

Bill of Materials

MCP19125 Flyback Battery Charger

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Quantity	Designator	Description_	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Price / 1 Board
1	C1	CAP CER 1uF 50V 10% X7R SMD 0805	Murata Electronics North America	GRM21BR71H105KA12L	Digi-Key	490-4736-1-ND	\$0.3600	\$0.3600
2	C2, C3	CAP CER 10uF 50V 20% X7S SMD 1210	TDK	C3225X7S1H106M	Digi-Key	445-4537-1-ND	\$0.7400	\$1.4800
2	C4, C5	CAP CER 4.7uF 50V 10% X7R SMD 1210	Murata Electronics North America	GRM32ER71H475KA88L	Digi-Key	490-1864-1-ND	\$0.7700	\$1.5400
1	C6	CAP CER 0.1uF 50V 20% Y5V SMD 0603	AVX	06035G104ZAT2A	Digi-Key	478-3724-1-ND	\$0.2500	\$0.2500
1	C8	CAP ALU 120uF 50V 20% SMD E	Nichicon	PCR1H121MCL2GS	Digi-Key	493-13772-1-ND	\$2.7000	\$2.7000
2	C17, C21	CAP CER 10000pF 50V 10% X7R SMD 0603	AVX Corporation	06035C103KAT2A	Digi-Key	478-1227-1-ND	\$0.1000	\$0.2000
1	C18	CAP CER 910pF 50V 5% NP0 SMD 0603	Murata Electronics North America	GRM1885C1H911JA01D	Digi-Key	490-1450-2-ND	\$0.0262	\$0.0262
2	C19, C23	CAP CER 4.7uF 16V 10% X5R SMD 0603	TDK Corporation	C1608X5R1C475K080AC	Digi-Key	445-7478-1-ND	\$0.3200	\$0.6400
1	C20	CAP CER 0.068uF 25V 10% X8R SMD 0603	TDK	C1608X8R1E683K	Digi-Key	445-3421-1-ND	\$0.1600	\$0.1600
3	C22, C24, C26	CAP CER 1uF 25V 10% X7R SMD 0603	TDK Corporation	CGA3E1X7R1E105K080AC	Digi-Key	445-6931-1-ND	\$0.1800	\$0.5400
1	C25	CAP CER 1000pF 50V 20% X7R SMD 0603	TDK Corporation	C1608X7R2A102K080AA	Digi-Key	445-1298-1-ND	\$0.1000	\$0.1000
2	C31, C32	CAP CER 680pF 100V 5% NP0 SMD 0805	KEMET	C0805C681J1GACTU	Digi-Key	399-8111-1-ND	\$0.3000	\$0.6000
2	D2, D5	DIO ZNR BZX84-C5V1 5.1V 250mW SOT-23-3	Nexperia USA Inc.	BZX84-C5V1.215	Digi-Key	1727-2939-1-ND	\$0.1600	\$0.3200
2	J1, J2	CON JACK Banana 4.5mm Female TH VERT	Keystone Electronics	575-8	Digi-Key	36-575-8-ND	\$0.9900	\$1.9800
1	J3	CON HDR 3.96mm Male 1x3 Tin Lock 7.7MH TH VERT	TE Connectivity AMP Connectors	1-1123723-3	Digi-Key	A104903-ND	\$0.4300	\$0.4300
2	J4, J5	CON HDR-2.54 Male 1x6 Gold 5.84MH TH R/A	FCI	68016-106HLF	Digi-Key	609-3313-ND	\$0.4500	\$0.9000
1	J7	CON HDR-2.54 Male 2x3 Gold 5.84MH TH VERT	Samtec	TSW-103-08-L-D	Digi-Key	SAM1040-03-ND	\$1.5700	\$1.5700
1	LD1	DIO LED RED 1.8V 40mA 10mcd Clear SMD 0603	Lite-On	LTST-C190KRKT	Digi-Key	160-1436-1-ND	\$0.2700	\$0.2700
2	Q1, Q2	TRANS FET N-CH BSSZ240N12NS3 G 120V 37A 66W TSDSON-8	Infineon Technologies	BSZ240N12NS3 G	Digi-Key	BSZ240N12NS3 GCT-ND	\$1.3800	\$2.7600
2	Q3, Q5	TRANS FET DUAL N+P SI3552DV-T1-GE3 30V, -30V 2.5A, -1.8A 1.15W SOT-23-6	Vishay Siliconix	SI3552DV-T1-GE3	Digi-Key	SI3552DV-T1-GE3CT-ND	\$0.8500	\$1.7000
1	Q4	TRANS FET N-CH FDV301N 25V 220mA 350mW SOT-23-3	Fairchild	FDV301N	Digi-Key	FDV301NCT-ND	\$0.2400	\$0.2400

