

Value	Parts	Device	Footprint checked	Cost	Total	Total Digkey	MPX Option	BMP Option	Link	Distributor Part Number	MFRG	MFRG Part Number	Footprint	Description	Note
	= DO NOT INSTALL														
				\$85.18	\$75.89	\$76.21	\$67.62								
1 ITG-3200	U6	ITG-3200		\$8.40	\$8.40				http://invensense.com/mems/gyrotripleaxis.html	ITG-3200	InvenSense Inc	ITG-3200	QFN	Integrated ThreeAxisGyroscope	\$8.00 @ QTY 100 + \$39 S&H to the US
1 STM32F103VXT6	IC1	STM32F103VET6		\$15.91	\$15.91	\$15.91			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=497-6443-ND	497-6443-ND	STMicroelectronics	STM32F103VET6	100-LQFP	MCU ARM 512KB FLASH 8KB MEM	
1 MPXH6115A6U	U82	CASE 1317		\$9.66	\$9.66	\$9.66	\$9.66		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=MPXH6115A6U-ND	MPXH6115A6U-ND	Freemate Semiconductor	MPXH6115A6U	8-SOP	SENSOR ABS PRESS 16.7PSI MAX	stuff for mpx option
1 BMP085	U83	BMP085		\$8.79	\$8.79	\$8.79	\$8.79		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=828-1005-1-ND	828-1005-1-ND	Bosch Sensortec	BMP085	8-CLCC	DIGITAL BAROMETRIC PRESSURE SNSR	stuff for bmp085 option
1 BMA180	U3	BMA180		\$7.26	\$7.26	\$7.26			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=828-1019-1-ND	828-1019-1-ND	Bosch Sensortec	BMA080	12-VFLGA	ACCELEROMETER 3 AXIS MPU/IC 3X3	
1 HMC5883LSMD	U9	HMC5883LSMD		\$3.79	\$3.79	\$3.79			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=342-1082-1-ND	342-1082-1-ND	Honeywell Microelectronics & Precision Sensors	HMC5883L-TR	16-LCC	IC COMPASS 3 AXIS I2C 16LCC SMD	
1 USD-SOCKETNEW	U7	USD-SOCKETNEW		\$1.97	\$1.97	\$1.97			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=101-00660-68-6-1-ND	101-00660-68-6-1-ND	Amphenol Commercial Products	101-00660-68-6		08 PIN SMT 90° STANDOFF=0 N0RMAL PUSH PUSH TYPE FRONT SOLDER TAIL	
1 USBOLD	X2	USBOLD		\$0.89	\$0.89				http://www.mouse.com/ProductDetail/Tyco-Electronics-AMP1734035-1-7?qs=GAEpMZ2HuiMLPQo%252bvzAp4y8iKv5b5AKAP0ivxn%3d	571-1734035-1	Tyco Electronics	1734035-1		USB Mini-B SMD Connector	or http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=WM17116CT-ND
1 Pin Header	JN4_JP5	M10PTH		\$3.98	\$3.98				http://www.sparkfun.com/products/743	RYT-00743	NUCON Technology	80854	pitch 2.54 (0.100")	Break Away Female Headers Sens Machine 30 pin	need to be cut (16 pin)
1 TS922IN	IC2	SOP-8	Yes	\$1.88	\$1.88	\$1.88	\$1.88		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=497-10256-1-ND	497-10256-1-ND	STMicroelectronics	TS922AYNDT	SOP-8	IC OP AMP R-R DUAL BICMOS 8-SOIC	
2 LM317	U4, U8	V_REG_317SMD	Yes	\$1.04	\$2.08	\$2.08			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=LM317MBST13GOSCT-ND	LM317MBST13GOSCT-ND	ON Semiconductor	LM317MBST13G	SOT-223	IC REG POS 500MA ADJ 4% SOT-223	
1 SW-MOM	S1	SW-MOMENT-25MD	Yes	\$0.96	\$0.96	\$0.96			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=CKN9104CT-ND	CKN9104CT-ND	C&K Components	PTS255SM10SMTR LFS	5.25X5.25	SWITCH TACT SMT SPST 160GF	
1 8MHz	XT	RESONATORSMD	Yes	\$0.95	\$0.95	\$0.95			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-5238-1-ND	445-5238-1-ND	TDK Corporation	CCR8.0MXC8WT	3-SMD, Non-Standard (3.20mm x 1.25mm)	CER RESONATOR 8.0MHz SMD	18Pf 40ohm (STM32 datasheet page 58 S-25pf 30ohm)
2 BAT760-7	D1, D2 // or SMD100K30L-7	SOD-323	Yes	\$0.68	\$1.36	\$1.36			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=BAT760DICT-ND	BAT760DICT-ND	Diodes Inc	BAT760-7	SOD-323	DIODE SCHOTTKY 30V 1A SOD323	
