vin, 16-pin SOP (GA-16) -40 to 85 degC	U11	LT-GN-16_N	LTC4004EGN-2	Linear Technology	LTC4004EGN-2ZPBF	1	Digi-Key	USD		1 LTC4004EGN-2ZPBF-ND	3200	7.16	7.16
LSMP050 IMU	MEMS ACCELEROMETER 3D 24GA Self Protected Low Side Driver with Temperature and Current Limit, 4-Pin 501-223, Pb-Free, Tape and Reel	U12	LGA 4x4x1 mm 24-load	LSMP050 IMU	STMicroelectronics	LSMP050TR	1	Digi-Key	USD		1 491-13902-1-ND	10325	7.35	7.35
NCV8403ASTTIG	4 x A High Efficiency Standalone Li-Ion Battery Charger, 6 to 28 V Vin, 16-pin SOP (GA-16) -40 to 85 degC	U13	ONSC-SOT-223-4-118H_04_V	NCV8403ASTTIG	ON Semiconductor	NCV8403ASTTIG	1	Digi-Key	USD		1 NCV8403ASTTIG0-1SCT-ND	112	1.29	1.29
22.768kHz	Crystal 32.768kHz 20pF 1.5V 70°KOhm -40°C ~ 85°C Surface Mount 2 SMD	X1	XTAL 2 pad	Crystal Oscillator	ECG Inc.	ECG-327-12.5-39-70	1	Digi-Key	USD		1 NC168BCT-ND	57426	0.81	0.81
SMA61	7YS DIODE 340V90W	Z2	SMA	Zener - Bidirection	Micro Commercial	SMA612ACA-1P	1	Digi-Key	USD		1 SMA612ACA-1PMSCT	4953	0.46	0.46