

MBARI
7700 Sandholdt Rd
Moss Landing CA 95039
831-775-1730

Generic Assembly											
Item	Quantity	Reference	Value	Tolerance	Rating	Type	PCB Footprint	Manufacturer Number	Distributor Number	Description	Stuff
2	7	C1,C8,C11,C16,C25,C26,C28	0.1	10%		X7R	CAPC2013X130N_0805	Vishay Vitramon VJ0805Y	Garrett Lab Kit VJ0805 X7R		all
3	5	C2,C3,C5,C6,C7	1uF		50V	X7R	CAPC3225X170N_1210	Kemet C1210C105K4RACTU	DigiKey 399-3076-1-ND		all
5	3	C9,C10,C20	0.01	10%		X7R	CAPC2013X130N_0805	Vishay Vitramon VJ0805Y	Garrett Lab Kit VJ0805 X7R		all
6	2	C12,C17	0.01		630V	X7R	CAPC3216X150N_1206	Panasonic ECJ-3FB2J103K	DigiKey PCC2292CT-ND		all
7	7	C13,C14,C15,C18,C19,C22,C27	0.22	10%	50V	X7R	CAPC2013X130N_0805	Kemet C0805F224K5RACTU	DigiKey 399-5111-1-ND		all
8	2	C21,C23	39 pF	5%	100V	CoG	CAPC2013X130N_0805	Vishay Vitramon VJ0805A	Garrett Lab Kit NPO VJ0805		all
15	2	D1,D2	805			Green	LEDC2013X110N_0805	Lite-On LTST-C170KGKT	DigiKey 160-1414-1-ND	LED GREEN CLEAR 0805 SMD	all
17	4	D4,D5,D15,D17	10V		500 mW	DDZ9697	SOD3717X145N_SOD123	Diodes Inc DDZ9697-7	DigiKey DDZ9697DICT-ND	DIODE ZENER 10V 500MW SOD-123	all
18	1	D6	5V		600W	SMBJ5A	DIOM5336X262N	SMBJ5.0A-13-F	DigiKey SMBJ5.0A-FDICT-ND	TVS 600W 5.0V UNIDRECT SMB	all
19	1	D8	CM1216-06				SOIC127P600X175-8N_SOIC8	California Micro CM1216-06SM	Mouser 748-CM1216-06SM	Low Cap ESD Arrays 6 Channel	all
20	5	D9,D10,D12,D16,D18	BAS-19-7-F		100V/200ma		SOT95P237X112-3N_13	Diodes Inc. BAS19-7-F	DigiKey BAS19-FDICT-ND	DIODE SWITCH 100V 250MW SOT23-3	all
21	1	D11	3V		500 mW	DDZ9683	SOD3717X145N_SOD123	Diodes Inc DDZ9683-7	Mouser 621-DDZ9683-7	DIODE ZENER 3V 500MW SOD-123	all
23	2	D13,D14	3.3V			3V3S2UT	SOT95P237X112-3N_132	NXP PESD3V3S2UT_215	DigiKey 568-4046-1-ND	DIODE DBL ESD SOT23 (ok to sub PESD5V2S2UT)	all
27	10	FB1,FB2,FB3,FB4,FB5,FB6,FB7,FB8,FB9,FB10	600 ohms @ 100MHz		600 mA	603	INDC1608X95N_0603	TDK MMZ1608S601A	DigiKey 445-1549-1-ND	FERRITE CHIP 600 OHM 500MA 0603	all
28	1	FC1	154			NANO Fuseblock	FUSM9750X381N	Littelfuse 0154005.DR	DigiKey F1228CT-ND	Fuse Clip PC Mount Bronze/Tin	all
29	1	F1	5A			NANO Very Fast Acting	DUMMY	Littelfuse 0451005.MRL	DigiKey F2587CT-ND	FUSE 5A 125V FAST NANO2 SMD	all
30	2	JMP1,JMP3	Shunt Header				HDR1X2	FCI 68000-202HLF	DigiKey 609-3502-ND	BERGSTIK II .100" SR STRAIGHT 2 Pos	all
39	1	J1	Milli-Grid 6					Molex 87832-0620	DigiKey WM18637-ND	CONN HEADER 6POS 2MM VERT SMD	all
40	1	J2	Molex C-Grid SL 4					Molex 70555-0038	DigiKey WM4177-ND	CONN HEADER 4POS .100 R/A 15AU	all
42	1	J4	Molex C-Grid SL 3					MOLEX 70555-0037	DigiKey WM4176-ND	CONN HEADER 3POS .100 R/A 15AU	all
43	1	J5	DIN 32_AB-H					AMP 536053-5	DigiKey A29001-ND	CONN DIN PLUG 32POS RT ANG PCB	all
48	1	K1	DS4E-SL2				RELAY_PANASONIC_DS_4FORMC-2L	Panasonic DS4E-SL2-DC12V	DigiKey 255-2204-ND	RELAY MINI 4PDT 2LTCH 12VDC 200MW DIP	all
49	1	K2	DSP2A-L2				RELAY_PANASONIC_DS_2FORMA-2L	Panasonic DSP2A-L2-DC12V	DigiKey 255-1624-ND	RELAY 2PST LATCHING 5A 12VDC PCB	all
50	1	L1	BNX022				FIL_BNX022	Murata BNX022-01L	DigiKey 490-5052-1-ND	FILTR EMI .5GOHM 10A 1M-1GHZ SMD	all
51	1	NS1	NetSep				CAPC2013X130N_0805			0 Ohm 0805	all
57	2	Q1,Q5	VP2450		-500V		SOT150P410X160-4N_TO-243AA	Supertex VP2450N8-G	Mouser 689-VP2450N8-G	MOSFET P-ch -500V 160 mA	all
