Bill of Materials

PCB Name: Hero Board
PCB Number: P0012
PCB Revision: D
BOM Number: P0012
BOM Revision: D
Variant: lite edition
Date: 2019-04-30
Engineer: Pieter Conradie
Template revision: 05

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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	10	Fitted	Electronics SMT	C1, C11, C13, C24, C31, C32, C33, C35, C37, C41	Capacitor 0603 100n 10% X7R 16V		0603	100n	SAMSUNG	CL10B104KO8NNWC	Digi-Key	1276-1939-1-ND
2	CAP00014	2	Fitted	Electronics SMT	C2, C3	Capacitor 0603 18p 5% COG 50V		0603	18p	Samsung	CL10C180JB8NNNC	Digi-Key	1276-1089-1-ND
3	CAP00008	1	Fitted	Electronics SMT	C6	Capacitor 0805 4u7 10% X5R 16V		0805	4u7	SAMSUNG	CL21A475KOFNNNE	Digi-Key	1276-1065-1-ND
4	CAP00002	3	Fitted	Electronics SMT	C10, C12, C36	Capacitor 0603 1u 10% X5R 16V		0603	1u	SAMSUNG	CL10A105KO8NNNC	Digi-Key	1276-1034-1-ND
5	CAP00006	3	Fitted	Electronics SMT	C25, C29, C34	Capacitor 0805 10u 10% X5R 16V		0805	10u	SAMSUNG	CL21A106KOQNNNG	Digi-Key	1276-6455-1-ND
6	CAP00003	1	Fitted	Electronics SMT	C28	Capacitor 0603 10n 10% X7R 50V		0603	10n	SAMSUNG	CL10B103KB8NCNC	Digi-Key	1276-1921-1-ND
7	OPT00020	1	Fitted	Electronics SMT	D9	LED,SMD,0603,Red,99mcd,130deg		0603	LTST-C190KRKT	LITE-ON	LTST-C190KRKT	Digi-Key	160-1436-1-ND
8	OPT00019	1	Fitted	Electronics THT	DS1	128x64 Monochrome LCD with backlight		SMD	JHD12864-G176BSW	JHDLCM	JHD12864-G176BSW	Alibaba	positive replacement lcd display JHD12864-G176BSW-G
9	IND00001	3	Fitted	Electronics SMT	FB3, FB4, FB5	Ferrite Bead 0603 BLM18BB151SN1D 20% 0.5A 150R		0603	BLM18AG151SN1D	Murata	BLM18AG151SN1D	Digi-Key	490-5244-1-ND
10	CON00041	1	Fitted	Kit	H2	Header, 2x20, Leaded, 2.54mm pitch, Vertical		Leaded	PRPC020DABN-RC	Sullins	PRPC020DABN-RC	Digi-Key	S2021EC-20-ND
11	CON00039	1	Fitted	Electronics SMT	H7	Connector, 1x4, SMD, 1mm pitch, Wire to board connector		SMD	BM04B-SRSS-TB(LF)(SN)	JST	BM04B-SRSS-TB(LF)(S)	Digi-Key	455-1790-1-ND
12	CON00012	1	Fitted	Electronics THT	H16	Header, 1x5, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-05GB01	Pinrex	210-71-05GB01	Digi-Key	732-5318-ND
13	CON00043	1	Fitted	Electronics SMT	H17	Header, 1x4, SMD, 2.54mm pitch, Vertical		SMD	M20-8770442	Harwin	M20-8770442	Digi-Key	952-2353-ND
14	CON00007	1	Fitted	Kit	H22	Header, 1x2, Vertical, 2.54mm pitch		Leaded	210-71-02GB01	Pinrex	210-71-02GB01	Digi-Key	732-5315-ND
