Bill of Materials

PCB Name:	Hero Board
PCB Number:	P0012
PCB Revision:	C
BOM Number:	P0012
BOM Revision:	C
Variant:	deluxe edition
Date:	2018-11-19
Engineer:	Pieter Conradie
Template revision:	03

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#	Part ID	Quantity	Fitted	Group	Designator	Description	Note	Footprint ID	Value	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
1	CAP00001	15	Fitted	PCBA SMT	C1, C4, C5, C9, C11, C13, C24, C31, C32, C33, C35, C37, C41, C42, C43	Capacitor 0603 100n 10% X7R 16V		0603	100n	Wurth Electronics	885012206046	Digi-Key	732-7965-1-ND
2	CAP00014	2	Fitted	PCBA SMT	C2, C3	Capacitor 0603 18p 5% COG 50V		0603	18p	Samsung	CL10C180JB8NNNC	Digi-Key	1276-1089-1-ND
3	CAP00008	4	Fitted	PCBA SMT	C6, C26, C27, C45	Capacitor 0805 4u7 10% X5R 16V		0805	4u7	Taiyo Yuden	EMK212BJ475KG-T	Digi-Key	587-1294-1-ND
4	CAP00003	4	Fitted	PCBA SMT	C7, C28, C30, C38	Capacitor 0603 10n 10% X7R 50V		0603	10n	Samsung	CL10B103KB8NCNC	Digi-Key	1276-1921-1-ND
5	CAP00002	3	Fitted	PCBA SMT	C10, C12, C36	Capacitor 0603 1u 10% X5R 16V		0603	1u	KEMET	C0603C105K4PAC7867	Digi-Key	399-5090-1-ND
6	CAP00006	3	Fitted	PCBA SMT	C25, C29, C34	Capacitor 0805 10u 10% X5R 16V		0805	10u	Samsung	CL21A106KOQNNWE	Digi-Key	1276-2894-1-ND
7	CAP00004	2	Fitted	PCBA SMT	C39, C40	Capacitor 0603 47p 5% COG 50V		0603	47p	KEMET	C0603C470J5GAC7867	Digi-Key	399-1056-1-ND
8	OPT00020	4	Fitted	PCBA SMT	D1, D2, D7, D9	LED,SMD,0603,Red,99mcd,130deg		0603	LTST-C190KRKT	Vishay Lite-On	LTST-C190KRKT	Digi-Key	160-1436-1-ND
9	DIO0007	2	Fitted	PCBA SMT	D5, D8	Diode Schottky Dual Common Cathode SOT23 BAS40-05 0.12A 40V		SOT23	BAS40-05	Nexperia	BAS40-05,215	Digi-Key	1727-4235-1-ND
10	DIO0001	1	Fitted	PCBA SMT	D6	Diode Schottky SMA B140-13-F 1A 40V		SMA	B140-13-F	Diodes	B140-13-F	Digi-Key	B140-FDICT-ND
11	OPT00019	1	Fitted	PCBA TH	DS1	128x64 Monochrome LCD with backlight		SMD	JHD12864-G176BSW	JHDLCM	JHD12864-G176BSW	Alibaba	positive replacement lcd display JHD12864-G176BSW-G
12	IND00001	4	Fitted	PCBA SMT	FB1, FB3, FB4, FB5	Ferrite Bead 0603 BLM18BB151SN1D 20% 0.5A 150R		0603	BLM18BB151SN1D	Murata	BLM18BB151SN1D	Digi-Key	490-5248-1-ND
13	CON00041	1	Fitted	PCBA Kit	H2	Header, 2x20, Leaded, 2.54mm pitch, Vertical		Leaded	PRPC020DABN-RC	Sullins	PRPC020DABN-RC	Digi-Key	S2021EC-20-ND
14	CON00014	1	Fitted	PCBA Kit	H4	Connector, 1x2, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	B2B-PH-K-S	JST	B2B-PH-K-S(LF)(SN)	Digi-Key	455-1704-ND
15	CON00039	1	Fitted	PCBA SMT	H7	Connector, 1x4, SMD, 1mm pitch, Wire to board connector		SMD	BM04B-SRSS-TB(LF)(SN)	JST	BM04B-SRSS-TB(LF)(SN)	Digi-Key	455-1790-1-ND
16	CON00033	2	Fitted	PCBA TH	H15, H18	Header, 1x3, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-03GB01	Wurth Electronics	61300311121	Digi-Key	732-5316-ND