58	1	Q2	FMMT459		500V		SOT95P237X112-3N_132	Zetex FMMT459TA	DigiKey FMMT459TACT-ND	TRANS SW NPN 450V 150MA SOT23-3	all
59	1	Q3	TN2540		400V	Enhancement	SOT150P410X160-4N_TO-243AA	Supertex TN2540N8-G	Mouser 689-TN2540N8-G	MOSFET N 400V 12 ohm	all
60	5	Q4,Q11,Q12,Q13,Q14	DMN601K				SOT95P237X112-3N_132	DiodesInc DMN601K-7	DigiKey DMN601KDICT-ND		all
61	1	Q6	FMMT560		500V		SOT95P237X112-3N_132	Diodes Inc FMMT560TA	Mouser 522-FMMT560TA	Transistor PNP 500V	all
62	1	Q7	SUB75P03		30V		to254p1524x483-3n_d2pak_123	Vishay SUB75P03-07-E3	DigiKey SUB75P03-07-E3CT-ND	MOSFET P-CH 30V 75A D2PAK	all
64	1	Q9	IPD031N03L				TO229P991X610X239-3N_DPAK-2TAB	Infineon IPD031N03L G	Mouser 726-IPD031N03LG	MOSFETs N-CH 30V 90A 3.1mOhms	all
67	1	R1	2.0k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
68	7	R2,R8,R9,R18,R29,R36,R38	47k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
69	1	R3	0.02	1%	1 W		RESC6432X80N_2512	Vishay/Dale WSL2512R0200FEA	DigiKey WSLG-.02CT-ND	RES .02 OHM 1W 1% 2512 SMD	all
70	1	R4	1 ohm	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
72	2	R10,R34	330k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
73	1	R11	33	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
75	2	R13,R16	100k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
76	1	R14	130k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
77	1	R15	66.5k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
78	1	R17	105k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
79	1	R19	976k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
80	2	R20,R25	2.00k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
81	2	R21,R27	562k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
82	1	R22	19.6k	1%	1/8 W		RESC2013X60N_0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		all
83	1	R23	10k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
84	1	R24	150	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
86	1	R28	51k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
87	1	R30	100k	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
88	2	R32,R33	330k	5%	.063W	745C	RESCAV127P320X640X70-10N	CTS 745C101334JTR	DigiKey 745C101334JCT-ND	DIP Network, Bussed	all
89	2	R35,R37	330	5%	1/8 W		RESC2013X60N_0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		all
104	5	TP1,TP2,TP3,TP4,TP5	+400V_Sw2				TP_5015	Keystone 5015	DigiKey 5015KCT-ND	SMT Test Point .040"ii	all
105	1	TP6	400V_Sw2_Com				TP_5015	Keystone 5015	DigiKey 5015KCT-ND	SMT Test Point .040"ii	all
106	1	U1	HCPL-0701				SOIC127P600X175-8N_SOIC8	Fairchild Semi HCPL0701	Mouser 512-HCPL0701	Split Darlington Optocoupler	all
107	2	U2,U5	74LVC1G14				SOT95P280X145-5N_DBV	TexasInst SN74LVC1G14DBVR	DigiKey 296-11607-1-ND	IC SCHMITT TRIG INV SOT-23-5	all
108	4	U3,U4,U6,U7	LT6003 S5				SOT95P280X145-5N_DBV	LinearTech LT6003IS5#TRMPBFB	DigiKey LT6003IS5#TRMPBFCT-ND	IC OP AMP R-R TSOT23-5	all
109	1	U8	LT1782 S5				SOT95P280X145-5N_DBV	Linear LT1782IS5	Linear Direct	SOT-23 uP Op Amp	all
110	2	U9,U14	74LVC1G123				SOP65P400X130-8_SSOP8	TexasInst SN74LVC1G123DCTR	DigiKey 296-18758-1-ND	IC SNGL MONO MULTIVIBTOR SM8	all
