

Bill of Materials

MCP1632 Single-Cell Li-Ion Battery Charger

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 Engineer: Marius Dracea
 Drawn By: Marius Dracea



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Quantity	Designator	Description_	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
2	C1, C2	CAP CER 1uF 16V 10% X7R SMD 0603	Würth Electronics	885012206052	Digi-Key	732-7971-1-ND
2	C3, C4	CAP CER 4.7uF 10V 10% X7R SMD 0805	Würth Electronics	885012207025	Digi-Key	732-7657-1-ND
3	C5, C6, C7	CAP CER 10uF 50V 10% X7R AEC-Q200 SMD 1210	Taiyo Yuden	UMK325AB7106KMHP	Digi-Key	587-6160-1-ND
1	C8	CAP CER 47pF 50V 5% COG/NP0 SMD 0603	Murata	GCM1885C1H470JA16D	Digi-Key	490-4960-1-ND
1	C9	CAP CER 0.47uF 16V 10% X7R SMD 0603	Murata	GRM188R71C474KA88D	Digi-Key	490-3295-2-ND
1	C10	CAP CER 10000pF 50V 10% X7R SMD 0603	Kyocera AVX	06035C103KAT2A	Digi-Key	478-1227-1-ND
1	C11	CAP CER 22pF 50V 1% COG SMD 0603	Murata	GRM1885C1H220FA01D	Digi-Key	490-9717-1-ND
1	C12	CAP CER 4700pF 50V 10% X7R SMD 0603	KEMET	C0603C472K5RACTU	Digi-Key	399-1087-1-ND
2	C13, C14	CAP CER 100pF 50V 1% COG SMD 0603	TDK	C1608C0G1H101F080AA	Digi-Key	445-5368-1-ND
1	D1	DIODE SCHOTTKY 40V 2A DO214AC	Vishay Semiconductors	SSA24-E3/61T	Digi-Key	SSA24-E3/61TGICT-ND
1	D2	DIO RECT 1N4148 1.25V 150mA 100V SOD-123	MCC	1N4148W-TP	Digi-Key	1N4148WTPMST-ND
2	J1, J2	CON TERMINAL 2.54mm 1x2 Female 20-30AWG 6A TH R/A	Phoenix Contact	1725656	Digi-Key	277-1273-ND
1	J3	CON HDR-2.54 Male 1x5 Gold 5.84MH TH VERT	Amphenol ICC	68000-105HLF	Digi-Key	609-3462-ND
1	L1	INDUCTOR 4.7uH 3.16A 20% SMD L12.3W12.3H6	Coilcraft	MSD1260-472MLB	Farnell	2288027
1	LD1	DIO LED RED 2V 30mA 2mcd Clear SMD 0603	Vishay Lite-On	LTST-C190EKT	Digi-Key	160-1182-1-ND
1	Q1	TRANS FET N-CH Si4850EY-T1-E3 60V 6A 1.7W SOIC-8	Vishay	SI4850EY-T1-E3	Digi-Key	SI4850EY-T1-E3CT-ND
2	R1, R12	RES TKF 100k 1% 1/10W SMD 0603 AEC-Q200	Stackpole Electronics	RMCF0603FG100K	Digi-Key	RMCF0603FG100KCT-ND
1	R2	RES TKF 680k 1% 1/10W SMD 0603	Panasonic	ERJ3EKF6803V	Digi-Key	P680KHCT-ND
1	R3	RES TKF 39k 1% 1/10W SMD 0603	Panasonic	ERJ3EKF3902V	Digi-Key	P39.0KHCT-ND
1	R4	RES TKF 2.7k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF2701V	Digi-Key	P2.70KHCT-ND
1	R5	RES TKF 91k 1% 1/10W SMD 0603	Vishay	CRCW060391K0FKEA	Digi-Key	541-91.0KHCT-ND
1	R6	RES TKF 470k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF4703V	Digi-Key	P470KHCT-ND
1	R7	RES TKF 40.2k 1% 1/16W SMD 0603	Panasonic	ERJ3EKF4022V	Digi-Key	P40.2KHCT-ND
1	R9	RES TKF 6.8k 1% 1/10W SMD 0603	Panasonic	ERJ3EKF6801V	Digi-Key	P6.80KHCT-ND
2	R10, R11	RES TKF 0.1R 1% 1/2W SMD 1206	Bourns	CRM1206-FX-R100ELF	Farnell	1865244
4	R13, R14, R15, R16	RES TKF 10k 1% 1/10W SMD 0603	Panasonic	ERJ3EKF1002V	Digi-Key	P10.0KHCT-ND
1	R17	RES TKF 820R 1% 1/10W SMD 0603	Panasonic	ERJ3EKF8200V	Digi-Key	P820HCT-ND
1	SW1	SWITCH TACT SPST 24V 50mA B3S-1100 SMD	Omron	B3S-1100	Digi-Key	SW971-ND
5	TP1, TP2, TP3, TP4, TP5	CON TP LOOP Silver 3.4x5 SMD	Components Corporation	TP-107-2	Components C	TP-107-2

Microchip Parts listed below

1	U1	MCHP ANALOG LDO 5V MCP1703T-5002E/CB SOT-23-3	Microchip	MCP1703T-5002E/CB	Digi-Key	MCP1703T-5002E/CBCT-ND
1	U2	MCHP ANALOG PWM CONTROLLER 600kHz MCP1632-BAE/MS MSOP-8	Microchip Technology	MCP1632T-BAE/MS	Microchip Tech	MCP1632T-BAE/MS
1	U3	MCHP ANALOG OPAMP 1-Ch 1MHz MCP6001T-I/OT SOT-23-5	Microchip Technology	MCP6001T-I/OT	Microchip Tech	MCP6001T-I/OT
1	U4	MCHP MCU 8-BIT 32MHz 3.5kB 128B PIC12F1822T-I/SN SOIC-8	Microchip	PIC12F1822T-I/SN	Microchip	PIC12F1822T-I/SN

Mechanical Parts to be added in the package

1	LABEL1	LABEL, ASSY W/REV LEVEL (SMALL MODULES) PER MTS-0002				
4	PAD1, PAD2, PAD3, PAD4	MECH HW RUBBER PAD CYLINDRICAL D7.9 H5.3 BLACK	3M	70006431483	Digi-Key	SJ5747-0-ND

Do Not Populate Parts listed below

0	R8	RES TKF 1M 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF1004V	Digi-Key	P1.00MHCT-ND
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