

Bill of Materials

TI DESIGNS
TIDA-00539

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
1	2	C1, C17	2200pF	CAP, CERM, 2200pF, 2000V, +/-10%, X7R, 1812	TDK	C4532X7R3D222K
2	4	C2, C6, C34, C36	0.1uF	CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0805	Kemet	C0805C104K1RACTU
3	1	C3		CAP, CERM, 2.2uF, 100V, +/-10%, X7R, 1210	Taiyo Yuden	HMK325B7225KN-T
4	2	C4, C5	2.2uF	CAP, CERM, 2.2uF, 100V, +/-10%, X7R, 1210	Taiyo Yuden	HMK325B7225KN-T
5	1	C7	68uF	CAP, AL, 68uF, 25V, +/-20%, 0.36 ohm, SMD	Panasonic	EEE-FK1E680P
6	3	C8, C9, C10	10uF	CAP, CERM, 10uF, 25V, +/-20%, X5R, 1210	TDK	C3225X5R1E106K
7	3	C11, C22, C23	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0805	AVX	08053D105KAT2A
8	1	C12	470pF	CAP, CERM, 470pF, 100V, +/-5%, X7R, 0603	AVX	06031C471JAT2A
9	1	C13	100pF	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	TDK	C1608C0G1H101J
10	1	C14	22uF	CAP, AL, 22uF, 25V, +/-20%, 0.7 ohm, SMD	Panasonic	EEE-FK1E220R

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11	2	C15, C16	0.47uF	CAP, CERM, 0.47uF, 16V, +/-10%, X7R, 0603	Kemet	C0603C474K4RACTU
12	1	C18	0.01uF	CAP, CERM, 0.01uF, 50V, +/-5%, X7R, 0603	Kemet	C0603C103J5RACTU
13	1	C19	47pF	CAP, CERM, 47pF, 50V, +/-5%, C0G/NP0, 0603	AVX	06035A470JAT2A
14	1	C20	1uF	CAP, CERM, 1uF, 16V, +/-10%, X5R, 0603	Kemet	C0603C105K4PACTU
15	1	C21	0.047uF	CAP, CERM, 0.047 uF, 50 V, +/-10%, X7R, 0603	MuRata	GRM188R71H473KA61D
16	1	C24	0.039uF	CAP, CERM, 0.039 uF, 25 V, +/-10%, X7R, 0603	AVX	06033C393KAT2A
17	2	C25, C32	1000pF	CAP, CERM, 1000pF, 2000V, +/-10%, X7R, 1210	Kemet	C1210C102KGRACTU
18	6	C26, C27, C28, C29, C37, C38	0.01uF	CAP, CERM, 0.01uF, 100V, +/-10%, X7R, 0603	AVX	06031C103KAT2A
19	2	C30, C31	1000pF	CAP, CERM, 1000pF, 100V, +/-10%, X7R, 0603	AVX	06031C102KAT2A
20	2	C33, C35	47uF	CAP, AL, 47uF, 63V, +/-20%, 0.65 ohm, SMD	Panasonic	EEE-FK1J470P
21	1	C39	2.2uF	CAP, CERM, 2.2 uF, 50 V, +/-10%, X5R, 0805	TDK	C2012X5R1H225K125AB
22	2	C40, C41	0.1uF	CAP, CERM, 0.1 uF, 50 V, +/-10%, X7R, 0603	AVX	06035C104KAT2A
23	1	D1	200V	Diode, Ultrafast, 200V, 1A, SMA	ON Semiconductor	MURA120T3G
24	2	D2, D5	100V	Diode, Switching, 100V, 0.2A, SOD 123	ON Semiconductor	MMSD4148T1G