111	1	U10	MAX3100EEE				SOP63P602X175-16N_QSOP16	Maxim MAX3100EEE+	DigiKey MAX3100EEE+-ND	IC UART SPI/MICRWIRE COMP 16QSOP	all
113	1	U12	PIC16F886				SOIC127P1030X215-28N_SOIC28	Microchip PIC16F886-I/SO	DigiKey PIC16F886-I/SO-ND	IC PIC MCU FLASH 8KX14 28SOIC	all
115	1	U15	74LVC00A				SOIC127P600X175-14N_SOIC14	TexasInst SN74LVC00AD	DigiKey 296-1694-5-ND	IC QUAD 2-IN NAND GATE 14-SOIC	all
116	1	U16	74HC125_SO5				SOIC127P600X175-14N_SOIC14	Texas Inst SN74LVC125ADR	DigiKey 296-8453-1-ND	IC BUS BUFF TRI-ST QD 14SOICN	all
117	1	U17	MAX6029			2.5V	SOT95P280X145-5N_DBV	MAX6029EUK25+T	DigiKey MAX6029EUK25+TCT-ND	IC REF VOLT 2.50V SOT23-5	all
118	1	Y1	3.68 MHz				XTAL1140X470X430N_ECS-CSM-7	ECS ECS-36-20-5P-TR	DigiKey XC562CT-ND	CRYSTAL 3.6864MHZ 20PF SMD	all

Power Configuration											
Item	Quantity	Reference	Value	Tolerance	Rating	Type	PCB Footprint	Manufacturer Number	Distributor Number	Description	Stuff
11	1	C30	100		25V		DUMMY	Nichicon UTT1E101MPD	DigiKey 493-3276-ND	CAP 100UF 25V LOW Z HI REL RAD	12V
25	2	D16,D25	15V		1.5kW		DUMMY	Littelfuse 1.5KE15A	DigiKey 1.5KE15ALFCT-ND	TVS 15 VOLT 1500 WATT UNI-DIR	12V
46	1	J8	Micro MnL 5				DUMMY	Tyco 2-1445098-5	DigiKey A34861-ND	CONN HEADER 3MM 5POS R/A GOLD	12V
36	1	JMP11	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	12V
95	1	R48	360k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		12V
96	1	R49	2.0k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		12V
101	1	R56	90.9	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		12V
33	2	JMP6,JMP7	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	12V, 24V, Batt
12	1	C31	100		25V		DUMMY	Nichicon UTT1E101MPD	DigiKey 493-3276-ND	CAP 100UF 25V LOW Z HI REL RAD	24V
26	2	D17,D26	30V		1.5kW		DUMMY	Littelfuse 1.5KE30A	DigiKey 1.5KE30ALFCT-ND	TVS 30 VOLT 1500 WATT UNI-DIR	24V
47	1	J9	Micro MnL 6				DUMMY	Tyco 2-1445055-6	DigiKey A33211-ND	CONN HEADER 3MM 6POS R/A TIN	24V
35	1	JMP10	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	24V
97	1	R50	360k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		24V
98	1	R51	2.0k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		24V
102	1	R57	90.9	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		24V
13	1	C32	820		6.3V	Polymer	DUMMY	Nichicon PLG0J821MCO1	DigiKey 493-3107-ND	CAP POLY ALUM 820UF 6.3V RADIAL	3.3V
22	2	D13,D15	6.8V		1.5kW		DUMMY	Littelfuse 1.5KE6.8A	DigiKey 1.5KE6.8ALFCT-ND	TVS 6.8 VOLT 1500 WATT UNI-DIR	3.3V
44	1	J6	Micro MnL 3				DUMMY	Tyco 2-1445098-3	DigiKey A34859-ND	CONN HEADER 3MM 3POS R/A GOLD	3.3V
38	1	JMP13	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	3.3V
91	1	R44	220	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		3.3V
92	1	R45	68k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		3.3V
99	1	R54	226	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		3.3V
31	2	JMP2,JMP8	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	3.3V, 5V
14	1	C33	820		6.3V	Polymer	DUMMY	Nichicon PLG0J821MCO1	DigiKey 493-3107-ND	CAP POLY ALUM 820UF 6.3V RADIAL	5V
24	2	D14,D23	6.8V		1.5kW		DUMMY	Littelfuse 1.5KE6.8A	DigiKey 1.5KE6.8ALFCT-ND	TVS 6.8 VOLT 1500 WATT UNI-DIR	5V
45	1	J7	Micro MnL 4				DUMMY	Tyco 2-1445098-4	DigiKey A34860-ND	CONN HEADER 3MM 4POS R/A GOLD	5V
