

# Bill of Materials

**TI DESIGNS TIDA-00701 REV B**
**100W, 24V, High Efficiency, High PF, Industrial Power Supply with Precision Current & Power Limit**

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
1	!PCB1	Printed Circuit Board	Any	TIDA-00701	Fitted
1	BR1	Rectfier Bridge	Micro Commercial Components	GBU6J	Fitted
1	C1	CAP, Film, 0.68 $\mu$ F, 630 V, +/- 20%, TH	TDK	B32922C3684M	Fitted
1	C10	CAP, CERM, 18 pF, 50 V, +/- 5%, COG/NPO, 0603	MuRata	GRM1885C1H180JA01D	Fitted
4	C11, C13, C15, C24	CAP, CERM, 1000 pF, 50 V, +/- 5%, COG/NPO, 0603	TDK	C1608C0G1H102J	Fitted
1	C12	CAP, CERM, 1 $\mu$ F, 16 V, +/- 10%, X5R, 0603	TDK	C1608X5R1C105K	Fitted
1	C14	CAP, CERM, 3.3 $\mu$ F, 25 V, +/- 10%, X5R, 0603	TDK	C1608X5R1E335K080AC	Fitted
1	C16	CAP, CERM, 10 $\mu$ F, 25 V, +/- 10%, X5R, 0805	TDK	C2012X5R1E106K125AB	Fitted
1	C17	CAP, Film, 0.1 $\mu$ F, 305 V, +/- 20%, TH	TDK	B32921C3104M	Fitted
1	C18	CAP, CERM, 2200 pF, 630 V, +/- 10%, X7R, 1206	TDK	C3216X7R2J222K	Fitted
1	C19	CAP, AL, 47 $\mu$ F, 35 V, +/- 20%, 0.4 ohm, TH	Rubycon	35ZLJ47MTA5X11	Fitted
1	C2	CAP ALUM 82UF 20% 450V RADIAL	Nichicon	UCY2W820MHD6	Fitted
1	C20	CAP ALUM 10UF 20% 50V RADIAL	Nichicon	UVR1H100MDD6TP	Fitted
2	C21, C41	CAP, CERM, 0.1 $\mu$ F, 50 V, +/- 10%, X7R, 0603	TDK	C1608X7R1H104K	Fitted
1	C22	CAP, CERM, 4.7 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A4R7CAT2A	Fitted
1	C23	CAP, CERM, 1000 pF, 50 V, +/- 5%, COG/NPO, 0603	TDK	C1608C0G1H102J	Not Fitted
1	C25	CAP, CERM, 10 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A100JAT2A	Not Fitted
1	C26	CAP, CERM, 2.2 pF, 50 V, +/- 11%, COG/NPO, 0603	AVX	06035A2R2CAT2A	Fitted
1	C27	CAP, CERM, 47 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A470JAT2A	Fitted
1	C28	CAP, CERM, 0.01 $\mu$ F, 250 V, +/- 10%, X7R, 0805	TDK	C2012X7R2E103K	Not Fitted
2	C29, C30	CAP, AL, 1200 $\mu$ F, 35 V, +/- 20%, 0.024 ohm, TH	United Chemi-Con	EKY-350ELL122MK30S	Fitted
2	C3, C4	CAP, Film, 0.33 $\mu$ F, 630 V, +/- 20%, TH	TDK	B32922C3334M	Fitted
1	C31	CAP ALUM 680UF 20% 35V RADIAL	Chemi-Con	EKY-350ELL681MJ30S	Fitted
1	C32	CAP, CERM, 1 $\mu$ F, 50 V, +/- 10%, X7R, 1206	TDK	C3216X7R1H105K	Fitted
1	C33	CAP, CERM, 0.1 $\mu$ F, 50 V, +/- 5%, X7R, 1206	Kemet	C1206C104J5RACTU	Fitted
