

Bill of Materials

TI DESIGNS TIDA-00443 REV B
230V, 900W, Power Factor Regulator Converter (PFC) for Inverter Fed Drives – Appliances

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
1	PCB	Printed Circuit Board	Any	TIDA-00443	Fitted
1	BR1	Diode, Bridge Rectifier, GPP 15A 800V GBJ	Micro Commercial Co	GBJ1508-BP	Fitted
2	C1, C2	CAP, Film, 0.68 μ F, 630 V, +/- 20%, TH	EPCOS Inc	B32923C3684M	Fitted
1	C3	CAP, Film, 1.5 μ F, 630 V, +/- 20%, 0.017 ohm, TH	EPCOS Inc	B32923C3155M	Fitted
3	C4, C5, C18	CAP, ALUMINIUM, RADIAL, 220 μ F, 450 V, 20%, TH	RUBYCON	450QXW220MEFC18X50	Fitted
4	C6, C7, C8, C9	CAP CER 1000PF 300VAC 20% RADIAL DISC 7mm Dia	TDK	CS65ZU2GA102MYNKA	Fitted
1	C10	CAP, CERM, 2700 pF, 100 V, +/- 5%, X7R, 0603	AVX	06031C272JAT2A	Fitted
1	C11	CAP, CERM, 820 pF, 50 V, +/- 10%, X7R, 0603	Kemet	C0603C821K5RACTU	Fitted
3	C12, C17, C23	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0603	TDK	C1608X7R1E105K080AB	Fitted
1	C13	CAP, CERM, 0.39 μ F, 16 V, +/- 10%, X7R, 0603	Kemet	C0603C394K4RACTU	Fitted
1	C14	CAP, CERM, 4.7 μ F, 16 V, +/- 10%, X5R, 0603	MuRata	GRM188R61C475KAAJ	Fitted
1	C15	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	AVX	06031C102KAT2A	Fitted
1	C16	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0603	AVX	06035C104KAT2A	Fitted
1	C19	CAP, AL, 10 μ F, 35V, +/-20%, 0.95 ohm, TH	Nichicon	UPW1V100MDD6	Fitted
1	C20	CAP, CERM, 10 μ F, 25 V, +/- 10%, X5R, 0805	TDK	C2012X5R1E106K125AB	Fitted
1	C21	CAP, CERM, 330 pF, 1000 V, +/- 5%, U2J, 1206	MuRata	GRM31A7U3A331JW31D	Not-Fitted
1	C24	CAP, CERM, 0.47 μ F, 16 V, +/- 10%, X7R, 0603	Kemet	C0603C474K4RACTU	Fitted
1	C25	CAP CER 10UF 50V 20% X5R 1206	Taiyo Yuden	UMK316BBJ106ML-T	Fitted
1	C26	CAP, CERM, 100 pF, 1000 V, +/- 5%, U2J, 1206	MuRata	GRM31A7U3A101JW31D	Not-Fitted
1	D1	Diode, Schottky, 600 V, 4 A, TH	Cree	C3D04060A	Fitted
1	D2	Diode, Switching-Bridge, 600 V, 3 A, TH	Vishay-Semiconductor	1N5406	Fitted
1	D3	Diode, Switching, 100 V, 0.2 A, SOD-323	Micro Commercial Components	MMDL914-TP	Fitted
3	D4, D8, D10	Diode, Schottky, 30V, 0.2A, SOD-323	Fairchild	BAT54HT1G	Fitted
1	D5	Diode, Ultrafast, 100V, 0.15A, SOD-123	Diodes Inc.	1N4148W-7-F	Fitted
2	D6, D7	Diode, P-N, 1000 V, 1 A, 3.9x1.7x1.8mm	Comchip Technology	CGRM4007-G	Fitted
1	D9	Diode, Zener, 12V, 300mW, SOD-323	NXP Semiconductor	BZX384-C12,115	Fitted
1	F1	FUSE CLIP, CARTRIDGE, 250V, 10A, PCB	LITTELFUSE	01110501Z	Fitted
4	FID1, FID2, FID3, FID4	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fitted
4	H1, H2, H3, H4	Bumpon, Hemisphere, 0.44 X 0.20, Clear	3M	SJ-5303 (CLEAR)	Fitted
4	H7, H8, H9, H10	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	B&F Fastener Supply	NY PMS 440 0025 PH	Fitted
3	HS1, HS2, HS3	HEATSINK ALUM Black Anodized, Board Mount	Assmann	V6560Y	Fitted
1	J1	TERMINAL BLOCK 5.08MM VERT 3POS, TH	On-Shore Technology	ED120/3DS	Fitted
1	J2	TERM BLOCK HDR 5POS R/A 5.08MM	PHOENIX CONTACT	1786433	Fitted
1	J3	Header, 100mil, 4x1, Tin, TH	Sullins Connector Solutions	PEC04SAAN	Fitted
1	K1	Relay, SPST-NO (1 Form A), 10A, 12 VDC, TH	Omron Electronic Components	G5LE-1A4 DC12	Fitted
1	L1	INDUCTOR, 360 μ H, 8.3 A, 10%, TH	Würth Electronik	750342810	Fitted
2	L2, L3	INDUCTOR, CHOKE, COMMON MODE, 5 mH, 8.9 A, 22 mOHM, TH	Bourns Inc	8113-RC	Fitted
1	Q1	MOSFET, N-CH, 600 V, 20.2 A, TO-220	Infineon Technologies	IPP60R190P6	Fitted

