

Bill of Materials

TI DESIGNS TIDA-00477 REV B
1kW, High Efficiency, Digital Power Factor Converter (PFC) for Telecom and Server Power Supplies

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
1	PCB	Printed Circuit Board	Any	TIDA-00477	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, C6	CAP, ALUMINIUM, RADIAL, 220 μ F, 450 V, 20%, TH	RUBYCON	450QXW220MEFC18X50	Fitted
4	C7, C8, C9, C10	CAP, CERM, 2200 pF, 250 V, +/- 20%, E, Radial Disc D10.5x7mm	TDK	CS11-E2GA222MYNS	Fitted
1	C11	CAP, Film, 0.047 μ F, 630 V, +/- 20%, TH	Vishay-Bccomponents	BFC233820473	Fitted
1	C12	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0603	AVX	06035C104KAT2A	Fitted
1	C13	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0603	MuRata	GRM188R71E105KA12D	Fitted
1	C14	CAP, AL, 100 μ F, 25 V, +/- 20%, 0.13 ohm, TH	Panasonic	EEU-FM1E101	Fitted
2	C15, C16	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	Kemet	C0603C102K5RACTU	Fitted
3	C17, C18, C22	CAP, CERM, 0.1 μ F, 100 V, +/- 10%, X7R, 0603	MuRata	GRM188R72A104KA35J	Fitted
2	C19, C20	CAP, CERM, 270 pF, 50 V, +/- 5%, COG/NPO, 0603	MuRata	GRM1885C1H271JA01D	Fitted
1	C21	CAP, CERM, 330 pF, 1000 V, +/- 5%, U2J, 1206	MuRata	GRM31A7U3A331JW31D	Not Fitted
1	C23	CAP, CERM, 0.027 μ F, 100 V, +/- 10%, X7R, 0603	Kemet	C0603C273K1RACTU	Fitted
2	C24, C25	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0603	TDK	C1608X7R1E105K080AB	Fitted
1	C26	CAP, CERM, 100 pF, 1000 V, +/- 5%, U2J, 1206	MuRata	GRM31A7U3A101JW31D	Not Fitted
3	C27, C33, C40	CAP, CERM, 1 μ F, 16 V, +/- 10%, X5R, 0603	Kemet	C0603C105K4PACTU	Fitted
6	C28, C32, C34, C35, C37, C38	CAP, CERM, 0.1 μ F, 16 V, +/- 10%, X7R, 0603	Kemet	C0603C104K4RACTU	Fitted
1	C29	CAP, CERM, 10 μ F, 10 V, +/- 10%, X5R, 0805	Kemet	C0805C106K8PACTU	Fitted
2	C30, C43	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0603	Kemet	C0603C104K5RACTU	Fitted
3	C31, C41, C42	CAP, CERM, 33 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A330JAT2A	Fitted
2	C36, C39	CAP, CERM, 4.7 μ F, 16 V, +/- 10%, X5R, 0603	Yageo	CC0603KRX5R7BB475	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
2	D4, D5	Diode, Superfast Rectifier, 600 V, 1 A, SMA	Micro Commercial Components	ES1J-LTP	Fitted
1	D6	Diode, Schottky, 30 V, 0.5 A, SOD-123	Diodes Inc.	B0530W-7-F	Fitted
5	D7, D8, D10, D11, D12	Diode, Schottky, 30 V, 0.2 A, SOT-23	Diodes Inc.	BAT54S-7-F	Fitted
1	D9	Diode, Schottky, 30 V, 0.2 A, SOT-23	Diodes Inc.	BAT54C-7-F	Fitted
1	D13	Diode, Ultrafast, 100V, 0.15A, SOD-123	Diodes Inc.	1N4148W-7-F	Fitted
1	D14	LED, Green, SMD	Lite-On	LTST-C190GKT	Fitted
2	D15, D16	Diode, Schottky, 40V, 0.3A, SOT-23	ST Microelectronics	BAT54AFILM	Fitted
1	D17	Diode, Schottky, 30 V, 0.2 A, SOD-323	Diodes Inc.	BAT42WS-7-F	Fitted
1	F1	Fuse, 8 A, 250 V, TH	BEL fuse	5HT 8-R	Fitted
1	FCL1	FUSE CLIP, CARTRIDGE, 250V, 10A, PCB	LITTELFUSE	01110501Z	Fitted
6	FID1, FID2, FID3, FID4, FID5, FID6	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fitted
8	H1, H2, H3, H4, H5, H6, H7, H8	Bumpon, Hemisphere, 0.44 X 0.20, Clear	3M	SJ-5303 (CLEAR)	Fitted
3	H9, H10, H11	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
2	J1, J2	TERMINAL BLOCK 5.08MM VERT 3POS, TH	On-Shore Technology	ED120/3DS	Fitted
1	J3	Header, 100mil, 2x1, Tin, TH	Sullins Connector Solutions	PEC02SAAN	Fitted
1	J4	Header (shrouded), 100mil, 5x2, Gold, TH	TE Connectivity	5103308-1	Fitted

