

Bill of Materials

TI DESIGNS

TIDA-00652

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	IPCB		Printed Circuit Board	Any	TIDA-00652			Fitted
2	1	BR1	800V	Diode, Switching-Bridge, 800V, 4A, TH	Vishay-Semiconductor	GBU4K-E3/45		GBU	Fitted
3	1	C1	4.7uF	CAP, AL, 4.7 uF, 450 V, +/- 20%, TH	Panasonic	ECA-2WHG4R7		TH, 2-Leads, Dia 10mm, Pin Spacing 5mm	Fitted
4	3	C3, C4, C31	1500uF	CAP ALUM 1500UF 20% 35V RADIAL	Panasonic	ELZA350ELL152MK25S		D12.5xL25mm	Fitted
5	1	C5	0.033uF	CAP, Film, 0.033 uF, 630 V, +/- 10%, TH	TDK	B32922C3333K		B32922_10.5mm	Fitted
6	1	C6	1uF	CAP, CERM, 1uF, 50V, +/-10%, X7R, 0805	AVX	08055C105KAT2A		0805	Fitted
7	1	C7	0.33uF	CAP, Film, 0.33uF, 630V, +/-20%, TH	Vishay-Bccomponents	BFC233840334		17.5x16.5x10mm	Fitted
8	1	C8	2200pF	CAP, CERM, 2200pF, 100V, +/-5%, X7R, 0603	AVX	06031C222JAT2A		0603	Fitted
9	1	C10	0.22uF	CAP, Film, 0.22 uF, 630 V, +/- 20%, TH	TDK	B32922C3224M		B32922_12.5mm	Fitted
10	1	C12	22uF	CAP, AL, 22uF, 25V, +/-20%, TH	Rubycon	25ML22MEFC5X5		RCAP, 5x5mm	Fitted
11	1	C14	220pF	CAP, CERM, 220 pF, 50 V, +/- 10%, X7R, 0603	Kemet	C0603C221K5RACTU		0603	Fitted
12	1	C15	2700pF	CAP, CERM, 2700 pF, 100 V, +/- 5%, X7R, 0603	AVX	06031C272JAT2A		0603	Fitted
13	1	C16	820pF	CAP, CERM, 820 pF, 50 V, +/-10%, X7R, 0603	Kemet	C0603C821K5RACTU		0603	Fitted
14	3	C17, C18, C27	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603, CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603, CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	AVX	06035C104KAT2A		0603	Fitted
15	1	C19	10uF	CAP, CERM, 10uF, 10V, +/-20%, X5R, 0603	TDK	C1608X5R1A106M		0603	Fitted
16	2	C20, C21	4.7uF	CAP, CERM, 4.7uF, 50V, +/-10%, X5R, 0805	TDK	C2012X5R1H475K125A B		0805	Fitted
17	2	C22, C35	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0805	AVX	08053C104KAT2A		0805	Fitted
18	2	C23, C24	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0603	TDK	C1608X5R1E105K080A C		0603	Fitted
19	1	C25	1uF	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	TDK	C1608X7R1E105K080A B		0603	Fitted
20	1	C26	22uF	CAP, CERM, 22 uF, 10 V, +/- 20%, X5R, 0603	TDK	C1608X5R1A226M080A C		0603	Fitted