17	CON00012	1	Fitted	PCBA TH	H16	Header, 1x5, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-05GB01	Wurth Electronics	61300511121	Digi-Key	732-5318-ND
18	CON00042	1	Fitted	PCBA SMT	H21	Header, 2x4, SMD, 1.27mm pitch, Vertical		SMD	20021121-00010T4LF	Amphenol FCI	20021121-00010T4LF	Digi-Key	609-3729-ND
19	CON00032	2	Fitted	PCBA SMT	J1, J2	Connector, 1x5, SMD&TH, 0.65mm pitch, Micro USB Receptacle type B		SMD	10118194-0001LF	Amphenol FCI	10118194-0001LF	Digi-Key	609-4618-1-ND
20	CON00037	1	Fitted	PCBA SMT	J3	Connector, 1x10, SMD, 1mm pitch, Bot contact		SMD	979-33-51061A	Samtec	ZF1-10-01-T-WT	Digi-Key	SAM10877-ND
21	CON00038	1	Fitted	PCBA SMT	J4	Connector, 1x8, SMD, 1.1mm pitch, Micro SD Push-push connector		SMD	503182-1852	Molex	503182-1852	Digi-Key	WM12834CT-ND
22	CON00029	2	Fitted	PCBA TH	JP1, JP4	Jumper, 2 Way, 2.54mm			QPC02SXGN-RC	Sullins	QPC02SXGN-RC	Digi-Key	S9337-ND
23	IND00012	1	Fitted	PCBA SMT	L1	Inductor SMD 10u 20% 1.2A 0.18R		SMD	10u	Taiyo Yuden	NRS4018T100MDGJ	Digi-Key	587-2886-1-ND
24	SEN00006	1	Fitted	PCBA TH	LS1	Speaker Leaded PT-1340P-P		Leaded	PT-1340P-P	TDK	PS1240P02BT	Digi-Key	445-2525-1-ND
25	MEC00021	1	Fitted	PCBA	PCB1	P0014 ST STM32L072RB Hero Board			P0014-A				
26	TRA00004	1	Fitted	PCBA SMT	Q1	MOSFET P SOT23 DMP2305U-7 4.2A 20V		SOT23	DMP2305U-7	Diodes Zetex	DMP2305U-7	Digi-Key	DMP2305UDICT-ND
27	TRA00007	2	Fitted	PCBA SMT	Q2, Q3	MOSFET N/P Dual TSOT26 DMC2038LVT 3.7A 20V		TSOT26	DMC2038LVT	Diodes	DMC2038LVT-7	Digi-Key	DMC2038LVT-7DICT-ND
28	RES00004	3	Fitted	PCBA SMT	R1, R2, R29	Resistor SMD Metal Film 0603 4k7 1% 100mW		0603	4k7	Yageo Phycomp	RC0603FR-074K7L	Digi-Key	311-4.70KHRCT-ND
29	RES00005	4	Fitted	PCBA SMT	R3, R37, R38, R41	Resistor SMD Metal Film 0603 10k 1% 100mW		0603	10k	Yageo Phycomp	RC0603FR-0710KL	Digi-Key	311-10.0KHRCT-ND
30	RES00002	5	Fitted	PCBA SMT	R4, R5, R22, R23, R24	Resistor SMD Metal Film 0603 1k 1% 100mW		0603	1k	Yageo	RC0603FR-071KL	Digi-Key	311-1.00KHRCT-ND
31	RES00003	4	Fitted	PCBA SMT	R6, R9, R25, R26	Resistor SMD Metal Film 0603 27R 1% 100mW		0603	27R	Panasonic	ERJ-3EKF27R0V	Digi-Key	P27.0HCT-ND
32	RES00006	11	Fitted	PCBA SMT	R7, R16, R17, R18, R21, R30, R33, R36, R39, R40, R42	Resistor SMD Metal Film 0603 56k 1% 100mW		0603	56k	Panasonic	ERJ-3EKF5602V	Digi-Key	P56.0KHCT-ND
33	RES00009	1	Fitted	PCBA SMT	R27	Resistor SMD Metal Film 0603 270R 1% 100mW		0603	270R	Panasonic	ERJ-3EKF2700V	Digi-Key	P270HCT-ND
34	RES00019	1	Fitted	PCBA SMT	R31	Resistor SMD Metal Film 0603 36k 1% 100mW		0603	36k	Panasonic	ERJ-3EKF3602V	Digi-Key	P36.0KHCT-ND
35	RES00015	2	Fitted	PCBA SMT	R34, R35	Resistor SMD Metal Film 0603 1M 1% 100mW		0603	1M	Yageo	RC0603FR-071ML	Digi-Key	311-1.00MHRCT-ND
