

Parts List - Laptop Battery Charge Controller

Qty	Description	P/N	Digikey #	Price	Package
1	Charge Controller 2s	MAX1873REEE+	MAX1873REEE+-ND	\$4.26	16 Pin QSOP
	Charge Controller 3s	MAX1873SEEE+	MAX1873SEEE+-ND	\$3.78	16 Pin QSOP
	Charge Controller 4s	MAX1873TEEE+	MAX1873TEEE+-ND	\$3.78	16 Pin QSOP
1	3.3 volt regulator	AP7381-33Y-13	AP7381-33Y-13DICT-ND	\$0.44	SOT89
1	Quad NAND gate	MC74HC132ADTG	MC74HC132ADGOS-ND	\$0.37	14 pin SOIC
1	ATTiny85	ATTINY85-20PU	ATTINY85-20PU-ND	\$1.20	8 Pin DIP
2	P-FET	FDS4435BZ	FDS4435BZCT-ND	\$0.60	8 Pin SOIC
1	N-FET	MMBF170	MMBF170CT-ND	\$0.37	SOT-23-3
2	Schottky Diode	B540C	B540C-FDICT-ND	\$0.48	DO-214AB
1	Ideal Diode Controller	LTC4412	LTC4412ES6#TRMPBFCT-ND	\$3.44	SOT-23-6
1	Fuse 5A 32V Slow blow	0469005.WR	F3539CT-ND	\$0.81	1206
1	10uH, 3A Inductor	NRS8030T100MJGJ	587-2960-1-ND	\$0.45	SMD
1	68uf, 25V Cap	T495X686K025ATE200	399-3908-1-ND	\$1.96	2917
1	47uf, 35V Cap	T495X476K035ATE200	399-8543-1-ND	\$2.43	2917
2	2.2uf 10V X5R Cap	CC0805MRX5R6BB225	311-3438-1-ND	\$0.18	0805
13	0.1uf 50V X5R Cap	UMK212BJ104KG-T	587-5486-1-ND	\$0.08	0805
2	0.22uf 35V Cap	GMK212BJ224KGHT	587-3366-1-ND	\$0.20	0805
2	0.047uf 50V Cap	08055C473KAT2A	478-1391-1-ND	\$0.19	0805
1	1000pf 50V Cap	CC0805KRX7R9BB102	399-1147-1-ND	\$0.14	0805
6	1uf 35V Cap	GMK212B7105KG-T	587-1438-1-ND	\$0.25	0805
3	100KΩ 0.1%	ERA-3AEB104V	P100KDBCT-ND	\$0.35	0603
3	10KΩ 1%	RNCP0603FTD10K	RNCP0603FTD10K0CT-ND	\$0.10	0603
3	1KΩ 5%	RC0603JR-071KL	311-1.0KGRCT-ND	\$0.10	0603
2	4.7Ω 1%	RNCP0603FTD4R70	RNCP0603FTD4R70CT-ND	\$0.10	0603
1	2.49KΩ 0.1%	ERA-3AEB2491V	P2.49KDBCT-ND	\$0.34	0603
1	7.5KΩ 0.1%	ERA-3AEB752V	P7.5KDBCT-ND	\$0.35	0603
2	49.9KΩ 0.1%	ERA-3AEB4992V	P49.9KDBCT-ND	\$0.34	0603
1	82KΩ 1%	RC0603FR-0782KL	311-82.0KHRCT-ND	\$0.10	0603
1	160KΩ 1%	RC0603FR-07160KL	311-160KHRCT-ND	\$0.10	0603
1	34.8KΩ 0.5%	RT0603DRE0734K8L	311-2545-1-ND	\$0.10	0603

1	0.033Ω 1% 1W	WSL2512R0330FEA	WSLG-.033CT-ND	\$1.19	2512
1	0.2Ω 1% 1W	WSL2512R2000FEA	WSLG-.20CT-ND	\$1.05	2512
1	8 pin Dip socket	110-43-308-41-001000	ED90032-ND	\$0.79	8 Pin DIP

Notes:

Choose the Max1873 R, S, or T version depending on the number of series cells in your battery pack.

Resistors R5 and R6 are each 100KΩ for battery packs that use 3.7 volt nominal/4.2 volt maximum cells. These values must be changed for older battery packs that use 3.6 volt nominal/4.1 volt maximum cells. Using the formulas in the Max1873 data sheet gives new values of: R5 = [54.9KΩ](#) and R6 = [147KΩ](#).

Use the Charge_Controller Eagle layout file to order the PCB from [OSH Park](#). The cost with U.S. shipping is \$27 for a lot of 3 boards. Use the Charge_Controller Gerber zip file to order the PCB from [JLCPCB](#). The cost with economy U.S. shipping is under \$10 for a lot of 5 boards.