4 BCV227	Q2, Q3, Q5, Q6	SOT23-3	Yes	\$0.41	\$1.64	\$1.64			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=BCV27CT-ND	BCV27CT-ND	Fairchild Semiconductor	ERJ-2RK3F3401X	SOT23	TRANSISTOR NPN DARL 30V SOT23	
1 Blue	LED1	LED0603	Yes	\$0.33	\$0.33	\$0.33			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=754-1434-1-ND	754-1434-1-ND	Kingbright Corp	APT1608P2B2D	0603 (1608 Metric)	LED 1.6X0.8 470NM BL WTR CLR SMD	Vf<3.3
1 Green	LED2	LED0603	Yes	\$0.13	\$0.13	\$0.13			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=754-1121-1-ND	754-1121-1-ND	Kingbright Corp	APT1608SGC	0603 (1608 Metric)	LED 1.6X0.8MM 568NM GRN CLR SMD	Vf<2.2
3 Red	LED3, LED4, LED5	LED0603	Yes	\$0.13	\$0.39	\$0.39			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=754-1117-1-ND	754-1117-1-ND	Kingbright Corp	APT1608EC	0603 (1608 Metric)	LED 1.6X0.8MM 625NM RED CLR SMD	Vf<2.0
1 22uH	L1	INDUCTOR0805	Yes	\$0.08	\$0.08	\$0.08			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=587-1633-2-ND	587-1633-2-ND	Taiyo Yuden	GBL2012T220M	0805 (2012 Metric)	INDUCTOR 22uH 20% 0805 SMD	max 250mA in 0805 package
1 22uH	L2	INDUCTOR0805	Yes	\$0.08	\$0.08	\$0.08	\$0.08		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=587-2453-1-ND	587-1633-2-ND	Taiyo Yuden	GBL2012T220M	0805 (2012 Metric)	INDUCTOR 22uH 20% 0805 SMD	max 250mA in 0805 package
2 10uF (35V)	C8, C23	CAP_POL1206	Yes	\$0.57	\$1.14	\$1.14			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=587-2484-1-ND	587-1633-2-ND	Taiyo Yuden	GBL2012T220M	0805 (2012 Metric)	CAP CER 10uF 35V XSR 10% 1206	
3 10uF	C3, C11, C13	CAP_POL1206	Yes	\$0.48	\$1.44	\$1.44			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=493-4147-1-ND	493-4147-1-ND	Nichicon	F831C106KAA	1206 (3216 Metric)	CAP TANTALUM 10uF 16V 10% SMD	
1 4.7uF	C1	CPOL-USSMC2	Yes	\$0.48	\$0.48	\$0.48			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=511-1491-1-ND	511-1491-1-ND	Nichicon	F821A475MPA	0805 (2012 Metric)	CAP TANTALUM 4.7uF 10V 20% SMD	
4 1uF	C20, C24 (see note)	CPOL-USSMC2	Yes	\$0.94	\$3.76	\$3.76			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-5720-1-ND	445-5720-1-ND	TDK Corporation	CER83XSR60G105M	0603 (1608 Metric)	CAP CER 1.0uF 4V XSR C-ESR 0603	stacking 2 on top of each other, 1.2milliOhm each, in parallel = 1.2/4 = 0.3milliOhm
2 1uF	C14, C16	CAP0402	Yes	\$0.24	\$0.48	\$0.48			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-5000-1-ND	445-5000-1-ND	TDK Corporation	C1005X6S0J105K	0402 (1005 Metric)	CAP CER 1.0uF 6.3V X6S 0402	
5 1uF	C27, C29, C30, C31, C32	CAP0402	Yes	\$0.24	\$1.20	\$1.20	\$1.20		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-5000-1-ND	445-5000-1-ND	TDK Corporation	C1005X6S0J105K	0402 (1005 Metric)	CAP CER 1.0uF 6.3V X6S 0402	stuff for mpx option
2 0.1uF	C35, C36	CAP0402	Yes	\$0.09	\$0.18	\$0.18	\$0.18		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4952-1-ND	445-4952-1-ND	TDK Corporation	C1005X7R1C104K	0402 (1005 Metric)	CAP CER .10uF 16V X7R 0402	stuff for bmp085 option
5 0.1uF	C4, C8, C12, C15, C22	CAP0402	Yes	\$0.09	\$0.45	\$0.45	\$0.45		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4952-1-ND	445-4952-1-ND	TDK Corporation	C1005X7R1C104K	0402 (1005 Metric)	CAP CER .10uF 16V X7R 0402	
