

Bill of Materials

TI DESIGNS
TIDA-00589

bq25895 I2C Controlled Single Cell 5A Fast Charger with MaxCharge™ and 3.1A Boost Operation for Power Bank

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint
1	1	PCB		Printed Circuit Board	Any	PWR655	-	
2	1	C1	1uF	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0805	MuRata	GRM219R71E105KA88D		0805
3	1	C2	10uF	CAP, CERM, 10uF, 25V, +/-10%, X5R, 0805	TDK	C2012X5R1E106K125AB		0805
4	1	C3	4.7uF	CAP, CERM, 4.7uF, 16V, +/-10%, X5R, 0603	MuRata	GRM188R61C475KAAJ		0603
5	1	C4	0.047uF	CAP, CERM, 0.047uF, 25V, +/-10%, X7R, 0402	MuRata	GRM155R71E473KA88D		0402
6	3	C5, C6, C7	10uF	CAP, CERM, 10 µF, 10 V, +/- 10%, X7R, 0805	MuRata	GRM21BR71A106KE51L		0805
7	1	C10	22uF	CAP, CERM, 22 µF, 25 V, +/- 20%, X5R, 0805	MuRata	GRM21BR61E226ME44		0805
8	3	C11, C12, C13	10uF	CAP, CERM, 10uF, 25V, +/-20%, X5R, 0603	MuRata	GRM188R61E106MA73		0603
9	1	C22	0.01uF	CAP, CERM, 0.01uF, 25V, +/-10%, X7R, 0402	TDK	C1005X7R1E103K		0402
10	1	C23	1uF	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	TDK	C1608X7R1E105K080AB		0603
11	1	C24	2.2uF	CAP, CERM, 2.2uF, 10V, +/-10%, X5R, 0402	TDK	C1005X5R1A225K050BC		0402
12	2	D3, D4	Green	LED, Green, SMD	Lite-On	LTST-C190GKT		1.6x0.8x0.8mm
13	4	H1, H2, H3, H4		Bump, Hemisphere, 0.44 X 0.20, Clear	3M	SJ-5303 (CLEAR)		Transparent Bump
14	4	J1, J2, J3, J4	2x1	Conn Term Block, 2POS, 3.81mm, TH	Phoenix Contact	1727010		2POS Terminal Block
15	2	J5, J6		Connector, Receptacle, Micro-USB Type B, R/A, Bottom Mount SMT	Molex	0473460001		7.5x2.45x5mm
16	1	J7		Header (shrouded), 100mil, 5x2, High-Temperature, Gold, TH	3M	N2510-6002-RB		5x2 Shrouded header
17	1	J8		Header, 100mil, 4x1, R/A, TH	Molex	22-05-3041		4x1 R/A Header
18	4	JP1, JP2, JP3, JP4		Header, 100mil, 3x1, Tin plated, TH	Sullins Connector Solutions	PEC03SAAN		Header, 3 PIN, 100mil, Tin
19	6	JP5, JP6, JP7, JP8, JP9, JP10		Header, 100mil, 2x1, Tin plated, TH	Sullins Connector Solutions	PEC02SAAN		Header, 2 PIN, 100mil, Tin
20	1	L1	2.2uH	Inductor, Shielded Drum Core, Powdered Iron, 2.2uH, 8A, 0.018 ohm, SMD	Vishay-Dale	IHL2020BZER1R0M11		5.49x2x5.18mm
21	1	LBL1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Brady	THT-14-423-10	-	PCB Label 0.650"H x 0.200"W
22	1	R1	130	RES, 130 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402130RFKED		0402
23	1	R2	5.23k	RES, 5.23k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04025K23FKED		0402
24	1	R3	30.1k	RES, 30.1k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040230K1FKED		0402
25	8	R4, R5, R6, R8, R14, R15, R20, R24	10.0k	RES, 10.0k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040210K0FKED		0402
26	3	R9, R11, R12	200	RES, 200 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402200RFKED		0402
27	1	R10	100k	RES, 100k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402100FKED		0402
28	2	R13, R16	0	RES, 0 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04020000Z0ED		0402
29	1	R18	768	RES, 768 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402768RFKED		0402
30	1	R19	10k	Trimmer, 10k ohm, 0.25W, TH	Bourns	3266W-1-103LF		4.5x8x6.7mm
31	2	R21, R22	2.21k	RES, 2.21k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04022K21FKED		0402
32	1	R23	4.7k	RES, 4.7k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04024K70JNED		0402