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
1	Q2	Transistor, PNP, 40V, 0.2A, SOT-23	Fairchild Semiconductor	MMBT3906	Fitted
2	Q3, Q5	MOSFET, N-CH, 60V, 0.17A, SOT-23	Diodes Inc.	2N7002-7-F	Fitted
1	Q4	Transistor, NPN, 45 V, 0.1 A, SOT-23	ON Semiconductor	BC847CLT1G	Fitted
3	R1, R15, R23	RES, 10.0 k, 1%, 0.1 W, 0603, RES, 10.0k ohm, 1%, 0.1W, 0603, RES, 10.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0FKEA	Fitted
1	R2	RES, 3.9, 5%, 0.25 W, 1206	Vishay-Dale	CRCW12063R90JNEA	Fitted
1	R3	RES, 1.05, 1%, 0.25 W, 1206	Vishay-Dale	CRCW12061R05FKEA	Fitted
1	R4	RES, 0.02, 1%, 3 W, 2512	Bourns	CRA2512-FZ-R020ELF	Fitted
1	R5	RES, 0.2, 1%, 2 W, 2512	Bourns	CRM2512-JW-201ELF	Fitted
4	R6, R7, R20, R21	RES, 332 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206332KFKEA	Fitted
4	R8, R22, R25, R26	RES, 340 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206340KFKEA	Fitted
1	R9	RES, 13.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060313K0FKEA	Fitted
1	R10	RES, 23.7 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060323K7FKEA	Fitted
1	R11	RES, 221 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603221RFKEA	Fitted
1	R12	RES, 21.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060321K5FKEA	Fitted
1	R13	RES, 100, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206100RFKEA	Fitted
1	R14	RES, 13.7 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060313K7FKEA	Fitted
1	R16	RES, 6.8 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06036K80JNEA	Fitted
1	R17	RES, 100 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KFKEA	Fitted
1	R18	RES, 15.4, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060315R4FKEA	Fitted
1	R19	RES, 2.21 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603221FKEA	Fitted
1	R24	RES, 2.10, 1%, 0.25 W, 1206	Vishay-Dale	CRCW12062R10FKEA	Not-Fitted
1	R27	RES, 221 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603221KFKEA	Fitted
1	R28	RES, 100, 1%, 1 W, 2512	Vishay-Dale	CRM2512-FX-43R2ELF	Not-Fitted
8	R29, R30, R32, R33, R34, R35, R36, R37	RES, 221 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206221KFKEA	Fitted
1	R31	RES, 47.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060347K5FKEA	Fitted
1	R38	RES, 21.0 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW120621K0FKEA	Fitted
1	R39	RES, 1.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00FKEA	Fitted
1	R40	RES, 0, 5%, 0.125 W, 0805	Vishay-Dale	CRCW08050000Z0EA	Fitted
1	RCL1	RES 10 OHM 7W 5% AXIAL	Vishay-Dale	AC07000002009JAC00	Fitted
1	RV1	Varistor 275V RMS 10MM Radial, TH	EPCOS Inc	S10K275E2	Fitted
7	TP1, TP2, TP3, TP5, TP7, TP8, TP9	Test Point, Miniature, Red, TH	Keystone	5000	Fitted
2	TP6, TP10	Test Point, Miniature, Black, TH	Keystone	5001	Fitted
1	U1	8-PIN Continous Conduction Mode (CCM) PFC Controller	Texas Instruments	UCC28180D	Fitted
1	U2	IC, 4A Single Channel High-Speed Low-Side Gate Drivers	Texas Instruments	UCC27517ADBVB	Fitted
3	MK1-MK3	Mounting Kit TO-220	Aavid Thermalloy	4880G	Fitted

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