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1	J5	Header, 100mil, 8x1, Tin, TH	Sullins Connector Solutions	PEC08SAAN	Fitted
1	J6	Header, 100mil, 3x2, Tin, TH	Sullins Connector Solutions	PEC03DAAN	Fitted
1	K1	Relay, SPDT (1 Form C), 5A, 5 VDC, TH	Omron Electronic Components	G5LE-1A4 DC12	Fitted
1	L1	INDUCTOR, 320 uH, 9.2 A, 10%, TH	Würth Elektronik	750342810	Fitted
2	L2, L3	INDUCTOR, CHOKE, COMMON MODE, 5 mH, 8.9 A, 22 mOHM, TH	Bourns Inc	8113-RC	Fitted
1	L4	Inductor, Wirewound, 2.2 mH, 0.33 A, 3.2 ohm, TH	TDK	TSL1112RA-222JR33-PF	Fitted
3	M1, M2, M3	Mounting bracket for PCC-SMP	Aavid Thermalloy	4880G	Fitted
1	Q1	MOSFET, N-CH, 600 V, 20.2 A, TO-220	Infineon Technologies	IPP60R190P6	Fitted
2	Q2, Q3	MOSFET, N-CH, 60V, 0.17A, SOT-23, MOSFET, N-CH, 60 V, 0.17 A, SOT-23	Diodes Inc.	2N7002-7-F	Fitted
1	R1	RES, 0.04, 1%, 3 W, 2512	Bourns	CRA2512-FZ-R040ELF	Fitted
1	R2	RES, 0.01, 1%, 3 W, 2512	Bourns	CRA2512-FZ-R010ELF	Fitted
6	R3, R44, R45, R46, R48, R49	RES, 10.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0FKEA	Fitted
1	R4	RES, 2.21, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08052R21FKEA	Fitted
1	R5	RES, 3.01, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08053R01FKEA	Fitted
1	R6	RES, 110 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603110KFKEA	Fitted
2	R7, R55	RES, 10 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0JNEA	Fitted
12	R8, R9, R10, R12, R13, R14, R16, R17, R18, R20, R21, R22	RES, 200 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206200KFKEA	Fitted
2	R11, R15	RES, 3.48 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08053K48FKEA	Fitted
2	R19, R23	RES, 3.16 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08053K16FKEA	Fitted
2	R24, R25	RES, 2.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06032K00FKEA	Fitted
2	R26, R27	RES, 42.2 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060342K2FKEA	Fitted
1	R28	RES, 100, 1%, 1 W, 2512	Vishay-Dale	541-100RACT-ND	Not Fitted
3	R29, R30, R35	RES, 1.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00FKEA	Fitted
1	R31	RES, 1.62 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K62FKEA	Fitted
1	R32	RES, 5.11 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06035K11FKEA	Fitted
13	R33, R34, R39, R43, R47, R50, R51, R56, R57, R58, R59, R60, R67	RES, 0, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06030000Z0EA	Fitted
1	R36	RES, 47.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060347K5FKEA	Fitted
1	R37	RES, 100, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206100RFKEA	Fitted
1	R38	RES, 1.00, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08051R00FKEA	Fitted
1	R40	RES, 1.65 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K65FKEA	Fitted
1	R41	RES, 0.5, 1%, 0.1 W, 0603	Yageo America	RL0603FR-070R5L	Fitted
1	R42	RES, 301, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603301RFKEA	Fitted
1	R52	RES, 1.10 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K10FKEA	Fitted
5	R53, R61, R64, R65, R66	RES, 100, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100RFKEA	Fitted
1	R54	RES, 4.75 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06034K75FKEA	Fitted
2	R62, R63	RES, 1.50 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K50FKEA	Fitted
1	R68	RES, 75, 1%, 1 W, 2010	Vishay-Dale	CRCW201075R0FKEFHP	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
5	TP1, TP2, TP3, TP4, TP5	Test Point, Miniature, Red, TH	Keystone	5000	Fitted
1	TP6	Test Point, Miniature, Black, TH	Keystone	5001	Fitted
1	U1	Highly Integrated Digital Controller for Isolated Power	Texas Instruments	UCD3138ARGC	Fitted
1	U2	IC, 4A Single Channel High-Speed Low-Side Gate Drivers	TI	UCC27517ADB	Fitted
1	U3	High-Speed, Rail-to-Rail Operational Amplifier	Texas Instruments	OPA2350EA/250	Fitted
1	U4	700-V Lowest Quiescent Current Off-Line Switcher	Texas Instruments	UCC28881DR	Fitted
1	U5	LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input	Texas Instruments	TLV70433DBVT	Fitted
1	U6	Optocoupler, 5.3 kV, 63-125% CTR, SMD-4	Vishay-Semiconductor	SFH6156-2T	Fitted
1	U7	25 Mbps Dual Channels, 1 / 1, Digital Isolator, 3.3 V / 5 V	Texas Instruments	ISO7321CD	Fitted

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