1 0.1uF	C26	CAP0402	Yes	\$0.09	\$0.09	\$0.09	\$0.09		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4952-1-ND	445-4952-1-ND	TDK Corporation	C1005X7R1C104K	0402 (1005 Metric)	CAP CER .10uF 16V X7R 0402	stuff for mpx option
12 0.1uF	C2, C6, C10, C17, C19, C25, C33, C34, C37	CAP0402	Yes	\$0.09	\$1.08	\$1.08			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4952-1-ND	445-4952-1-ND	TDK Corporation	C1005X7R1C104K	0402 (1005 Metric)	CAP CER .10uF 16V X7R 0402	
2 10nF	C5, C18	CAP0402	Yes	\$0.05	\$0.10	\$0.10			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-1260-1-ND	445-1260-1-ND	TDK Corporation	C1005X7R1E103K	0402 (1005 Metric)	CAP CER 10000PF 25V X7R 10% 0402	
1 2.2nF	C7	CAP0402	Yes	\$0.08	\$0.08	\$0.08			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4928-1-ND	445-4928-1-ND	TDK Corporation	C1005X7R1E222K	0402 (1005 Metric)	CAP CER 2200PF 25V X7R 0402	
1 0.22uF	C21	CAP0402	Yes	\$0.24	\$0.24	\$0.24			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-5938-1-ND	445-5938-1-ND	TDK Corporation	C1005X7R1A224K	0402 (1005 Metric)	CAP CER .22uF 10V X7R 10% 0402	gyro datasheet: Ceramic, X7R, 2.2nF ±10%, 50V
1 470pF	C28	CAP0402	Yes	\$0.08	\$0.08	\$0.08	\$0.08		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-4912-1-ND	445-4912-1-ND	TDK Corporation	C1005X7R1H471M	0402 (1005 Metric)	CAP CER 470PF 50V X7R 0402	datasheet: low ESR 0.22uF ~200 milli-ohm (See the traces between the HMC5883L and the external capacitors (C1 and C2) to handle the 1 ampere peak current pulses with low voltage drop on the traces)
1 BOURNS Pot	R40	3223J	Yes	\$3.85	\$3.85	\$3.85	\$3.85		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=3223J-1.103ECT-ND	3223J-1.103ECT-ND	Bourns Inc.	3223J-1.103E	3223J	TRIMPOT 10K OHM 3MM SQ CER MT	the use of a tantalum 4.7uF part on the SparkFun HMC5843 breakout caused the device to reset with every self/reset pulse
19 1K	R4, R5, R7, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R29, R30, R31, R32	RESISTOR0402	Yes	\$0.06	\$1.14	\$1.14			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P1.00KLCT-ND	P1.00KLCT-ND	Panasonic - ECG	ERJ-2RK1F001X	0402 (1005 Metric)	RES 1.00K OHM 1/10W 1% 0402 SMD	
2 1k5	R3, R56	RESISTOR0402	Yes	\$0.06	\$0.12	\$0.12			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P1.50KLCT-ND	P1.50KLCT-ND	Panasonic - ECG	ERJ-2RK1F1501X	0402 (1005 Metric)	RES 1.50K OHM 1/10W 1% 0402 SMD	
4 1k69	R9, R10, R12, R13	RESISTOR0402	Yes	\$0.06	\$0.24	\$0.24			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P1.69KLCT-ND	P1.69KLCT-ND	Panasonic - ECG	ERJ-2RK1F691X	0402 (1005 Metric)	RES 1.69K OHM 1/10W 1% 0402 SMD	
4 4k7	R27, R28, R33, R34	RESISTOR0402	Yes	\$0.06	\$0.24	\$0.24			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P4.70KLCT-ND	P4.70KLCT-ND	Panasonic - ECG	ERJ-2RK4F701X	0402 (1005 Metric)	RES 4.70K OHM 1/10W 1% 0402 SMD	
1 56k	R50	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06	\$0.06		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P4.70KLCT-ND	P4.70KLCT-ND	Panasonic - ECG	ERJ-2RK4F701X	0402 (1005 Metric)	RES 4.70K OHM 1/10W 1% 0402 SMD	stuff for mpx option
1 68k	R49	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06	\$0.06		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P6.80KLCT-ND	P6.80KLCT-ND	Panasonic - ECG	ERJ-2RK6F801X	0402 (1005 Metric)	RES 6.80K OHM 1/10W 1% 0402 SMD	stuff for mpx option