15	CON00032	1	Fitted	Electronics SMT	J1	Connector, 1x5, SMD&TH, 0.65mm pitch, Micro USB Receptacle type B		SMD	10118194-0001LF	FCi	10118194-0001LF	Digi-Key	609-4618-1-ND
16	CON00037	1	Fitted	Electronics SMT	J3	Connector, 1x10, SMD, 1mm pitch, Bot contact		SMD	979-33-51061A	Pinrex	979-33-51061A	Arrow Altech	979-33-51061A
17	CON00038	1	Fitted	Electronics SMT	J4	Connector, 1x8, SMD, 1.1mm pitch, Micro SD Push-push connector		SMD	503182-1852	Molex	503182-1852	Digi-Key	WM12834CT-ND
18	IND00012	1	Fitted	Electronics SMT	L1	Inductor Polarized SMD 10u 20% 1.2A 0.18R		SMD	10u	TAIYO YUDEN	NRS4018T100MDGJ	Digi-Key	587-2886-1-ND
19	SEN0006	1	Fitted	Electronics THT	LS1	Speaker Leaded PT-1340P-P		Leaded	PT-1340P-P	Hitpoint	PT-1340P-P	Electrocomp	BUZZER/16D 13 PT-1340P
20	MEC00021	1	Fitted	PCB	PCB1	P0014 ST STM32L072RB Hero Board			P0014				
21	RES00004	3	Fitted	Electronics SMT	R1, R2, R29	Resistor SMD Metal Film 0603 4k7 1% 100mW		0603	4k7	YAGEO	RC0603FR-**4K7L	Digi-Key	311-4.70KHRCT-ND
22	RES00005	1	Fitted	Electronics SMT	R3	Resistor SMD Metal Film 0603 10k 1% 100mW		0603	10k	YAGEO	RC0603FR-**10KL	Digi-Key	311-10.0KHRCT-ND
23	RES00001	2	Fitted	Electronics SMT	R8, R25	Resistor SMD Metal Film 0603 0R 1% 100mW		0603	0R	YAGEO	RC0603FR-**0RL	Digi-Key	311-0.0HRTR-ND
24	RES00003	1	Fitted	Electronics SMT	R9	Resistor SMD Metal Film 0603 27R 1% 100mW		0603	27R	YAGEO	RC0603FR-**27RL	Digi-Key	311-27.0HRCT-ND
25	RES00006	5	Fitted	Electronics SMT	R16, R17, R18, R21, R28	Resistor SMD Metal Film 0603 56k 1% 100mW		0603	56k	YAGEO	RC0603FR-**56KL	Digi-Key	311-56KHRCT-ND
26	RES00002	1	Fitted	Electronics SMT	R23	Resistor SMD Metal Film 0603 1k 1% 100mW		0603	1k	YAGEO	RC0603FR-071KL	Digi-Key	311-1.00KHRCT-ND
27	RES00009	1	Fitted	Electronics SMT	R27	Resistor SMD Metal Film 0603 270R 1% 100mW		0603	270R	YAGEO	RC0603FR-**270RL	Digi-Key	311-270HRCT-ND
28	MEC00028	7	Fitted	Electronics SMT	S2, S3, S4, S5, S6, S7, S8	Push Button, SMD Gull Wing, SPST-NO, 6mm x 6mm outline, 5mm height		SMD	PTS645SL50SMTR92 LFS	C&K	PTS645SL50SMTR92 L	Digi-Key	CKN9088CT-ND
29	IC00042	1	Fitted	Electronics SMT	U1	Ultra-low-power 32-bit MCU ARM Cortex-M0+, up to 128 KB Flash memory, 20 KB SRAM, 2 KB EEPROM, USB, ADC, DAC		LQFP64	STM32L072RBT6	ST Microelectronics	STM32L072RBT6	Digi-Key	497-17504-ND
30	IC00046	1	Fitted	Electronics 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
31	OSC00003	1	Fitted	Electronics SMT	Y1	Crystal SMD 32.768kHz 20ppm -40/85C 12.5pF		SMD	32.768kHz	WTL	WTL1M32122	Digi-Key	1908-1341-1-ND
