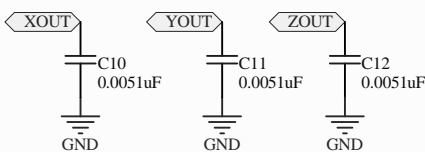


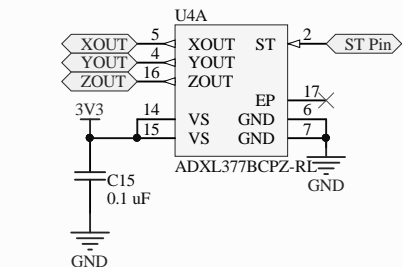
External Connections



9 DOF IMU from Bosch Sensortec



TVS, Reverse Polarity, Regulation and Power Conditioning



Title: **Crash Stick: IMU and High G for Teensy**

Project: TeensyIMU.PrjPcb

Date: 3/16/2016 Time: 9:07:00 AM

File: C:\Users\jeremy-daily\UTULSA\Dropbox (JHSI)\Research\TeensyIMU\TeensyIMULite.SchDoc

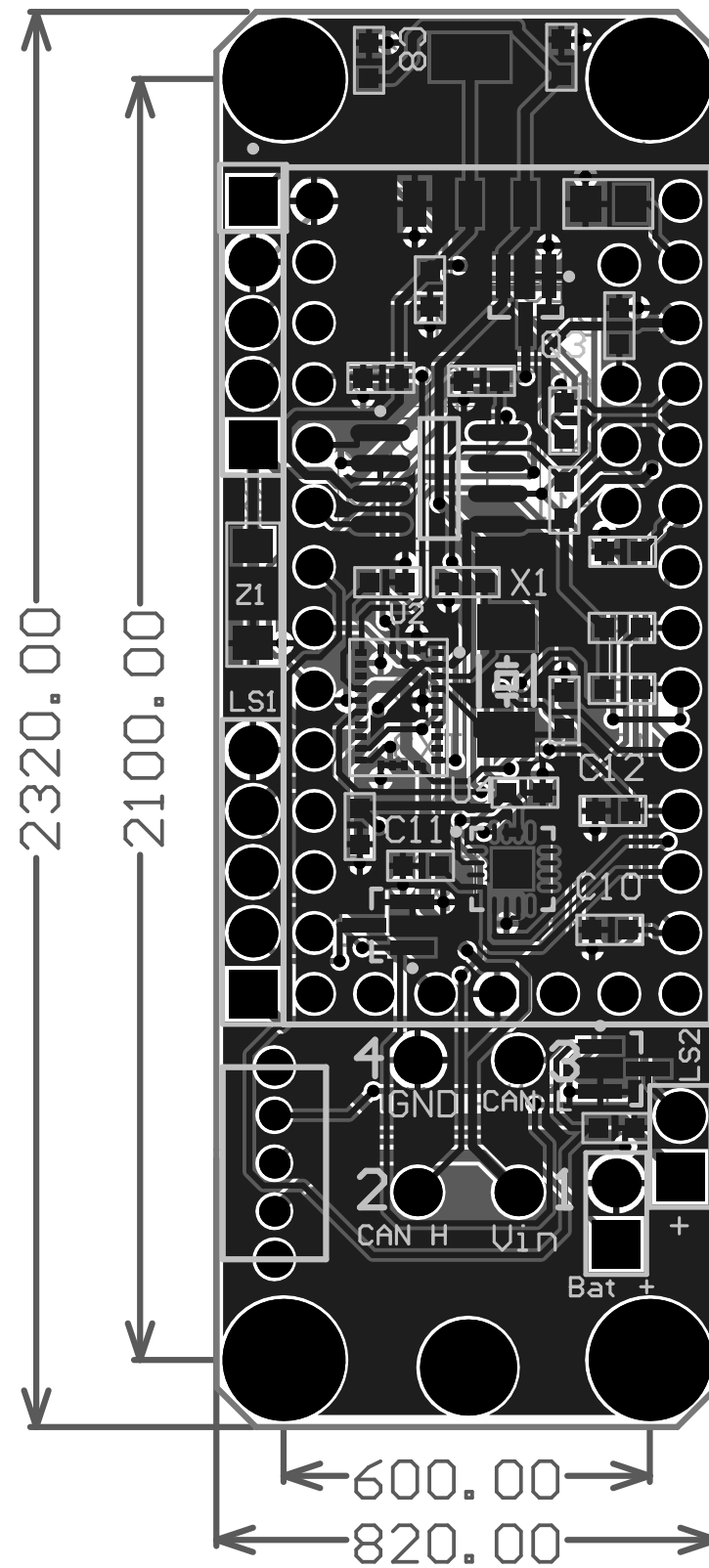
Size: Letter

Rev: 1

Sheet 1 of 1

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





Comment	Description	Designator	Footprint	LibRef	Manufacturer 1	Manufacturer 2	Manufacturer Part Number 1	Manufacturer Part Number 2	Quantity	Supplier 1	Supplier 2	Supplier Currency 1	Supplier Currency 2	Supplier Order Qty 1	Supplier Order Qty 2	Supplier Part Number 1	Supplier Part Number 2	Supplier Stock 1	Supplier Stock 2	Supplier Subtotal 1	Supplier Subtotal 2	Supplier Unit Price 1	Supplier Unit Price 2
Teensy 3.2	32 Bit Arduino-Compatible Microcontroller	BRD1	Teensy	Teensy	Supplier disabled		Supplier disabled		1	Sparkfun	OSH Park	Supplier disabled				DEV-13736							
0.1 uF	CAP CER 0.1UF 50V X7R 0603	C1, C2, C8, C15	0603	Cap	Murata Electronics North America	Murata Electronics	GRM188R71H104K A93D	GRM188R71H104K A93D	4	Digi-Key	Mouser	USD	USD		4	490-1519-1-ND	81-GRM39K104K50D	6221909	948746	0.4	0.4	0.1	0.1
10 uF	CAP CER 10UF 25V X5R 0603	C3, C6, C7, C9	0603	Cap	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM188R61E106MA73D&seller=Mouser&sku=81-GRM188R61E106MA73D&country=US&channel=BOM%20Report&	Murata Electronics	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM188R61E106MA73D&seller=Mouser&sku=81-GRM188R61E106MA73D&country=US&channel=BOM%20Report&	GRM188R61E106MA73D	4	Digi-Key	Mouser	Loading...	USD		4	490-7202-1-ND	81-GRM188R61E106MA73D	0	70226		1.6		0.4
12 pF	CAP CER 12PF 50V NP0 0603	C4, C5	0603	Cap	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM1885C1H120JA01D&seller=Mouser&sku=81-GRM39C120J50&country=US&channel=BOM%20Report&	Murata Electronics	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM1885C1H120JA01D&seller=Mouser&sku=81-GRM39C120J50&country=US&channel=BOM%20Report&	GRM1885C1H120JA01D	2	Digi-Key	Mouser	Loading...	USD		2	490-1405-1-ND	81-GRM39C120J50	0	58342		0.2		0.1