1	C36	CAP, CERM, 5.6 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A5R6CAT2A	Fitted
1	C37	CAP, CERM, 0.47 $\mu$ F, 50 V, +/- 10%, X7R, 0805	MuRata	GRM21BR71H474KA88L	Fitted
1	C38	CAP, CERM, 0.047 $\mu$ F, 50 V, +/- 10%, X7R, 0603	TDK	C1608X7R1H473K	Fitted
2	C39, C40	CAP CER 4700PF 440VAC Y5U RADIAL	Vishay-Bccomponents	VY2472M49Y5US63V7	Fitted
1	C42	CAP, CERM, 0.1 $\mu$ F, 16 V, +/- 10%, X5R, 0603	MuRata	GRM188R61C104KA01D	Fitted
1	C43	CAP, CERM, 0.22 $\mu$ F, 16 V, +/- 10%, X7R, 0603	TDK	C1608X7R1C224K	Fitted
1	C5, C6	CAP CER 1500PF 300VAC 20% RADIAL	TDK Corporation	CS75ZU2GA152MYNKA	Not Fitted
3	C7, C8, C35	CAP CER 2200PF 300VAC 20% RADIAL	TDK Corporation	CS80ZU2GA222MYNKA	Fitted
2	C9, C34	CAP, CERM, 1 $\mu$ F, 50 V, +/- 10%, X5R, 0603	MuRata	GRM188R61H105KAALD	Fitted
1	D1	Diode, Ultrafast, 600 V, 3 A, SMC	ON Semiconductor	MURS360T3G	Fitted
1	D11	Diode, Zener, 24V, 500mW, SOD-123	Diodes Inc.	MMSZ5252B-7-F	Fitted
1	D12	Diode, Zener, 4.7 V, 300 mW, SOD-523	Diodes Inc.	BZT52C4V7T-7	Fitted
1	D2	DIODE GEN PURP 600V 3A SMC	Diodes Incorporated	RSJ3-13-F	Fitted
1	D3	Diode, Switching, 100 V, 0.2 A, SOD-323	Micro Commercial Components	MMDL914-TP	Fitted
2	D4, D5	Diode, P-N, 1000 V, 1 A, 3.9x1.7x1.8mm	Comchip Technology	CGRM4007-G	Fitted
1	D6	LED SS HI EFF GREEN DIFF 3MM	Everlight	HLMP1503	Fitted
1	D7	TVS DIODE 128VWM 207VC AXIAL	Littelfuse	1.5KE150A	Fitted
1	D8	Diode, Switching, 1000 V, 3 A, SMC	STMicroelectronics	STTH310S	Fitted
1	D9	Diode, Switching, 200 V, 0.4 A, SOT-23	Diodes Inc.	BAV23S-7-F	Fitted
1	F1	Fuse, 2 A, 250 V, TH	Littelfuse	37212000001	Fitted
4	H1, H2, H3, H4	MACHINE SCREW PAN PHILLIPS 4-40	B&F Fastener Supply	PMSSS 440 0025 PH	Fitted
4	H5, H6, H7, H8	HEX NUT 1/4" STN STEEL 4-40	B&F Fastener Supply	HNSS440	Fitted
2	HS1, HS2	HEATSINK TWISTED FIN TO-220 Vertical	Aavid Thermalloy	593002B03400G	Fitted
1	HS3	HEATSINK TO-220 19.05X13.21MM	Assmann WSW Components	V7237C	Fitted
1	J1	TERM BLOCK 3POS 5.08MM, TH	Phoenix Contact	1715734	Fitted
1	J2	Terminal Block, 5.08mm, 4x1, TH	Phoenix Contact	1715747	Fitted
1	L1	PFC choke with primary side sensing winding	Würth	750343062	Fitted
1	L2	Coupled inductor, 5.5mH+/-32%, 2.5 A, 0.040 ohm	Würth Elektronik	750343092	Fitted
1	L3	Coupled inductor, 20 mH, 1.5A, 0.270 ohm, +/- 30%, TH	Würth Elektronik	744823220	Fitted