37	1	JMP12	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	5V
93	1	R46	68k	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		5V
94	1	R47	220	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		5V
100	1	R55	133	5%	1/8 W		DUMMY	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		5V
4	1	C4	100		25V		CAPPRD350W60D800H900P	Nichicon UTT1E101MPD	DigiKey 493-3276-ND	CAP 100UF 25V LOW Z HI REL RAD	Batt
16	2	D3,D7	20V		1.5kW		DIOAD1500W101L900D505P_DO-201	Littelfuse 1.5KE20A	DigiKey1.5KE20ALFCT-ND	DIODE TVS 20V 1500W 5% UNI AXL	Batt
41	1	J3	Micro MnL 7				AMP 2-1445098-7	Tyco 2-1445098-7	DigiKey A34863-ND	CONN HEADER 3MM 7POS R/A GOLD	Batt
34	1	JMP9	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	Batt
74	1	R12	360k	5%	1/8 W		RESC2013X60N 0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		Batt
85	1	R26	90.9	1%	1/8 W		RESC2013X60N 0805	KOA Speer RK73H2A	Garrett Lab Kit 0805 1% RK73H2A		Batt

Serial Configuration											
Item	Quantity	Reference	Value	Tolerance	Rating	Type	PCB Footprint	Manufacturer Number	Distributor Number	Description	Stuff
112	1	U11	MAX3226E				SOP65P778X199-16N_SSOP16	Maxim MAX3226EEAE+	DigiKey MAX3226EEAE+-ND	IC TXRX RS232 250KBPS SD 16-SSOP	232
114	1	U13	MAX3471				SOP65P491X110-8N_UMAX8	Maxim MAX3471EUA+	DigiKey MAX3471EUA+-ND	IC TXRX DIFF RS485/422 8-UMAX	485
32	2	JMP4,JMP5	PWB Jumper				HDR1X2			#22 wire jumper -- see Stuff column	TTL

Custom and Reference-Only											
Item	Quantity	Reference	Value	Tolerance	Rating	Type	PCB Footprint	Manufacturer Number	Distributor Number	Description	Stuff
9	1	C24	custom	5%	Rating	<Type>	CAPC2013X130N 0805	Vishay Vitramon VJ0805A	Garrett Lab Kit NPO VJ0805		custom
10	1	C29	custom	10%		X7R	CAPC2013X130N 0805	Vishay Vitramon VJ0805Y	Garrett Lab Kit VJ0805 X7R		custom
63	1	Q8	VP2450		-500V		SOT150P410X160-4N_TO-243AA	Supertex VP2450N8-G	Mouser 689-VP2450N8-G	MOSFET P-ch -500V 160 mA	custom
65	1	Q10	TN2540		400V	Enhancement	SOT150P410X160-4N_TO-243AA	Supertex TN2540N8-G	Mouser 689-TN2540N8-G	MOSFET N 400V 12 ohm	custom
66	1	RT1	120 mA		24V	PTC	RESC2013X60N 0805	Murata PRG21BC6R8MM1RA	DigiKey 490-4673-1-ND	THERMISTOR PTC 6.8 OHM SMD	custom
71	7	R5,R6,R7,R31,R40,R41,R42	custom	5%	1/8 W		RESC2013X60N 0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		custom
90	1	R39	47k	5%	1/8 W		RESC2013X60N 0805	KOA RK73B2A	Garrett Lab Kit 0805 5% RK73B2A		custom
52	1	P5	MnL Recept 3			Contact Housing	DUMMY	Tyco 1445022-3	DigiKey A30259-ND	CONN RECEPT 3MM 3POS MATE-N-LOK	ref only
53	1	P6	MnL Recept 4			Contact Housing	DUMMY	Tyco 1445022-4	DigiKey A30260-ND	CONN RECEPT 3MM 4POS MATE-N-LOK	ref only
54	1	P7	MnL Recept 5			Contact Housing	DUMMY	Tyco 1445022-5	DigiKey A30261-ND	CONN RECEPT 3MM 5POS MATE-N-LOK	ref only
55	1	P8	MnL Recept 6			Contact Housing	DUMMY	Tyco 1445022-6	DigiKey A30262-ND	CONN RECEPT 3MM 6POS MATE-N-LOK	ref only
56	1	P9	MnL Recept 7			Contact Housing	DUMMY	Tyco 1445022-7	DigiKey A30263-ND	CONN RECEPT 3MM 7POS MATE-N-LOK	ref only
103	2	SJ1,SJ2	Shunt				DUMMY	Tyco 390088-1	DigiKey 390088-1-ND	CONN SHUNT DUAL BEAM 30AU PCB	ref only
1	1	CI1	Contact 20-24			Crimp Contact Insert	DUMMY	Tyco 1-794610-2	DigiKey A32523-ND	CONN SOCKET 20-24AWG GOLD CRIMP	ref only