0.0051uF	CAP CER 5100PF 50V U2J 0603	C10, C11, C12	0603	Cap	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM1887U1H512JA01D&seller=Mouser&sku=81-GRM1887U1H512JA01D&country=US&channel=BOM%20Report&	Murata Electronics	https://octopart-clicks.com/click/altium/manufacture=Murata%20Electronics&mpn=GRM1887U1H512JA01D&seller=Mouser&sku=81-GRM1887U1H512JA01D&country=US&channel=BOM%20Report&	GRM1887U1H512JA01D	3	Digi-Key	Mouser	Loading...	USD		3	490-6399-1-ND	81-GRM1887U1H512JA1D	0	0		0.6		0.2
Charge	Socket	Charge	PM1	Socket					1		Mouser												
Header 2	Header, 2-Pin	Ext Bat1, LS2	HDR1X2	Header 2					2		Mouser												
Header	Header, 4-Pin	J2	HDR1X4	Header 4					1		Mouser												
4 Pos Mini-Fit Jr.	CONN HEADER 4POS 4.2MM R/A TIN	J5	4 POS MINI-FIT JR	4 Pos Header Vert	Molex, LLC	Molex	39300040	39-30-0040	1	Digi-Key	Mouser	USD	USD		1	WM21352-ND	538-39-30-0040	4759	2541	0.97	1.01	0.97	1.01
80 Ohms	Ferrite Bead 80ohms 100MHz 5A Monolithic 0805 SMD	L1	0805	Ferrite Bead	Laird Technologies	Laird Technologies	HI0805R800R-10	HI0805R800R-10	1	Mouser	Mouser	USD	USD			875-HI0805R800R-10	875-HI0805R800R-10	159678	159678	0.1	0.1	0.1	0.1
Header 5	Header, 5-Pin	LS1	HDR1X5	Header 5					1		Mouser												
N-FET	IC INDUCT LOAD DRIVER AUTO SOT23	Q1, Q2	SOT-23-3	N-FET IRLML6344TRPBF	ON Semiconductor	ON Semiconductor	NUD3124LT1G	SZNUD3124LT1G	2	Digi-Key	Mouser	USD	USD		2	NUD3124LT1GOSCT	863-SZNUD3124LT1G	14262	5381	1.08	1.28	0.54	0.64
P-FET	MOSFET P-CH 30V 4.3A SOT23	Q3	SOT-23-3	P-FET IRLML9301TRPBF	Alpha & Omega Semiconductor Inc.	International Rectifier	A03407A	IRLML9301TRPBF	1	Digi-Key	Mouser	USD	USD		1	785-1006-1-ND	942-IRLML9301TRPBF	126663	9335	0.44	0.48	0.44	0.48
4.7k	RES SMD 4.7K OHM 1% 1/10W 0603	R1, R4, R5	0603	Chip Resistor	Panasonic Electronic Components	Panasonic	ERJ-3KF4701V	ERJ-3KF4701V	3	Digi-Key	Mouser	USD	USD		3	P4.70KHCT-ND	667-ERJ-3KF4701V	3242147	540266	0.3	0.3	0.1	0.1
10k	RES SMD 10K OHM 1% 1/10W 0603	R2, R3	0603	Chip Resistor	Panasonic Electronic Components	Panasonic	ERJ-3KF1002V	ERJ-3KF1002V	2	Digi-Key	Mouser	USD	USD		2	P10.0KHCT-ND	667-ERJ-3KF1002V	10894710	871486	0.2	0.2	0.1	0.1
