

module controller BOM_direct_matched

#	Reference	Value	Footprint	MB P/N MFG	MFG P/N	Qty	Modbatt P/N	Modbatt Description
1	C1	2.2uF	Capacitor_SMD:C_0402_1005Metric_Pad0.	MURATA ELECTRONICS	GRM155C81E225ME11D	1	9042007	0402 2.2uF CAP 25V X6S
2	C2	10nF	Capacitor_SMD:C_0402_1005Metric_Pad0.	KEMET	C0402C103J5RECAUTO	1	9042093	0402 10NF 50V X7R 5%
3	C10,C14,C23,C24,C34	10pF	Capacitor_SMD:C_0402_1005Metric_Pad0.	MURATA	GRM1555C1H100JA01D	5	9042051	CAP CER 10PF 50V C0G/NP0 0402
4	C11,C13,C20,C28	22uF 25V	Capacitor_SMD:C_0805_2012Metric	SAMSUNG ELECTRO-MECHA	CL21A226MAYNNNE	4	9042014	0805 22uF 25V X5R
5	C16,C18,C19	1uF	Capacitor_SMD:C_0402_1005Metric_Pad0.	CALCHIP	GMC04X7R104J16NT	3	9042062	0402 .1UF 5% 16V X7R
6	C17,C21,C22	.1uF 50V	Capacitor_SMD:C_0402_1005Metric_Pad0.	Murata Electronics	GRM155R61H104JE14D	3	9042102	0402 0.1UF 50V X5R
7	C3,C4,C5,C6,C7,C12,C15,C25,C26,C27,C29,C33	.1uF	Capacitor_SMD:C_0402_1005Metric_Pad0.74x0.62mm_HandSolder	CALCHIP	GMC04X7R104J16NT	12	9042062	0402 .1UF 5% 16V X7R
8	C30,C31,C32	.1uF 1KV	Capacitor_SMD:C_1812_4532Metric	KEMET	C1812W104KDRACAUTO	3	9042146	1812 0.1uF 1kV X7R
9	C8,C9	7pF	Capacitor_SMD:C_0402_1005Metric_Pad0.	SEIKO INSTRUMENTS	SC32S-7PF20PPM	2	9042006	SC32S-7PF20PPM CRYSTAL 32.7680KHZ 7PF SMD
10	D2	20V 350mA SOD123	Diode_SMD:D_SOD-123	MICRO COMMERCIAL	SD103AW-TP	1	9042020	DIODE SCHOTTKY 40V 350MA SOD123
11	D7	BAT54CW	Package_TO_SOT_SMD:SOT-323_SC-70	DIOTEC SEMICONDUCTOR	BAT54CW	1	9042156	Schottky SOT-323
12	D1,D3,D6	MMBZ27VCLT1G	modbatt footprints:SOT-23	ESD Suppressors/ TVS Diodes	MMBZ27VCLT1G	3	9042158	27V 225mW Dual Commo
13	J3	Debug	Connector_PinHeader_2.54mm:PinHeader_2x03_P2.54mm_Horizontal		X002ZWOD9L	1	9042177	spring loaded pins for debug 0.7mm
14	J4	Micro_SD_Card_Det_Hirose	modbatt footprints:microSD_HC_Hirose_DM3AT-SF-PEJM5			1		
15	J5	640389-4	modbatt footprints:6403896-4	TE CONNECTIVITY	640389-4	1	9042075	FRCTN LK HDR RA 4P S
16	J1,J2	TERM	modbatt footprints:TERMINAL			2		
17	J6,J7,J8,J9,J10,J11	Conn_01x01_Pin	modbatt footprints:PinHeader_1x01_P1.00mm_Horizontal			6		
18	K1	DVR05	modbatt footprints:modbatt relay tab			1		
19	L1	4.7uH	Inductor_SMD:L_0805_2012Metric_Pad1.1	MURATA ELECTRONICS	LQM21PN4R7MGHL	1	9042016	9FIXED IND 4.7UH 1.2A 275MOHM SMD
20	Q4	ZVP0545G	Package_TO_SOT_SMD:SOT-223	DIODES INC	ZVP0545GTA	1	9042073	P-CHNL 450V
21	Q5	ZVN0545G	Package_TO_SOT_SMD:SOT-223	DIODES INC	ZVN0545GTA	1	9042074	N-CHNL 450V
22	Q1,Q6	2N7002	Package_TO_SOT_SMD:SOT-323_SC-70	PANJIT INTERNATIONAL	2N7002KW-AU_R1_000A1	2	9042001	SOT-323, MOSFET
23	Q2,Q3	MOSFET 600V	modbatt footprints:TO-263-3_TabPin2	INFINEON	IPB60R040CFD7ATMA1	2	9042072	MOSFET, N-CH, 600V, 50A, 150DEG C, 227W
24	R1	1KΩ	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RT0402FRE101KL	1	9042161	0402 1K OHM 1% 50PPM
25	R2	4.7Ω	Resistor_SMD:R_0402_1005Metri	9E+06 TE CONNECTIVITY	CRGCQ0402J4R7	1	9042031	0402 4.7OHM 1/16W 5%
26	R6	10KΩ	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RC0402JR-0710KL	1	9042011	0402 10K OHM 1/16W 5%
27	R11	200KΩ	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RC0402JR-13200KL	1	9042113	0402 200K OHM 1/16W 5%
28	R15	200KΩ	Resistor_SMD:R_1206_3216Metri	9E+06 YAGEO	RC1206JR-07200KL	1	9042111	1206 200 kOhms 250mW 5%
29	R17	100KΩ 0.1%	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RT0402BRE07100KL	1	9042090	0402 100K OHM 0.1% 1/16W
30	R32	33KΩ	modbatt footprints:3560	9E+06 TE CONNECTIVITY	356033KFT	1	9042127	RES 3560 33K 6W 1%
31	R35	22Ω	Resistor_SMD:R_0402_1005Metri	9E+06 PANASONIC	ERJ-U02J220X	1	9042149	0402 22 OHM 5%
32	R12,R13	787KΩ 1%	Resistor_SMD:R_0402_1005Metri	9E+06 VISHAY	CRCW0402787KFKED	2	9042160	0402 787K OHM 1/16W 1%
33	R14,R28,R29,R30,R31	4.99KΩ 0.1%	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RT0402BRE074K99L	5	9042081	0402 4.99KOHM 0.1% 1/16W
34	R16,R18,R19,R20,R21	2.7MΩ 0.1%	Resistor_SMD:R_1206_3216Metri	9E+06 SUSUMU	RG3216P-2704-B-T1	5	9042061	RES 1206 2.7M OHM 0.1% 1/4W
35	R3,R4,R24,R25,R33	4.7KΩ	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	AC0402FR-134K7L	5	9042110	0402 4.7K OHM 62.5mW 1% AEC-Q200
36	R36,R37	6.04Ω	Resistor_SMD:R_2512_6332Metric	9E+06 VISHAY	CRCW25126R04FKEGHP	2	9042155	2512 6.04 OHM 1.5W 1%
37	R5,R22,R23,R34	100KΩ	Resistor_SMD:R_0402_1005Metri	9E+06 TE CONNECTIVITY	CRG0402J100K/10	4	9042003	0402 100K OHM 1/16W 5%
38	R7,R8	1.0MΩ 0.1%	Resistor_SMD:R_0402_1005Metri	9E+06 YAGEO	RE0402BRE071ML	2	9042012	0402 1M OHM 1/16W 0.1%
39	R9,R10	68Ω	Resistor_SMD:R_0402_1005Metri	9E+06 Walsin Technology Corporation	WR04X68R0FTL	2	9042095	0402 68 OHM 1% 1/16W

