

Bill of Materials

TI DESIGNS TIDA-00476 REV E1
High Efficient, Versatile Bi-Directional Power Converter for Energy Storage and DC Home Solutions

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
1	PCB1	Printed Circuit Board	Any	TIDA-00476	Fitted
3	C1, C2, C3	CAP, AL,390 μ F, 63 V, +/- 20%, 0.043 ohm, TH	Chemi-Con	EKYB630ELL391MJ30S	Fitted
4	C4, C10, C12, C14	CAP, CERM, 0.1 μ F, 25V, +/-10%, X7R, 0805	AVX	08053C104KAT2A	Fitted
1	C5	CAP, CERM, 220 pF, 100 V, +/- 5%, COG/NPO, 0805	MuRata	GRM2165C2A221JA01D	Not-Fitted
8	C6, C9, C15, C16, C17, C18, C19, C20	CAP, CERM, 1 μ F, 50V, +/-10%, X7R, 0805	AVX	08055C105KAT2A	Fitted
1	C7	CAP, CERM, 1000 pF, 100 V, +/- 5%, COG/NPO, 0805	MuRata	GRM2195C2A102JA01D	Fitted
1	C8	CAP, CERM, 10 μ F, 10 V, +/- 20%, X5R, 0603	TDK	C1608X5R1A106M	Fitted
2	C11, C13	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0805	AVX	08055C222KAT2A	Fitted
1	C21	CAP, CERM, 0.1 μ F, 16 V, +/- 5%, X7R, 0603	AVX	0603YC104JAT2A	Fitted
1	C22	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0805	AVX	08055C102KAT2A	Fitted
1	C23	CAP, AL, 47 μ F, 35 V, +/- 20%, 0.4 ohm, TH	Rubycon	35ZLJ47MTA5X11	Fitted
1	C24	CAP, AL, 100 μ F, 16 V, +/- 20%, TH	Rubycon	16PX100MEFCTA5X11	Fitted
1	C25	CAP, CERM, 100 pF, 25 V, +/- 10%, X7R, 0603	AVX	06033C101KAT2A	Fitted
2	D1, D5	Diode, Switching, 75 V, 0.3 A, SOD-523	Micro Commercial Components	1N4148X-TP	Fitted
1	D2	Diode, Zener, 36 V, 500 mW, SOD-123	Vishay-Semiconductor	MMSZ4715-V	Fitted
2	D3, D11	Diode, Schottky, 45 V, 0.75 A, SOD-523	Infineon Technologies	BAS 52-02V H6327	Fitted
1	D4	Diode, Schottky, 70 V, 0.07 A, SOT-23	Diodes Inc.	BAS70-05-7-F	Fitted
3	D6, D7, D10	Diode, Schottky, 80 V, 0.5 A, SOD-123	Micro Commercial Components	MBR0580-TP	Fitted
1	D8	Diode, Zener, 5.61 V, 500 mW, SOD-523	ON Semiconductor	MM5Z5V6ST1G	Fitted
1	D9	Diode, Zener, 9.1 V, 500 mW, SOD-123	Vishay-Semiconductor	MMSZ4696-V	Fitted
6	FID1, FID2, FID3, FID4, FID5, FID6	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fitted
4	H1, H2, H3, H4	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	B&F Fastener Supply	NY PMS 440 0025 PH	Fitted
3	J1, J2, J3	Terminal Block, 2x1, 5.08mm, TH	TE Connectivity	282841-2	Fitted
1	J4	Header, TH, 100mil, 8x1, Gold plated, 230 mil above insulator	Samtec	TSW-108-07-G-S	Fitted
2	J5, J8	Header, 100mil, 3x1, Tin, TH	TE Connectivity	5-146278-3	Fitted
1	J6	Header, 100mil, 4x1, Tin, TH	TE Connectivity	5-146278-4	Fitted
1	L1	Inductor, Shielded Drum Core, Ferrite, 47 μ H, 6.8 A, 0.0335 ohm, SMD	Würth Elektronik eiSos	74435574700	Fitted
1	L2	Ferrite Bead, 30 ohm @ 100MHz, 1.5A, 0805	TDK	MMZ2012R300A	Fitted
1	L3	Inductor, Shielded Drum Core, Ferrite, 22 μ H, 4 A, 0.04 ohm, SMD	Coilcraft	MSS1278-223MLB	Not-Fitted
1	L4	Inductor, Shielded Drum Core, Ferrite, 22 μ H, 11 A, 0.0146 ohm, SMD	Würth Elektronik eiSos	74435572200	Not-Fitted
1	L5	Inductor, Wirewound, Ferrite, 100 μ H, 0.4 A, 1.596 ohm, SMD	Bourns	SRN4018-101M	Not-Fitted
1	L6	Inductor, Wirewound, Ferrite, 47 μ H, 0.4 A, 1.4 ohm, SMD	Bourns	SRN3015-470M	Fitted
1	LBL1	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Brady	THT-14-423-10	Fitted
3	Q1, Q2, Q3	MOSFET, N-CH, 60V, 6.3A, SO-8	Texas Instruments	CSD88539ND	Fitted