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1	L4	Coupled inductor, 110uH min, 0.007 ohm	Würth Elektronik	750343094	Fitted
1	L5	Inductor, Toroid, 220µH, 2.4 A, 0.120 ohm, TH	Bourns	2116-V-RC	Fitted
3	M1, M2, M3	Mounting kit TO-220 (Optional)	Aavid Thermalloy	4880G	Fitted
1	Q1	MOSFET N-CH 600V 10.6A TO220	Infineon Technologies	IPA60R330P6XKSA1	Fitted
1	Q2	MOSFET N-CH 650V 15A TO220F	Alpha & Omega Semiconductor Inc.	AOTF15S65L	Fitted
1	Q3	MOSFET N-CH 200V 26A TO-220FP	International Rectifier	IRFI4227PBF	Fitted
1	Q4	MOSFET, N-CH, 40 V, 15 A, SON 5x6mm	Texas Instruments	CSD18504Q5A	Fitted
1	Q5	Transistor, NPN, 40 V, 0.15 A, SOT-23	Fairchild Semiconductor	MMBT2222A	Fitted
1	Q6	Transistor, NPN, 40 V, 0.6 A, SOT-323	ON Semiconductor	MMBT4401WT1G	Not Fitted
1	Q7	Transistor, PNP, 40 V, 0.6 A, SOT-323	ON Semiconductor	MMBT4403WT1G	Not Fitted
1	Q8	Transistor, PNP, 40 V, 0.6 A, SOT-323	Fairchild Semiconductor	MMBT4403WT1G	Fitted
1	R1	RES, 0.3, 1%, 1 W, 2010	Stackpole Electronics Inc	CSRN2010FKR300	Fitted
1	R10	RES, 5.11 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06035K11FKEA	Fitted
1	R11	RES, 332, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603332RFKEA	Fitted
1	R12	RES, 22.1 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060322K1FKEA	Fitted
4	R13, R33, R47, R57	RES, 100 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KFKEA	Fitted
1	R14	RES, 10.0, 1%, 0.125 W, 0805	Vishay-Dale	CRCW080510R0FKEA	Fitted
1	R15	RES, 1.1, 5%, 0.125 W, 0805	Vishay-Dale	CRCW08051R10JNEA	Fitted
5	R16, R25, R39, R40, R52	RES, 10.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0FKEA	Fitted
2	R17, R18	RES, 301 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206301KFKEA	Fitted
1	R19	RES, 5.10 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-075K1L	Fitted
1	R2	RES, 2.7, 5%, 0.75 W, 2010	Vishay-Dale	CRCW20102R70JNEF	Not Fitted
1	R20	RES, 6.81 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08056K81FKEA	Fitted
1	R21	RES, 14.7 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-0714K7L	Fitted
3	R22, R23, R24	RES, 619 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206619KFKEA	Fitted
1	R26	RES, 0.75, 1%, 1 W, 2010	Stackpole Electronics Inc	CSRN2010FKR750	Fitted
1	R27	RES, 0.25, 1%, 1 W, 2010	Stackpole Electronics Inc	CSRN2010FKR250	Fitted
1	R28	RES, 5.1, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06035R10JNEA	Fitted
2	R29, R55	RES, 1.21 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K21FKEA	Fitted
3	R3, R4, R59	RES, 680 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-07680KL	Fitted
1	R30	RES, 47.5, 1%, 0.125 W, 0805	Vishay-Dale	CRCW080547R5FKEA	Fitted
1	R31	RES, 71.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060371K5FKEA	Fitted
1	R32	RES, 19.6 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060319K6FKEA	Fitted
1	R34	RES, 20.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060320K5FKEA	Fitted
1	R35	RES, 13.7 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060313K7FKEA	Fitted
1	R36	RES, 0, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06030000Z0EA	Fitted
1	R37	RES, 402, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603402RFKEA	Fitted
2	R38, R42	RES, 750 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603750KFKEA	Fitted
1	R41	RES, 47.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060347K5FKEA	Fitted
1	R43	RES, 20.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060320K0FKEA	Fitted
1	R44	RES, 1.50, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031R50FKEA	Fitted
1	R45	RES, 100, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206100RFKEA	Not Fitted
1	R46	RES, 47.5, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060347R5FKEA	Fitted
1	R48	RES, 44.2 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060344K2FKEA	Fitted
1	R49	RES, 1.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00FKEA	Fitted
1	R5	RES, 8.25 k, 1%, 0.125 W, 0805	Vishay-Dale	CRCW08058K25FKEA	Fitted
1	R50	RES, 1.50 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K50FKEA	Fitted
1	R51	RES, 4.99 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06034K99FKEA	Not Fitted
1	R53	RES, 100 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206100KFKEA	Fitted
1	R54	RES, 470 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-07470KL	Not Fitted
1	R56	RES, 332 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603332KFKEA	Fitted
1	R58	TRIMMER 100K OHM 0.5W TH	TT Electronics/BI	25PR100KLF	Fitted
3	R6, R7, R8	RES, 340 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206340KFKEA	Fitted
1	R60	RES, 493 k, 0.1%, 0.1 W, 0603	Yageo America	RT0603BRD07493KL	Not Fitted
1	R9	RES, 10.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K5FKEA	Fitted
1	RCL1	ICL 4.7 OHM 20% 4.6A 11.51MM	TDK	B57236S479M	Fitted
1	RV1	Varistor 275V RMS 10MM Radial, TH	EPCOS Inc	S10K275E2	Fitted
1	T1	TRANSFORMER, 160.0uH, 10%, TH-10PIN	WURTH ELEKTRONIK	750343004	Fitted
4	TP1, TP2, TP3, TP8	Test Point, Miniature, Red, TH	Keystone	5000	Fitted

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	Note
5	TP4, TP5, TP6, TP7, TP9	Test Point, Miniature, Black, TH	Keystone	5001	Fitted
1	U1	Transition mode PFC controller	Texas Instruments	UCC28051D	Fitted
1	U2	Constant-Voltage, Constant-Current Flyback Controller	Texas Instruments	UCC28740DR	Fitted
1	U3	Synchronous rectifier controller	Texas Instruments	UCC24630DBV	Fitted
2	U4, U8	Precision programmable reference	Texas Instruments	TL431BQDBZ	Fitted
1	U5	High side Oring FET controller	Texas Instruments	LM5050-2	Fitted
1	U6	Optocoupler, 5 kV, 50-600% CTR, TH-4	Lite-On	LTV-817	Fitted
1	U7	Resistor-Programmable TEMPERATURE SWITCH and	Texas Instruments	TMP302CIDCK	Fitted
1	XF1	Fuse Holder 250V 6.3A PCB	Littelfuse	56000001009	Fitted

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