180k	RES SMD 180K OHM 1% 1/10W 0603	R6, R7	0603	Chip Resistor	Panasonic Electronic Components	Panasonic	ERJ-3KF1803V	ERJ-3KF1803V	2	Digi-Key	Mouser	USD	USD		2	P180KHCT-ND	667-ERJ-3KF1803V	76902	110181	0.2	0.2	0.1	0.1
SPST Switch	SWITCH SLIDE SPDT 200MA 30V High-Speed CAN Transceiver, 8-Pin SOIC, Extended Temperature, Tape and Reel	SW1	Slide Switch R/A	SPDT Slide Switch	TE Connectivity AMP Connectors	TE Connectivity	1825232-1	1825232-1	1	Digi-Key	Mouser	USD	USD		1	A107673-ND	655-1825232-1	16298	15367	0.28	0.22	0.28	0.22
MCP2562T-E/SN		U1	SOIC-SNB_M	MCP2551T-E/SN	Microchip Technology	Microchip Technology	MCP2562T-E/SN	MCP2562T-E/SN	1	Digi-Key	Mouser	USD	USD		1	MCP2562T-E/SNCT-ND	579-MCP2562T-E/SN	49	6512	0.9	0.98	0.9	0.98
BNO055	IMUs - Inertial Measurement Units Absolute Orientation 9-Axis Sensor	U2	BNO055 LGA	BNO055	https://octopart-clicks.com/click/altium/manufacture=Bosch%20SensorTec&mpn=BNO055&seller=Mouser&sku=262-BNO055&country=US&channel=BOM%20Report&	Bosch Sensortec		BNO055	1	Digi-Key	Mouser	Loading...				https://octopart-clicks.com/click/altium/manufacture=Bosch%20SensorTec&mpn=BNO055&seller=Mouser&sku=262-BNO055			6735				
ADXL377BCPZ-RL	3-Axis, +/-200 g Analog MEMS Accelerometer with Analog Output, 1.3 KHz B/W, Industrial, 16-pin QFN, Reel	U4	ADI-CP-16-28_N	ADXL377BCPZ-RL	Analog Devices Inc.	Analog Devices	ADXL377BCPZ-RL	ADXL377BCPZ-RL7	1	Digi-Key	Mouser	USD	USD		1	ADXL377BCPZ-RL-ND	584-ADXL377BCPZ-RL7	0	1701		9.85		9.85
LDO1117	IC REG LDO 3.3V 1A SOT23-3	U5	SOT-223	NCP1117 2.5V	https://octopart-clicks.com/click/altium/manufacture=Diodes%20Incorporated&mpn=ZLDO1117G33TA&seller=Mouser&sku=522-ZLDO1117G33TA&country=US&channel=BOM%20Report&	Diodes Incorporated		ZLDO1117G33TA	1	Digi-Key	Mouser	Loading...	USD			ZLDO1117G33DICT-ND	522-ZLDO1117G33TA	0	5320		0.47		0.47
32.768KHz	Crystal 32.768KHz 20ppm 12.5PF 70 kOhm -40°C - 85°C Surface Mount 2-SMD	X1	XTAL 2 pad	Crystal Oscillator	ECS Inc.	ECS	ECS-327-12.5-39-TR	ECS-327-12.5-39-TR	1	Digi-Key	Mouser	USD	USD		1	XC1658CT-ND	520-327-12.5-39-TR	67083	1859	1.2	1.2	1.2	1.2
SMA6J	TVS DIODE 15VWM	Z1	SMA	Zener - Bidirectional	Micro Commercial	Micro Commercial	SMA6J15CA-TP	SMA6J15CA-TP	1	Digi-Key	Mouser	USD	USD		1	SMA6J15CA-TPM5C	833-SMA6J15CA-TP	3922	3150	0.46	0.45	0.46	0.45