



AHEAD OF WHAT'S POSSIBLE™

Bill of Materials for DC/DC Optimizer PCB

Item Number	Quantity	Part Number	Part Reference	Description	Manufacturer	Mfg Part Number	Supplier	SupplierPartNumber
1	4	BEC ENC0146	C1 C2 C30 C31	0.10uF ±10% 100V Ceramic Capacitor X7R 1206 (3216 Metric)	Kemet	C1206C104K1RACTU	Digkey	399-1805-1-ND
2	4	BEC ENC0719	C3 C4 C27 C28	CAP ALUM 470UF 20% 100V RADIAL	Nichicon	UHE2A471MHD6	Digkey	493-1683-ND
3	5	BEC ENC0718	C5 C15 C23 C32 C52	CAP CER 10PF 50V COG/NP0 0805	KEMET	C0805C100K5GACTU	Digkey	399-7975-1-ND
4	15	BEC ENC0111	C6 C12 C16 C25 C29 C33 C34 C36	0.10uF ±10% 50V Ceramic Capacitor X7R 0805 (2012 Metric)	KEMET	C0805C104K5RACTU	Digkey	399-1170-1-ND
5	6	BEC ENC0528	C7 C17 C26 C35 C41 C54	10uF ±10% 25V Ceramic Capacitor X5R 0805 (2012 Metric)	Murata Electronics	GRM21BR61E106KA73L	Digkey	490-5523-1-ND
6	4	BEC TB0043	C10 C11 C20 C21	DNP				
7	23	BEC ENC0588	C40 C43 C44 C45 C46 C47 C48 C51	4.7uF ±10% 25V Ceramic Capacitor X5R 0805 (2012 Metric)	Samsung	CL21A475KAQNNNE	Digkey	1276-1244-1-ND
8	1	BEC ENC0609	C49	0.47uF ±10% 50V Ceramic Capacitor X7R 0805 (2012 Metric)	Kemet	C0805C474K5RACTU	Digkey	399-8100-1-ND
9	1	BEC ENC0097	C50	10000pF ±5% 16V Ceramic Capacitor COG NP0 0805 (2012 Metric)	AVX	0805YA103JAT2A	Digkey	478-1334-1-ND
10	1	BEC ENC0674	C53	22uF 10V Ceramic Capacitor X5R 0805 (2012 Metric) 0.079" L x 0.049" W (2.00mm x 1.25mm)	Kemet	C0805C226M8PAC7800	Digkey	399-12069-1-ND
11	16	BEC ENC0681	C75 C76 C77 C78 C79 C80 C81 C82	10uF ±20% 100V Ceramic Capacitor X7R 2220 (5750 Metric)	AVX	22201C106MAT2A	Digkey	478-9622-1-ND
12	8	BEC END0157	D1 D2 D8 D9 D13 D14 D20 D21	DIODE SWITCH 100V 400MW SOD123	Diodes Inc.	1N4148W-7-F	Digkey	1N4148W-FDICT-ND
13	4	BEC END0369	D3 D5 D15 D17	DIODE ZENER 3.2V 500MW SOD123	Diodes Inc.	BZT52C8V2-7-F	Digkey	BZT52C8V2-FDICT-ND
14	4	BEC END0367	D4 D6 D16 D18	DIODE ZENER 5.6V 500MW SOD123	Diodes Inc.	BZT52C5V6-7-F	Digkey	BZT52C5V6-FDICT-ND
15	4	BEC END0364	D7 D11 D19 D23	DIODE SCHOTTKY 30V 500MA SOD123	Micro Commercial Co	MBR0530L-TP	Digkey	MBR0530L-TPMSCT-ND
16	3	BEC END0369	D10 D12 D22	DIODE ZENER 6.2V 500MW SOD123	Diodes Inc.	BZT52C6V2-7-F	Digkey	BZT52C6V2-FDICT-ND
17	2	BEC END0366	D24 D25	TVS DIODE 70V 113V D2PAK	STMicroelectronics	LDP01-82AY	Digkey	497-15303-1-ND