32	CAP00001	0	Not Fitted	Electronics SMT	C4, C5, C8, C9, C42, C44	Capacitor 0603 100n 10% X7R 16V		0603	100n	SAMSUNG	CL10B104KO8NNWC	Digi-Key	1276-1939-1-ND
33	CAP00003	0	Not Fitted	Electronics SMT	C7, C30, C38	Capacitor 0603 10n 10% X7R 50V		0603	10n	SAMSUNG	CL10B103KB8NCNC	Digi-Key	1276-1921-1-ND
34	CAP00012	0	Not Fitted	Electronics SMT	C20, C21, C22, C23	Capacitor 0805 100n 10% X7R 16V		0805	100n	Kemet	C0805X104K4RACTU	Digi-Key	399-5331-1-ND
35	CAP00008	0	Not Fitted	Electronics SMT	C26, C27, C45	Capacitor 0805 4u7 10% X5R 16V		0805	4u7	SAMSUNG	CL21A475KOFNNNE	Digi-Key	1276-1065-1-ND
36	CAP00004	0	Not Fitted	Electronics SMT	C39, C40	Capacitor 0603 47p 5% COG 50V		0603	47p	Kemet	C0603C470J5GAC	Digi-Key	399-1056-1-ND
37	OPT00020	0	Not Fitted	Electronics SMT	D1, D2, D7	LED,SMD,0603,Red,99mcd,130deg		0603	LTST-C190KRKT	LITE-ON	LTST-C190KRKT	Digi-Key	160-1436-1-ND
38	DIO00002	0	Not Fitted	Electronics SMT	D4	Diode Schottky Dual Common Anode-Cathode SOT23 BAS40-04 0.12A 40V		SOT23	BAS40-04	Diodes Inc.	BAS40-04-7-F	Digi-Key	BAS40-04FDICT-ND
39	DIO00007	0	Not Fitted	Electronics SMT	D5, D8	Diode Schottky Dual Common Cathode SOT23 BAS40-05 0.12A 40V		SOT23	BAS40-05	ROHM	BAS40-05HMFHT116	Digi-Key	BAS40-05HMFHT116CT-ND
40	DIO00001	0	Not Fitted	Electronics SMT	D6	Diode Schottky SMA B140-13-F 1A 40V		SMA	B140-13-F	Diodes Inc.	B140-13-F	Digi-Key	B140-FDICT-ND
41	IND00001	0	Not Fitted	Electronics SMT	FB1	Ferrite Bead 0603 BLM18BB151SN1D 20% 0.5A 150R		0603	BLM18AG151SN1D	Murata	BLM18AG151SN1D	Digi-Key	490-5244-1-ND
42	CON00007	0	Not Fitted	Kit	H1, H12, H15, H19	Header, 1x2, Vertical, 2.54mm pitch		Leaded	210-71-02GB01	Pinrex	210-71-02GB01	Digi-Key	732-5315-ND
43	CON00011	0	Not Fitted	Kit	H3	Connector, 1x3, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	53253-0370	Molex	53253-0370	Digi-Key	WM19005-ND
44	CON00014	0	Not Fitted	Kit	H4	Connector, 1x2, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	B2B-PH-K-S	JST	B2B-PH-K-S	Digi-Key	455-1704-ND
45	CON00033	0	Not Fitted	Kit	H18	Header, 1x3, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-03GB01	Pinrex	210-71-03GB01	Digi-Key	732-5316-ND
46	CON00040	0	Not Fitted	Kit	H20	Connector, 1x4, Leaded, 2mm pitch, Wire to board connector		Leaded	110990030	Seeed	110990030	Seeed	110990030
47	CON00042	0	Not Fitted	Electronics SMT	H21	Header, 2x4, SMD, 1.27mm pitch, Vertical		SMD	20021121-00010T4LF	FCi	20021121-00010T4LF	Digi-Key	609-3729-ND