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
25	1	D3	Yellow	LED, Yellow, SMD	OSRAM	LY E6SF-AABA-46-1-Z
26	3	D4, D6, D7	30V	Diode, Schottky, 30V, 0.2A, SOT-23	Diodes Inc.	BAT54S-7-F
27	8	D8, D9, D10, D11, D12, D13, D14, D15	100V	Diode, Schottky, 100V, 3A, SMC	Diodes Inc.	B3100-13-F
28	1	D16		LED, Orange, SMD	OSRAM	LO E6SF-ABCB-24-1-Z
29	2	D17, D19	58V	Diode, TVS, Uni, 58V, 400W, SMA	Diodes Inc.	SMAJ58A
30	1	D18	Orange	LED, Orange, SMD	OSRAM	LO E6SF-ABCB-24-1-Z
31	1	D20		Diode, Schottky, 100V, 0.15A, SOD-123	Diodes Inc.	BAT46W-7-F
32	2	D21, D22	100V	Diode, Schottky, 100V, 0.15A, SOD-123	Diodes Inc.	BAT46W-7-F
33	4	H1, H2, H3, H4		Bumpon, Hemisphere, 0.375 X 0.235, Black	3M	SJ61A2
34	1	J1		Terminal Block, 6A, 3.5mm Pitch, 2-Pos, TH	On-Shore Technology	ED555/2DS
35	4	J2, J5, J7, J11		Header, 100mil, 2x1, Gold plated, TH	TE Connectivity	5-146261-1
36	2	J3, J4		RJ-45, Right Angle, No LED, tab up	AMP	1-406541-1
37	1	J6		Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec	TSW-104-07-G-S
38	1	L1	3.3uH	Inductor, Shielded Drum Core, Ferrite, 3.3uH, 1.9A, 0.08 ohm, SMD	Coilcraft	LPS4018-332MLB

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
39	1	L2	400nH	Inductor, Shielded, Composite, 400nH, 12.5A, 0.01 ohm, SMD	Coilcraft	XAL4020-401MEB
40	4	L3, L4, L5, L6	100 ohm	4A Ferrite Bead, 100 ohm @ 100MHz, SMD	MuRata	MPZ2012S101A
41	1	Q1	150V	MOSFET, N-CH, 150V, 4.6A, PQFN08A	Fairchild Semiconductor	FDMS86252
42	2	Q2, Q4	0.25V	Transistor, PNP, 40V, 0.2A, SOT-23	Fairchild Semiconductor	MMBT3906
43	3	Q3, Q8, Q9	100V	MOSFET, N-CH, 100V, 26A, PowerPAK SO-8	Fairchild Semiconductor	FDMS86105
44	1	Q5	0.25V	Transistor, NPN, 140V, 0.6A, SOT-23	ON Semiconductor	MMBT5550LT1G
45	2	Q6, Q7	100V	MOSFET, N-CH, 100V, 0.17A, SOT-23	Fairchild Semiconductor	BSS123
46	1	Q10	40V	MOSFET, N-CH, 40 V, 15 A, SON 5x6mm	Texas Instruments	CSD18504Q5A
47	1	R1	39k	RES, 39k ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW120639K0JNEA
48	1	R2	4.7	RES, 4.7 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06034R70JNEA
49	3	R3, R47, R54	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0FKEA
50	1	R4	0.1	RES, 0.1, 1%, 2 W, 2512	Stackpole Electronics Inc	CSRN2512FKR100
51	1	R5	1.00k	RES, 1.00k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K00FKEA
52	1	R6	10	RES, 10 ohm, 5%, 1W, 2512	Panasonic	ERJ-1TYJ100U

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
53	1	R7	20.0	RES, 20.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060320R0FKEA
54	1	R8	20.0	RES, 20.0 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080520R0FKEA
55	2	R9, R12	121k	RES, 121k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603121KFKEA
56	1	R10	2.61k	RES, 2.61k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K61FKEA
57	5	R11, R18, R19, R38, R39	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K0FKEA
58	1	R13	4.22k	RES, 4.22k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K22FKEA
59	1	R14	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA
60	1	R15	7.50k	RES, 7.50k ohm, 1%, 0.1W, 0603	Panasonic	ERJ-3EKF7501V
61	1	R16	80.6k	RES, 80.6k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060380K6FKEA
62	1	R17	3.83k	RES, 3.83k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06033K83FKEA
63	1	R20	61.9k	RES, 61.9k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060361K9FKEA
64	5	R21, R40, R41, R48, R56	100k	RES, 100k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603100KFKEA
65	1	R22	1.21Meg	RES, 1.21 M, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031M21FKEA
66	1	R23	49.9k	RES, 49.9k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060349K9FKEA