7	R1, R2, R6, R12, R15, R17, R24	RES TKF 0R 1/10W SMD 0603	Panasonic	ERJ-3GSY0R00V	Digi-Key	P0.0GTR-ND	\$0.0019	\$0.0133
1	R3	RES TF 0.05R 1% 1W SMD 0612	SUSUMU	PRL1632-R050-F-T1	Digi-Key	PRL1632.050FCT-ND	\$0.6500	\$0.6500
1	R4	RES TF 0.1R 1% 1W SMD 0612	SUSUMU	L1632-R100-F-T5	Farnell	1653247	\$1.5600	\$1.5600
1	R7	RES TKF 10k 1% 1/10W SMD 0603	Vishay	CRCW060310K0FKEA	Digi-Key	541-10.0KHCT-ND	\$0.1000	\$0.1000
1	R10	RES TKF 1.5k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF1501V	Digi-Key	P1.50KHTR-ND	\$0.0026	\$0.0026
1	R11	RES TKF 390R 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF3900V	Digi-Key	P390HCT-ND	\$0.1000	\$0.1000
1	R16	RES TKF 10.2k 1% 1/10W SMD 0603	Yageo	RC0603FR-0710K2L	Digi-Key	311-10.2KHRCT-ND	\$0.1000	\$0.1000
6	R20, R21, R29, R49, R50, R51	RES TKF 10k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ103V	Digi-Key	P10KGCT-ND	\$0.0170	\$0.0170
1	R22	RES TKF 1k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ102V	Digi-Key	P1.0KGTR-ND	\$0.0022	\$0.0022
2	R26, R30	RES TKF 15k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ153V	Digi-Key	P15KGCT-ND	\$0.0170	\$0.0340
1	R27	RES TF 100k 0.1% 1/10W SMD 0603	Panasonic Electronic Components	ERA-3AEB104V	Digi-Key	P100KDBCT-ND	\$0.3900	\$0.3900
1	R28	RES TKF 10R 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ100V	Digi-Key	P10GCT-ND	\$0.1000	\$0.1000
1	R31	RES TF 15k 0.1% 1/10W SMD 0603	Panasonic Electronic Components	ERA-3AEB153V	Digi-Key	P15KDBCT-ND	\$0.3900	\$0.3900
3	R32, R35, R36	RES TKF 4.7k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ472V	Digi-Key	P4.7KGCT-ND	\$0.0170	\$0.0510
2	R33, R47	RES TKF 30k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ303V	Digi-Key	P30KGCT-ND	\$0.0170	\$0.0340
1	R41	RES TF 22.6K 0.1% 1/10W SMD 0603	Panasonic Electronic Components	ERA-3AEB2262V	Digi-Key	P22.6KDBCT-ND	\$0.3900	\$0.3900
2	R42, R43	RES 22 OHM 1/4W 1% 1206 SMD	Panasonic Electronic Components	ERJ-8ENF22R0V	Digi-Key	P22.0FCT-ND	\$0.1000	\$0.2000
2	R45, R46	RES TKF 0R 1/8W SMD 0805	Panasonic	ERJ-6GEY0R00V	Digi-Key	P0.0ATR-ND	\$0.0029	\$0.0057
1	SW1	SWITCH TACT SPST 12V 50mA PTS645SM43SMTR92 LFS SMD	Würth Electronics Inc	430182043816	Digi-Key	732-7004-1-ND	\$0.4700	\$0.4700
21	TP1, TP2, TP3, TP4, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22	MISC, TEST POINT MULTI PURPOSE MINI BLACK	Keystone	5001	Digi-Key	36-5001-ND	\$0.3160	\$6.6360
1	X1	INDUCTOR DUAL 15uH 4.5A 20% SMD MSD1583	Coilcraft	MSD1583-153MEB	Mouser	994-MSD1583-153MEB	\$2.7600	\$2.7600
Microchip Parts listed below								
1	U2	MCHP ANALOG PWM CONTROLLER 2MHz MCP19125-E/MQ QFN-28	Microchip Technology Inc	MCP19125-E/MQ	Microchip Technology Inc	MCP19125-E/MQ		\$0.0000
1	U3	MCHP ANALOG CHARGE PUMP 5V - 11V TC1240AECCTR SOT-23-6	Microchip Technology Inc	TC1240AECCTR	Digi-Key	TC1240AECCT-ND		\$0.0000
Mechanical Parts to be added in the package								
1	LABEL	LABEL, ASSY W/REV LEVEL (SMALL MODULES) PER MTS-0002			Dev Tools			\$0.0000
4	SCR1, SCR2, SCR3, SCR4	MACHINE SCREW PAN PHILLIPS 4-40	Keystone Electronics	9900	Digi-Key	36-9900-ND	\$0.1000	\$0.4000
4	STANDOFF1, STANDOFF2, STANDOFF3, STANDOFF4	MECH HW STAND-OFF F-F 4-40 NYLON 1/2	Keystone Electronics	1902C	Digi-Key	36-1902C-ND	\$0.7000	\$2.8000
Do Not Populate Parts listed below								
1	C7	CAP CER 0.1uF 50V 20% X7R SMD 0603	TDK	C1608X7R1H104M	Digi-Key	445-5098-1-ND	\$0.1000	\$0.1000
3	C10, C11, C12	CAP CER 2.2uF 100V 10% X7R SMD 1210	KEMET	C1210C225K1RACTU	Digi-Key	399-5511-1-ND	\$0.7700	\$2.3100
1	C13	CAP CER 220pF 50V 5% NP0 SMD 0603	KEMET	C0603C221J5GACTU	Digi-Key	399-1066-1-ND	\$0.1000	\$0.1000
3	C14, C15, C16	CAP CER 1uF 16V 10% X5R SMD 0603	AVX	0603YD105KAT2A	Digi-Key	478-1249-1-ND	\$0.1000	\$0.3000
2	C27, C28	CAP CER 0.1uF 50V 20% Y5V SMD 0603	AVX	06035G104ZAT2A	Digi-Key	478-3724-1-ND	\$0.2500	\$0.5000
1	C29	CAP CER 4.7uF 16V 10% X5R SMD 0603	TDK Corporation	C1608X5R1C475K080AC	Digi-Key	445-7478-1-ND	\$0.3200	\$0.3200
1	C30	CAP CER 1uF 25V 10% X7R SMD 0603	TDK Corporation	CGA3E1X7R1E105K080AC	Digi-Key	445-6931-1-ND	\$0.1800	\$0.1800
1	C33	CAP CER 680pF 100V 5% NP0 SMD 0805	KEMET	C0805C681J1GACTU	Digi-Key	399-8111-1-ND	\$0.3000	\$0.3000
1	D1	DIO RECTARR BAV23,215 1V 225mA 200V SMD SOT-143B	Nexperia USA Inc.	BAV23,215	Digi-Key	1727-2910-1-ND	\$0.3500	\$0.3500
1	D3	DIO TVS SMAJ90A 90VWM 400W SMD DO-214AC SMA	Littelfuse Inc	SMAJ90A	Digi-Key	SMAJ90ALFCT-ND	\$0.4000	\$0.4000
1	D4	DIO SCKY STPS2H100 790mV 2A 100V DO-214AC_SMA	STMicroelectronics	STPS2H100A	Digi-Key	497-3758-1-ND	\$0.5300	\$0.5300