18	2	BEC END0242	D27 D29	DIODE SCHOTTKY 40V 1.1A PWRDI123	Diodes Inc.	DFLS140-7	Digkey	DFLS140DICT-ND
19	1	BEC END0258	D28	TVS UNIDIRECT 400W 15V 5% SMA	VISHAY	SMAJ15A-E3/61	Digkey	SMAJ15A-E3/61GICT-ND
20	1	BEC END0354	D30	LED RED CLEAR 0603 SMD	Lite-On Inc.	LTST-C193KRKT-2A	Digkey	160-1909-1-ND
21	1	BEC ENF0100	F1	PTC .75A 24V RESETTABLE 1812L	Littelfuse	1812L075/24DR	Digkey	F3484CT-ND
22	2	BEC ENJ1127	J1 J3	POST BINDING TIN PLATE BRASS BLK	Pomona Electronics	3760-0	Digkey	501-1094-ND
23	2	BEC ENJ1128	J2 J4	POST BINDING TIN PLATE BRASS RED	Pomona Electronics	3760-2	Digkey	501-1095-ND
24	1	BEC ENJ1126	J5	CONN HEADER 100 DUAL STR 16POS	Sullins Connector Solutions	PBC08DFAN	Digkey	S2211E-08-ND
25	1	BEC ENJ1123	J6	CONN TERM BLOCK 5.08MM 3POS OR	Weidmuller	1760500000	Digkey	281-2882-ND
26	1	BEC ENJ0239	J7	CONN HEADER 3POS 100 VERT TIN	Molex	22-23-2031	Digkey	WM4201-ND
27	5	BEC ENJ0732	JP1 JP2 JP3 JP4 JP5	BERGSTK 1K 100" SR STRAIGHT	FCI	68000-103HLF	Digkey	609-3461-ND
28	1	BEC ENL0249	L1	FIXED IND 60uH 16A 12 MOHM TH	Pulse Electronics	PE-51508NL	Digkey	553-1723-ND
29	4	BEC ENL0245	L2 L3 L5 L6	FIXED IND 6.8uH 350MA 975 MOHM	Taiyo Yuden	BRL2012T6R8M	Digkey	587-3025-1-ND
30	1	BEC ENL0164	L4	Low Profile Shielded Power Inductors 4.7uH 20% SMD	Coil Craft	LPS4018-472MLC	Digkey	LPS4018-472MLC
31	4	BEC ENQ0175	Q1 Q2 Q3 Q4	MOSFET 100V 45A E-Mode GaN	GaN Systems	GS61004B-E01-MR	Mouser	499-GS61004B-E01-MR
32	2	BEC ENQ0039	Q5 Q6	MOSFETs N-CHANNEL 60V 115mA	Fairchild Semiconductor	2N7002	Mouser	512-2N7002
33	4	BEC ENR0620	R1 R7 R13 R19	RES 100 OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW0805100RFKEA	Digkey	541-100CCT-ND
34	17	BEC ENR0520	R2 R4 R5 R8 R11 R12 R14 R15 R16	RES 10.0K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW080510K0FKEA	Digkey	541-10.0KCCT-ND
35	4	BEC ENR0850	R3 R9 R17 R21	RES 1.00 OHM 1/10W 1% 0805 SMD	Vishay/Dale	CRCW08051R00FKEA	Digkey	541-1.00CCT-ND
36	4	BEC ENR1462	R6 R10 R18 R24	RES SMD 4.7 OHM 1% 1/8W 0805	Vishay/Dale	CRCW08054R70FKEA	Digkey	541-4.70CCT-ND
37	1	BEC ENR0613	R22	RES 100K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW0805100KFKEA	Digkey	541-100KCCT-ND
38	1	BEC ENR1453	R23	RES SMD 115K OHM 1% 1/8W 0805	Vishay/Dale	CRCW0805115KFKEA	Digkey	541-115KCCT-ND