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40 U1	ACS37002LMABTR-050B5	Package_SO:SOIC-16W_7.5x10_	9E+06	Allegro MicroSystems	ACS37002LMABTR-050B5	1	9042071	Board Mount Current Sensors 400KHZ
41 U2	ATmega64M1-AU	modbatt footprints:TQFP-32_7x7	9E+06	Microchip Technology	ATMEGA64M1-AU	1	9042027	8-bit Microcontrollers - MCU 16 MHz, 85DEG
42 U3	MCP7940N	Package_SO:SOIC-8_3.9x4.9mm_	9E+06	MICROCHIP TECH	MCP7940NT-I/SN	1	9042023	IC RTC CLK/CALENDAR I2C 8S0IC
43 U4	AP63203WU	Package_TO_SOT_SMD:TSOT-233042036'DIODES INC			AP63203WU-7	1	9042036	IC REG BUCK 3.3V 2A TSOT26
44 U5	TLV333 8SOIC	Package_SO:SOIC-8_3.9x4.9mm_	9E+06	TEXAS INSTRUMENTS	TLV333IDR	1	9042089	Op Amps Single 350-kHz low -noise RRIO CMOS
45 U6	TLP152	modbatt footprints:SO-6_4.4x3.6	9E+06	TOSHIBA	TLP152(TPL,E	1	9042076	Optically Isolated Gate Drivers Gate Drive Phcplr 3750 Vrms
46 U7	TPSI3050D	Package_SO:SOIC-8_7.5x5.85mm	9E+06	TI	TPSI3050DWZR	1	9042157	Galvanically Isolated Gate Drivers Isolated switch driver
47 U8	ISO1050DUB	modbatt footprints:DIP-8_W8.89	9E+06	TEXAS INSTRUMENTS	ISO1050DUBR	1	9042022	IC TXRX/ISO HALF 1/1 8S0P
48 U9	DC-DC SIP6	modbatt footprints:SIP6_IB_LS-1	9E+06	MORNSUN	IB 1205LS-1WR3	1	9042056	Isolated Module DC DC Converter 1 Output 5V 200mA 11.4V -
49 U10	AZ1117-5.0	Package_TO_SOT_SMD:SOT-2233042057'Diodes Incorporated			AZ1117IH-5.0TRG1	1	9042098	IC REG LINEAR 5V 1A SOT223 (use 9042057)
50 U11	MIC5504-3.3YM5	Package_TO_SOT_SMD:SOT-23-5	9E+06	Microchip Technology	MIC5504-3.3YM5-TR	1	9042100	IC REG LINEAR 3.3V 300MA SOT23-5
51 U12	TMP392	modbatt footprints:SOT-563	9E+06	TI THERMOSTATS	TMP392A2DRLR	1	9042133	Board Mount Temperature Sensors TMP392 Dual-channel
52 U13	TC7WH74FU	Package_SO:TSSOP-8_3x3mm_P	9E+06	TOSHIBA	TC7WH74FU,LJ(CT	1	9042143	Flip Flops L-MOS LOGIC (VHS)
53 Y1	32.768KHz SC-32	Crystal:Crystal_SMD_3215-2Pin_3	9E+06	SEIKO INSTRUMENTS	SC32S-7PF20PPM	1	9042006	SC32S-7PF20PPM CRYSTAL 32.7680KHZ 7PF SMD