21	1	C28	4.7uF	CAP, CERM, 4.7 uF, 16 V, +/- 10%, X5R, 0603	MuRata	GRM188R61C475KAAJ		0603	Fitted
22	1	C29	1uF	CAP, CERM, 1 uF, 50 V, +/- 10%, X5R, 0603	MuRata	GRM188R61H105KAAAL		0603	Fitted
23	1	C30	1000pF	CAP, CERM, 1000pF, 50V, +/-10%, COG/NPO, 0603	AVX	06035A102KAT2A		0603	Fitted
24	1	C33	10uF	CAP, CERM, 10 uF, 6.3 V, +/- 20%, X5R, 0603	MuRata	GRM188R60J106ME47D		0603	Fitted
25	1	C36	33pF	CAP, CERM, 33 pF, 50 V, +/- 5%, COG/NPO, 0603	MuRata	GRM1885C1H330JA01D		0603	Fitted
26	1	D1	1000V	Diode, P-N, 1000V, 1A, TH	Fairchild Semiconductor	1N4007		DO-41	Fitted
27	2	D2, D3	600V	Diode, Ultrafast, 600 V, 8 A, DDPAK	STMicroelectronics	STTH8L06G		DDPAK	Fitted
28	1	D5	1kV	Diode, Avalanche 1kV, 1.5A, SMA	Diodes Inc.	BYG23M-E3/TR3		SMA	Fitted
29	2	D6, D10	75V	Diode, Switching, 75 V, 0.3 A, SOD-523	Micro Commercial Components	1N4148X-TP		SOD-523	Fitted
30	1	D7	18V	Diode, Zener, 18 V, 300 mW, SOD-523	Diodes Inc.	BZT52C18T-7		SOD-523	Fitted
31	1	D8	3.3V	Diode, Zener, 3.3 V, 300 mW, SOD-523	Diodes Inc.	BZT52C3V3T-7		SOD-523	Fitted
32	1	F1		Fuse, 3.15A, 250V, TH	Littelfuse	39213150000		8x8.5x4mm	Fitted
33	1	HS1		BOARD LEVEL HEATSINK .375" TO-220	Aavid Thermalloy	7173DG			Fitted
34	1	J1		Terminal Block, 2x1, 5.08mm, TH	TE Connectivity	282841-2		10.16x15.2x9mm	Fitted
35	1	J2		Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec	TSW-104-07-G-S		4x1 Header	Fitted
36	1	J4		Header, 100mil, 3x1, Gold, TH	Samtec	TSW-103-07-G-S		3x1 Header	Fitted
37	1	L1	4.5mH	Inductor, Toroid, ?, 4.5mH, A, 0.05 ohm, TH	Renco Electronics	RLTI-1099		16.51x16.5x19.3	Fitted
38	2	L2, L3	470uH	Inductor, Shielded, Ferrite, 470uH, 0.8A, 0.95 ohm, SMD	Bourns	SRN1060-471M		10x6x9.8mm	Fitted
39	1	L4	47uH	Inductor, Wirewound, Ferrite, 47uH, 0.11A, 1.235 ohm, SMD	Taiyo Yuden	CB2518T470K		2.5x1.8x1.8mm	Fitted
40	1	L5		INDUCTOR, 34 uH, 13 A, 10%, TH	Würth Elektronik	750342962,REV02			Fitted
41	1	LBL1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Brady	THT-14-423-10		PCB Label	Fitted
42	1	Q1	600V	MOSFET, N-CH, 600V, 11A, TO-220 FullPAK	Alpha Omega	AOT11S60L		TO-220 FullPAK	Fitted