39	1	BEC ENR0522	R25	RES 4.99K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW08054K99FKEA	Digkey	541-4.99KCCT-ND
40	1	BEC ENR1451	R26	RES 10K OHM 5% 2W 2512	Bornis Inc.	CRM2512AJW-103ELF	Digkey	CRM2512AJW-103ELFCT-ND
41	4	BEC ENR0538	R27 R41 R42 R43	RES 1.00K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW08051K00FKEA	Digkey	541-1.00KCCT-ND
42	7	BEC ENR1133	R30 R31 R32 R33 R35 R38 R49	DNP				
43	1	BEC ENR0624	R34	RES 49.9K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW080549K9FKEA	Digkey	541-49.9KCCT-ND
44	1	BEC ENR1452	R36	RES SMD 1.78M OHM 1% 1/8W 0805	Vishay/Dale	CRCW08051M78FKEA	Digkey	541-1.78MCCT-ND
45	1	BEC ENR0526	R37	RES 1.00M OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW08051M00FKEA	Digkey	541-1.00MCCT-ND
46	1	BEC ENR1454	R40	RES SMD 698 OHM 1% 1/8W 0805	Vishay/Dale	CRCW0805698RFKEA	Digkey	541-698CCT-ND
47	1	BEC ENR0080	R44	RES 1.50K OHM 1/8W 1% 0805 SMD	VISHAY/DALE	CRCW08051K50FKEA	Digkey	541-1.50KCCT-ND
48	35	BEC ENJ1139	TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8	0603 PROBE PAD	TE Connectivity	RCU-QC	Digkey	A106145CT-ND
49	2	BEC ENI1442	TP9 TP10 TP11 TP12 TP13 TP14	IC ISOLATOR HALF BRIDGE DRIVER	Analog Devices	ADUM4221ARIZ		
50	1	BEC ENI1063	TP15 TP16 TP17 TP18 TP19 TP20	IC COMP TTL/CMOS 1CHAN SC70-6	Analog Devices	ADCMPE01BKSZ-REEL7	Digkey	ADCMPE01BKSZ-REEL7CT-ND
51	1	BEC ENI1111	TP21 TP22 TP23 TP24 TP25 TP26	IC DGTL ISO 2CH LOGIC 16SOIC	Analog Devices	ADUM2201ARWZ	Digkey	ADUM2201ARWZ-ND
52	1	BEC ENI1105	TP27 TP28 TP29 TP30 TP31 TP32	IC SNGL 2-IN NOR GATE 5TSSOP	NXP Semiconductors	74LVC1G02GW_125	Digkey	568-7754-1-ND
53	3	BEC ENI1443	TP33 TP34 TP35	DC/DC CONVERTER +/-5V 1W	CUI Inc.	PES1-S12-D5-M	Mouser	490-PES1-S12-D5-M
54	1	BEC ENI1444	U8	IC REG BUCK ADJ 1.2A 10MSOP	Linear Technology	LT3971MSE#PBF	Digkey	LT3971MSE#PBF-ND
55	1	BEC ENI1166	U10	IC VREF SERIES 2.5V 8MSOP	Analog Devices	ADR441ARMZ	Digkey	ADR441ARMZ-ND
56	1	BEC ENI1389	U11	IC GATE AND 1CH 2-INP 5-TSSOP	Nexperia	74LVC1G08GW-Q100.1	Digkey	1727-1017-1-ND
57	1	BEC ENI1445	U12	DC DC CONVERTER 5V 1W	CUI Inc.	PES1-S12-S5-M	Mouser	490-PES1-S12-S5-M
Additional Items								
1	1	N/A	N/A	Fansink - 37 X 58 x 14 mm, Pushpin, 12V	Radian	FE1567+P3809+K01	NA	NA

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