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
67	1	R24	200k	RES, 200 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603200KFKEA
68	1	R25	6.81k	RES, 6.81 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06036K81FKEA
69	1	R26	7.5k	RES, 7.5k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06037K50JNEA
70	1	R27	2.00k	RES, 2.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06032K00FKEA
71	8	R28, R29, R30, R31, R32, R33, R34, R35	75.0	RES, 75.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060375R0FKEA
72	2	R36, R37	5.6k	RES, 5.6k ohm, 5%, 1W, 2512	Panasonic	ERJ-1TYJ562U
73	1	R42	30.1k	RES, 30.1k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060330K1FKEA
74	2	R44, R52	63.4	RES, 63.4 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080563R4FKEA
75	1	R45	8.87k	RES, 8.87k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06038K87FKEA
76	2	R46, R53	49.9k	RES, 49.9 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060349K9FKEA
77	2	R49, R55	24.9k	RES, 24.9k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060324K9FKEA
78	1	R51	78.7k	RES, 78.7k ohm, 1%, 0.125W, 0805	Panasonic	ERJ-6ENF7872V
79	1	R57	12.1k	RES, 12.1 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060312K1FKEA
80	1	R58	33.2k	RES, 33.2 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060333K2FKEA

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number
81	1	R60	47.5k	RES, 47.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060347K5FKEA
82	1	R61	1.43k	RES, 1.43 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K43FKEA
83	2	R62, R63	25.5k	RES, 25.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060325K5FKEA
84	4	SH-J1, SH-J2, SH-J3, SH-J4	1x2	Shunt, 100mil, Gold plated, Black	3M	969102-0000-DA
85	1	T1	62uH	Transformer, 62uH, SMT	Pulse Engineering	PA4036NL
86	1	T2	1.2mH	Transformer, Gate Drive, 1.2mH, SMT	Pulse Engineering	PA0184NLT
87	1	T3	350uH	TRANSFORMER/CMC MOD, GIGABIT POE+, SMT	Pulse Engineering	H6096NL
88	14	TP1, TP3, TP5, TP6, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP17	SMT	Test Point, Miniature, SMT	Keystone	5015
89	6	TP2, TP4, TP7, TP16, TP18, TP19		Test Point, Miniature, SMT	Keystone	5019
90	2	U1, U7		Optocoupler, 3.75kV RMS, SMT	Fairchild Semiconductor	HMHA2801A
91	1	U2		PRECISION PROGRAMMABLE REFERENCE, DBV0005A	Texas Instruments	TL431AIDBV
92	2	U3, U4		IEEE 802.3at PoE High-Power PD Interface, DDA0008E	Texas Instruments	TPS2378DDA
93	2	U5, U8		Optocoupler, 5kV RMS, SMT	Fairchild Semiconductor	FOD817DS
94	1	U6		Advanced Active Clamp PWM Controller with Current Control, -40 to +125 degC, 20 pin TSSOP	Texas Instruments	UCC2897APW

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95	1	U9		SUPPLY-VOLTAGE SUPERVISOR, DGK0008A	Texas Instruments	TL7700CDGKR
96	0	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A
97	0	J8		Receptacle, 100mil, 4x1, TH	FCI	76308-204LF
98	0	J9, J10		Receptacle 100mil 2x1, Tin, TH	Sullins Connector Solution	PPTC021LFBN-RC
99	0	R43	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA
100	0	R50	20.0k	RES, 20.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060320K0FKEA
101	0	R59	100	RES, 100, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100RFKEA

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