7 10k	R1, R2, R52, R59, R61, R62, R63	RESISTOR0402	Yes	\$0.06	\$0.42	\$0.42			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P10.0KLCT-ND	P10.0KLCT-ND	Panasonic - ECG	ERJ-2RK1002X	0402 (1005 Metric)	RES 10.0K OHM 1/10W 1% 0402 SMD	
6 10k	R41, R42, R43, R44, R45, R51	RESISTOR0402	Yes	\$0.06	\$0.36	\$0.36	\$0.36		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P10.0KLCT-ND	P10.0KLCT-ND	Panasonic - ECG	ERJ-2RK1002X	0402 (1005 Metric)	RES 10.0K OHM 1/10W 1% 0402 SMD	stuff for mpx option
1 47k	R47	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06	\$0.06		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P47.0KLCT-ND	P47.0KLCT-ND	Panasonic - ECG	ERJ-2RK4702X	0402 (1005 Metric)	RES 47.0K OHM 1/10W 1% 0402 SMD	stuff for mpx option
1 120k	R48	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06	\$0.06		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P120KLCT-ND	P120KLCT-ND	Panasonic - ECG	ERJ-2RK1203X	0402 (1005 Metric)	RES 120K OHM 1/10W 1% 0402 SMD	stuff for mpx option
1 220k	R46	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06	\$0.06		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P220KLCT-ND	P220KLCT-ND	Panasonic - ECG	ERJ-2RK2203X	0402 (1005 Metric)	RES 220K OHM 1/10W 1% 0402 SMD	stuff for mpx option
2 22R	R26, R35	RESISTOR0402	Yes	\$0.06	\$0.12	\$0.12			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P22.0KLCT-ND	P22.0KLCT-ND	Panasonic - ECG	ERJ-2RK22R0X	0402 (1005 Metric)	RES 22.0 OHM 1/10W 1% 0402 SMD	
2 243R	R38, R39	RESISTOR0603	Yes	\$0.06	\$0.12	\$0.12			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=RMCF0603FT243RCT-ND	RMCF0603FT243RCT-ND	Stackpole Electronics Inc	RMCF0603FT243R	0603 (1608 Metric)	RES 243 OHM 1/10W 1% 0603 SMD	243ohm 1% 1/10W (see R36)
5 330R	R6, R11, R55, R56, R57	RESISTOR0402	Yes	\$0.06	\$0.30	\$0.30			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P330DKR-ND	P330DKR-ND	Panasonic - ECG	ERJ-2RK330X	0402 (1005 Metric)	RES 330 OHM 1/10W 1% 0402 SMD	10ma led
1 732R	R36	RESISTOR0603	Yes	\$0.06	\$0.06	\$0.06			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=RMCF0603FT732RCT-ND	RMCF0603FT732RCT-ND	Stackpole Electronics Inc	RMCF0603FT732R	0603 (1608 Metric)	RES TF 732 OHM 1% 0.1W 0603	732ohm 1% 1.25" (1 + 732/243) = 5.0154 Volt
1 402R	R37	RESISTOR0603	Yes	\$0.04	\$0.04	\$0.04			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=RMCF0603FT402RCT-ND	RMCF0603FT402RCT-ND	Stackpole Electronics Inc	RMCF0603FT402R	0603 (1608 Metric)	RES TF 402 OHM 1% 0.1W 0603	402ohm 1% 1/10W
1 470R	R8	RESISTOR0402	Yes	\$0.06	\$0.06	\$0.06			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P470DKR-ND	P470DKR-ND	Panasonic - ECG	ERJ-2RK4F700X	0402 (1005 Metric)	RES 470 OHM 1/10W 1% 0402 SMD	
1 1M5	R53	RESISTOR0402	Yes	\$0.05	\$0.05	\$0.05	\$0.05		http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P1.5MJCT-ND	P1.5MJCT-ND	Panasonic - ECG	ERJ-2GEJ155X	0402 (1005 Metric)	RES 1.5M OHM 1/10W 5% 0402 SMD	
1 0R	R54	RESISTOR0402	Yes	\$0.05	\$0.05	\$0.05			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=P0.0DKR-ND	P0.0DKR-ND	Panasonic - ECG	ERJ-2GER00X	0402 (1005 Metric)	RES 0.0 OHM 1/10W 0402 SMD	
1 2.2uF	C41	CAP0402	Yes	\$0.35	\$0.35	\$0.35			http://search.digkey.com/scripts/DkSearch/dksus.dif?Detail&name=445-6847-1-ND	445-6847-1-ND	TDK Corporation	C1005X6R0J225K	0402 (1005 Metric)	CAP CER 2.2uF 6.3V XSR 10% 0402	