1	J6	CON USB2.0 MICRO-B FEMALE TH/SMD R/A	FCI	10118194-0001LF	Digi-Key	609-4618-1-ND	\$0.4600	\$0.4600
1	LD2	DIO LED YELLOW 2.1V 20mA 6mcd Clear SMD 0603	Lite-On	LTST-C190YKT	Digi-Key	160-1184-2-ND	\$0.0465	\$0.0465
1	R5	RES TF 100k 0.1% 1/10W SMD 0603	Panasonic Electronic Components	ERA-3AEB104V	Digi-Key	P100KDBCT-ND	\$0.3900	\$0.3900
2	R8, R9	RES TF 1k 0.1% 1/10W SMD 0603	Panasonic - ECG	ERA-3AEB102V	Digi-Key	P1.0KDBTR-ND	\$0.0354	\$0.0708
2	R13, R18	RES TKF 3.92k 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF3921V	Digi-Key	P3.92KHCT-ND	\$0.0200	\$0.0400
4	R14, R19, R23, R48	RES TKF 0R 1/10W SMD 0603	Panasonic	ERJ-3GSY0R00V	Digi-Key	P0.0GTR-ND	\$0.0019	\$0.0076
1	R25	RES TKF 10R 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ100V	Digi-Key	P10GCT-ND	\$0.1000	\$0.1000
1	R34	RES MF 330R 5% 1/16W SMD 0603	Panasonic Electronic Components	ERA-V33J331V	Digi-Key	P330CHTR-ND	\$0.1186	\$0.1186
3	R37, R38, R39	RES TKF 4.7k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ472V	Digi-Key	P4.7KGCT-ND	\$0.0170	\$0.0510
1	R40	RES TKF 1k 5% 1/10W SMD 0603	Panasonic	ERJ-3GEYJ102V	Digi-Key	P1.0KGTR-ND	\$0.0022	\$0.0022
1	R44	RES 22 OHM 1/4W 1% 1206 SMD	Panasonic Electronic Components	ERJ-8ENF22R0V	Digi-Key	P22.0FCT-ND	\$0.1000	\$0.1000
1	U1	MCHP ANALOG OPAMP 1-Ch 1.2MHz MCP6071T-E/OT SOT-23-5	Microchip Technology	MCP6071T-E/OT	Digi-Key	MCP6071T-E/OTCT-ND	\$0.6100	\$0.6100
1	U4	MCHP INTERFACE USB I2C UART MCP2221-I/ML QFN-16	Microchip Technology	MCP2221-I/ML	Digi-Key	MCP2221-I/ML-ND	\$2.4000	\$2.4000