48	CON00032	0	Not Fitted	Electronics SMT	J2	Connector, 1x5, SMD&TH, 0.65mm pitch, Micro USB Receptacle type B		SMD	10118194-0001LF	FCi	10118194-0001LF	Digi-Key	609-4618-1-ND
49	CON00029	0	Not Fitted	Kit	JP1, JP2, JP3, JP4	Jumper, 2 Way, 2.54mm			QPC02SXGN-RC	Sullins	QPC02SXGN-RC	Digi-Key	S9337-ND
50	TRA00004	0	Not Fitted	Electronics SMT	Q1	MOSFET P SOT23 DMP2305U-7 4.2A 20V		SOT23	DMP2305U-7	Diodes Inc.	DMP2305U-7	Digi-Key	DMP2305UDICT-ND
51	TRA00007	0	Not Fitted	Electronics SMT	Q2, Q3	MOSFET N/P Dual TSOT26 DMC2038LVT 3.7A 20V		TSOT26	DMC2038LVT	Diodes Inc.	DMC2038LVT	Digi-Key	DMC2038LVT-7DICT-ND
52	RES00002	0	Not Fitted	Electronics SMT	R4, R5, R22, R24, R32	Resistor SMD Metal Film 0603 1k 1% 100mW		0603	1k	YAGEO	RC0603FR-071KL	Digi-Key	311-1.00KHRCT-ND
53	RES00003	0	Not Fitted	Electronics SMT	R6, R26	Resistor SMD Metal Film 0603 27R 1% 100mW		0603	27R	YAGEO	RC0603FR-**27RL	Digi-Key	311-27.0HRCT-ND
54	RES00006	0	Not Fitted	Electronics SMT	R7, R30, R33, R36, R40	Resistor SMD Metal Film 0603 56k 1% 100mW		0603	56k	YAGEO	RC0603FR-**56KL	Digi-Key	311-56KHRCT-ND
55	RES00008	0	Not Fitted	Electronics SMT	R12, R13, R19, R20	Resistor SMD Metal Film 0805 1k 1% 125mW		0805	1k	YAGEO	RC0805FR-**1KL	Digi-Key	311-1.00KCRTR-ND
56	RES00019	0	Not Fitted	Electronics SMT	R31	Resistor SMD Metal Film 0603 36k 1% 100mW		0603	36k	YAGEO	RC0603FR-**36KL	Digi-Key	311-36.0KHRCT-ND
57	RES00015	0	Not Fitted	Electronics SMT	R34, R35, R39, R42	Resistor SMD Metal Film 0603 1M 1% 100mW		0603	1M	YAGEO	RC0603FR-**1ML	Digi-Key	311-1.00MHRCT-ND
58	RES00005	0	Not Fitted	Electronics SMT	R37, R38, R41	Resistor SMD Metal Film 0603 10k 1% 100mW		0603	10k	YAGEO	RC0603FR-**10KL	Digi-Key	311-10.0KHRCT-ND
59	IC00002	0	Not Fitted	Electronics SMT	U2	USB to BASIC UART IC (Rev D+)	Must be Rev. D or later!	SSOP16	FT230XS-*	FTDI Chip	FT230XS-*	Digi-Key	768-1135-1-ND
60	IC00045	0	Not Fitted	Electronics SMT	U3	4-Mbit 2.5V SPI Serial Flash Memory		SO8	AT25SF041-SSHD-B	adesto	AT25SF041-SSHD-B	Digi-Key	1265-1174-5-ND
61	IC00012	0	Not Fitted	Electronics 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
62	IC00044	0	Not Fitted	Electronics SMT	U6	Very low capacitance ESD protection for USB		SOT23-6	82400102	Wurth	82400102	Digi-Key	732-4473-1-ND
63	IC00050	0	Not Fitted	Electronics SMT	U7	Bus buffer/line driver; 3-state		SC70	74LVC1G125GW,125	NXP	74LVC1G125GW,125	Digi-Key	1727-3488-1-ND