36	MEC00002	7	Fitted	PCBA SMT	S2, S3, S4, S5, S6, S7, S8	Push Button, SMD, Normally Open		SMD	DTSM62NV	APEM	ADTSM62NVTR	Digi-Key	679-2382-1-ND
37	IC00042	1	Fitted	PCBA SMT	U1	Ultra-low-power 32-bit MCU ARM Cortex-M0+, up to 128 KB Flash memory, 20 KB SRAM,		LQFP64	STM32L072RBT6	STMicroelectronics	STM32L072RBT6	Digi-Key	497-17504-ND
38	IC00002	1	Fitted	PCBA SMT	U2	USB to BASIC UART IC (Rev D+)		SSOP16	FT230XS-*	FTDI	FT230XS-R	Digi-Key	768-1135-1-ND
39	IC00045	1	Fitted	PCBA SMT	U3	4-Mbit 2.5V SPI Serial Flash Memory		SO8	AT25SF041-SSHD-B	Adesto Technologies	AT25SF041-SSHD-B	Mouser	988-AT25SF041-SSHD-B
40	IC00012	1	Fitted	PCBA SMT	U4	Single-Cell, Fully Integrated Li-Ion Li-Polymer Charge Management Controller		SOT23-5	MCP73831T-2ATI/OT	Microchip	MCP73831T-2ATI/OT	Digi-Key	MCP73831T-2ATI/OTCT-ND
41	IC00046	1	Fitted	PCBA SMT	U5	1-MHz, 350-mA, 3.3V Step-Down DC-DC Converter		SOT23-5	LM3670MF-3.3/NOPB	Texas Instruments	LM3670MF-3.3/NOPB	Digi-Key	LM3670MF-3.3/NOPBCT-ND
42	IC00044	1	Fitted	PCBA SMT	U6	Very low capacitance ESD protection for USB		SOT23-6	82400102	Wurth Electronics	82400102	Digi-Key	732-4473-1-ND
43	IC00041	2	Fitted	PCBA SMT	U7, U8	Single bit dual power supply translating transceiver with 3 state outputs		SOT363	74AVC1T45	Diodes	74AVC1T45DW-7	Mouser	621-74AVC1T45DW-7
44	OSC00003	1	Fitted	PCBA SMT	Y1	Crystal SMD 32.768kHz 20ppm -40/85C 12.5pF		SMD	32.768kHz	Diodes	G83270021	Digi-Key	G83270021CT-ND
45	CAP00001	0	Not Fitted	PCBA SMT	C8, C44	Capacitor 0603 100n 10% X7R 16V		0603	100n	Wurth Electronics	885012206046	Digi-Key	732-7965-1-ND
46	CAP00012	0	Not Fitted	PCBA SMT	C20, C21, C22, C23	Capacitor 0805 100n 10% X7R 16V		0805	100n	KEMET	C0805X104K4RACTU	Digi-Key	399-5331-1-ND
47	DIO0002	0	Not Fitted	PCBA SMT	D4	Diode Schottky Dual Common Anode-Cathode SOT23 BAS40-04 0.12A 40V		SOT23	BAS40-04	ON Semiconductor	BAS40-04LT1G	Digi-Key	BAS40-04LT1GOSCT-ND
48	CON00007	0	Not Fitted	PCBA Kit	H1, H12, H19	Header, 1x2, Vertical, 2.54mm pitch		Leaded	210-71-02GB01	Pinrex	210-71-02GB01		
49	CON00011	0	Not Fitted	PCBA Kit	H3	Connector, 1x3, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	53253-0370	Molex	0532530370	Digi-Key	WM19005-ND
50	CON00043	0	Not Fitted	PCBA SMT	H17	Header, 1x4, SMD, 2.54mm pitch, Vertical		SMD	M20-8770442	Harwin	M20-8770442	Digi-Key	952-2353-ND
51	CON00040	0	Not Fitted	PCBA TH	H20	Connector, 1x4, Leaded, 2mm pitch, Wire to board connector		Leaded	110990030	Seeed Studio	110990030	Digi-Key	1597-1082-ND
52	CON00029	0	Not Fitted	PCBA Kit	JP2, JP3	Jumper, 2 Way, 2.54mm			QPC02SXGN-RC	Sullins	QPC02SXGN-RC	Digi-Key	S9337-ND
53	RES00008	0	Not Fitted	PCBA SMT	R12, R13, R19, R20	Resistor SMD Metal Film 0805 1k 1% 125mW		0805	1k	Yageo Phycomp	RC0805FR-071KL	Digi-Key	311-1.00KCRTR-ND