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint
33	1	S1		Switch, Normally open, 2.3N force, 200k operations, SMD	C and K Components	KSR221GLFS		KSR
34	1	S2		DIP Switch, SPST, 2Pos, Slide, SMT	Copal Electronics	CVS-02TB		SW, 4.7x1.45x3mm
35	6	SH-JP1, SH-JP2, SH-JP3, SH-JP4, SH-JP9, SH-JP10	1x2	Shunt, 100mil, Gold plated, Black	3M	969102-0000-DA	SNT-100-BK-G	Shunt
36	2	TP2, TP3	Red	Test Point, Miniature, Red, TH	Keystone	5000		Red Miniature Testpoint
37	2	TP4, TP18	Orange	Test Point, Miniature, Orange, TH	Keystone	5003		Orange Miniature Testpoint
38	1	TP5	Yellow	Test Point, Miniature, Yellow, TH	Keystone	5004		Yellow Miniature Testpoint
39	3	TP6, TP7, TP8	SMT	Test Point, Compact, SMT	Keystone	5016		Testpoint_Keystone_Compact
40	12	TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP19, TP20, TP21	White	Test Point, Miniature, White, TH	Keystone	5002		White Miniature Testpoint
41	1	U1		I2C Controlled 5A Single Cell Charger with NVDC Power Path Management and MaxCharge™ High Voltage Adapter Support, RTW0024H	Texas Instruments	BQ25895RTWR	BQ25895RTWT	RTW0024H
42	1	U2		Micropower 150 mA Low-Noise Ultra Low-Dropout Regulator in SOT-23 Package, DBV0005A	Texas Instruments	LP2985AIM5-3.3/NOPB		DBV0005A
43	1	U3		ESD Protected, High-Speed USB 2.0 (480-Mbps) 1:2 Multiplexer / Demultiplexer Switch, 1:2 Mux / Demux, 6 ohm RON, 2.5 to 3.3V, -40 to 85 degC, 10-Pin UQFN (RSE), Green (RoHS & no Sb/Br)	Texas Instruments	TS3USB221ARSER	Equivalent	RSE0010A
44	0	C8, C9, C17, C20	1000pF	CAP, CERM, 1000pF, 25V, +/-5%, C0G/NP0, 0402	TDK	C1005C0G1E102J		0402
45	0	C14	0.1uF	CAP, CERM, 0.1uF, 16V, +/-10%, X7R, 0603	TDK	C1608X7R1C104K		0603
46	0	C15, C16, C19	10uF	CAP, CERM, 10 uF, 10 V, +/- 10%, X7R, 0805	MuRata	GRM21BR71A106KE51L		0805
47	0	C18	1uF	CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	TDK	C1608X7R1C105K		0603
48	0	C21	0.01uF	CAP, CERM, 0.01uF, 25V, +/-10%, X7R, 0402	TDK	C1005X7R1E103K		0402
49	0	D1	40V	Diode, Schottky, 40V, 0.38A, SOD-523	Diodes Inc.	ZLLS350TA		SOD-523
50	0	D2	20V	Diode, Schottky, 20 V, 1 A, 1.4x0.6x0.31mm	ON Semiconductor	NSR10F20NXT5G		1.4x0.6x0.31mm
51	0	D5	30V	Diode, Schottky, 30 V, 1 A, SOD-123	Diodes Inc.	B130LAW-7-F		SOD-123
52	0	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A		Fiducial
53	0	L2	1.5uH	Inductor, Flat Wire, Powdered Iron, 1.5 uH, 3 A, 0.05 ohm, SMD	Bourns	SRP4012-1R5M		4.7x1.2x4.0mm
54	0	R7	10.0k	RES, 10.0k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040210K0FKED		0402
55	0	R16	0	RES, 0 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04020000Z0ED		0402
56	0	R17	1.00	RES, 1.00 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW08051R00FKEA		0805
57	0	SH-JP5	1x2	Shunt, 100mil, Gold plated, Black	3M	969102-0000-DA	SNT-100-BK-G	Shunt

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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