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2	Q6, Q7	Transistor, PNP, 65 V, 0.1 A, SOT-23	Diodes Inc.	BC856B-7-F	Fitted
2	Q8, Q10	Transistor, NPN, 40V, 0.2A, SOT-23	Fairchild Semiconductor	MMBT3904	Fitted
11	R1, R2, R13, R14, R41, R42, R43, R44, R45, R47, R52	RES, 2.05k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW08052K05FKEA	Fitted
6	R3, R10, R22, R23, R30, R31	RES, 33.2k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080533K2FKEA	Fitted
1	R4	RES, 5.1, 5%, 0.125 W, 0805	Yageo America	RC0805JR-075R1L	Fitted
1	R9	RES, 10.0 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080510R0FKEA	Fitted
2	R5, R6	RES, 0.02, 1%, 0.5 W, 1206	Stackpole Electronics Inc	CSR1206FK20L0	Fitted
2	R7, R58	RES, 10, 5%, 0.5 W, 1206	Vishay-Dale	CRCW120610R0JNEA	Fitted
1	R8	RES, 5.1, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06035R10JNEA	Fitted
2	R11, R12	RES, 0.75, 1%, 0.5 W, 1206	Stackpole Electronics Inc	CSR1206FKR750	Fitted
2	R15, R50	RES, 100 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KJNEA	Fitted
1	R16	RES, 2.2 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06032K20JNEA	Fitted
4	R17, R19, R26, R27	RES, 100k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805100KFKEA	Fitted
2	R18, R20	RES, 42.2 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW080542K2FKEA	Fitted
1	R24	RES, 24.9 k, 1%, 0.125 W, 0805	Panasonic	ERJ-6ENF2492V	Fitted
1	R28	RES, 4.7 k, 5%, 0.125 W, 0805	Vishay-Dale	CRCW08054K70JNEA	Fitted
3	R29, R34, R36	RES, 7.68 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08057K68FKEA	Fitted
5	R33, R35, R40, R48, R49	RES, 205 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805205RFKEA	Fitted
1	R37	RES, 10k ohm, 5%, 0.125W, 0805	Vishay-Dale	CRCW080510K0JNEA	Fitted
1	R39	RES, 200 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW0805200KFKEA	Fitted
1	R46	RES, 9.53 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08059K53FKEA	Fitted
2	R51, R54	RES, 4.02 k, 0.1%, 0.125 W, 0805	Yageo America	RT0805BRD074K02L	Fitted
2	R53, R55	RES, 169 k, 0.1%, 0.125 W, 0805	Yageo America	RT0805BRD07169KL	Fitted
1	R56	RES, 12 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060312K0JNEA	Fitted
1	R57	RES, 200, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603200RJNEA	Fitted
1	U1	High Voltage 1A Peak Half Bridge Gate Driver, 8-pin Narrow SOIC, Pb-Free	Texas Instruments	LM5109AMAX/NOPB	Fitted
1	U2	IC, MIXED SIGNAL MICROCONTROLLER	TI	MSP430F5132IDAR	Fitted
1	U3	Single Output LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input, with Ultra-Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	Texas Instruments	TLV70433DBVR	Fitted
1	U4	IC, 36V, Single-Supply, Op Amp	TI	OPA170AIDBV	Fitted
1	U5	700-V Lowest Quiescent Current Off-Line Switcher, D0007A	Texas Instruments	UCC28880DR	Fitted

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