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
43	1	Q2	20 V	Transistor, PNP, 500 V, 0.15 A, SOT-23	Diodes Inc.	FMMT560CT		SOT-23	Fitted
44	1	R1	1.0k	RES, 1.0 k, 5%, 0.75 W, 2010	Vishay-Dale	CRCW20101K00JNEF		2010	Fitted
45	3	R2, R3, R6	220k	RES, 220 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-07220KL		1206	Fitted
46	1	R5	0.05	RES, 0.05, 1%, 2 W, 2512	Stackpole Electronics Inc	CSRN2512FK50L0		2512	Fitted
47	1	R7	100k	RES, 100k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603100KFKEA		0603	Fitted
48	1	R8	33.0	RES, 33.0, 1%, 0.25 W, 1206	Yageo America	RC1206FR-0733RL		1206	Fitted
49	1	R11	150	RES, 150, 1%, 0.125 W, 0805	Vishay-Dale	CRCW0805150RFKEA		0805	Fitted
50	1	R12	47.0k	RES, 47.0k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-473-B-T5		0603	Fitted
51	1	R13	221	RES, 221 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603221RFKEA		0603	Fitted
52	4	R14, R18, R21, R22	4.75k	RES, 4.75k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K75FKEA		0603	Fitted
53	1	R15	23.7k	RES, 23.7 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060323K7FKEA		0603	Fitted
54	1	R16	21.5k	RES, 21.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060321K5FKEA		0603	Fitted
55	2	R17, R20	191k	RES, 191 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW1206191KFKEA		1206	Fitted
56	2	R23, R30	0	RES, 0 ohm, 5%, 0.1W, 0603, RES, 0, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603000Z0EA		0603	Fitted
57	2	R24, R25	20k	RES, 20 k, 5%, 0.75 W, 2010	Vishay-Dale	CRCW201020K0JNEF		2010	Fitted
58	3	R26, R27, R28	750k	RES, 750 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-07750KL		1206	Fitted
59	1	R29	5.1k	RES, 5.1 k, 5%, 0.1 W, 0603	Yageo America	RC0603JR-075K1L		0603	Fitted
60	1	R31	866k	RES, 866 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-07866KL		0603	Fitted
61	1	RV1	200V	Metal Oxide Varistor, TH	Bourns	MOV-10D201K		12.5mm	Fitted
62	6	TP1, TP2, TP4, TP5, TP6,	Red	Test Point, Miniature, Red, TH	Keystone	5000		Red Miniature	Fitted
63	1	TP3	Black	Test Point, Miniature, Black, TH	Keystone	5001		Black Miniature	Fitted
64	1	U1		8-PIN CONTINUOUS CONDUCTION MODE (CCM) PFC CONTROLLER, D0008A	Texas Instruments	UCC28180D		D0008A	Fitted
65	1	U2		IC, Motor Driver 3 Phase	Texas Instruments	DRV10983PWP		eg: 0603, used	Fitted
66	1	U3		16 MHz Mixed Signal Microcontroller with 2 KB Flash, 128 B SRAM and 10 GPIOs, -	Texas Instruments	MSP430G2231IPW14		PW0014A	Fitted
67	1	U4		IC, N-CHANNEL 600 V, 0.3 A, POWER MOSFET, TH, TO-92	ST MICROELECTRONICS	STQ1NK60ZR-AP			Fitted
68	1	U5	TSOP31338	Opto, Infrared Receiver	Vishay	TSOP31338		0.236 X 0.220	Fitted
69	1	V1		Varistor, 430V, 4.5KA, TH	EPCOS Inc	B72214S0271K101		Disc, 14x5mm	Fitted
70	0	C2	220pF	CAP, CERM, 220 pF, 630 V, +/- 5%, C0G/NP0, 1206	TDK	C3216C0G2J221J		1206	Not Fitted
71	0	C9	0.22uF	CAP, Film, 0.22 uF, 630 V, +/- 20%, TH	TDK	B32922C3224M		B32922_12.5mm	Not Fitted
72	0	C11	0.39uF	CAP, CERM, 0.39 uF, 16 V, +/- 10%, X7R, 0603	Kemet	C0603C394K4RACTU		0603	Not Fitted
73	0	C13	1000pF	CAP, CERM, 1000pF, 100V, +/-10%, X7R, 0805	AVX	08051C102KAT2A		0805	Not Fitted
74	0	D4	200V	Diode, Ultrafast, 200V, 1A, SMA	Diodes Inc.	ES1D-13-F		SMA	Not Fitted
75	0	D9	3.3V	Diode, Zener, 3.3 V, 300 mW, SOD-523	Diodes Inc.	BZT52C3V3T-7		SOD-523	Not Fitted
76	0	FID1, FID2, FID3, FID4,		Fiducial mark. There is nothing to buy or mount.	N/A	N/A		Fiducial	Not Fitted
77	0	R4	820	RES, 820, 5%, 0.75 W, 2010	Vishay-Dale	CRCW2010820RJNEF		2010	Not Fitted
78	0	R9	1.0k	RES, 1.0 k, 5%, 0.25 W, 1206	Vishay-Dale	CRCW12061K00JNEA		1206	Not Fitted
79	0	R10	360k	RES, 360 k, 5%, 0.25 W, 1206	Vishay-Dale	CRCW1206360KJNEA		1206	Not Fitted
80	0	R19	4.75k	RES, 4.75k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K75FKEA		0603	Not Fitted

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