

Bill of Materials

TI DESIGNS

TIDA-00741

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternative Manufacturer	Alternative 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	220uF	CAP, AL, 220 μF, 16 V, +/- 20%, 0.014 ohm, SMD	Chemi-Con	APXA160ARA221MJCOG		
6	3	C8, C9, C10	22uF	CAP, CERM, 22 μF, 25 V, +/-20%, X5R, 1206_190	TDK	C3216X5R1E226M160A B		
7	3	C11, C22, C23	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0805	AVX	08053D105KAT2A		
8	1	C12	1000pF	CAP, CERM, 1000 pF, 100 V, +/-10%, X7R, 0603	AVX	06031C102KAT2A		
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		
11	2	C15, C16	0.47uF	CAP, CERM, 0.47uF, 16V, +/-10%, X7R, 0603	Kemet	C0603C474K4RACTU		
12	1	C18	0.033uF	CAP, CERM, 0.033 μF, 50 V, +/-5%, X7R, 0603	AVX	06035C333JAT2A		
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		

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15	1	C21	0.047uF	CAP, CERM, 0.047 μ F, 50 V, +/-10%, X7R, 0603	MuRata	GRM188R71H473KA61D		
16	1	C24	0.039uF	CAP, CERM, 0.039 μ F, 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 μ F, 50 V, +/-10%, X5R, 0805	TDK	C2012X5R1H225K125AB		
22	2	C40, C41	0.1uF	CAP, CERM, 0.1 μ F, 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		
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	1	J1		Terminal Block, 6A, 3.5mm Pitch, 2-Pos, TH	On-Shore Technology	ED555/2DS		

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternative Manufacturer	Alternative Part Number
34	4	J2, J5, J7, J11		Header, 100mil, 2x1, Gold plated, TH	TE Connectivity	5-146261-1		
35	2	J3, J4		RJ-45, Right Angle, No LED, tab up	AMP	1-406541-1		
36	1	J6		Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec	TSW-104-07-G-S		
37	1	L1	3.3uH	Inductor, Shielded Drum Core, Ferrite, 3.3uH, 1.9A, 0.08 ohm, SMD	Coilcraft	LPS4018-332MLB		
38	1	L2	400nH	Inductor, Shielded, Composite, 400nH, 12.5A, 0.01 ohm, SMD	Coilcraft	XAL4020-401MEB		
39	4	L3, L4, L5, L6	100 ohm	4A Ferrite Bead, 100 ohm @ 100MHz, SMD	MuRata	MPZ2012S101A		
40	1	Q1	150V	MOSFET, N-CH, 150V, 4.6A, PQFN08A	Fairchild Semiconductor	FDMS86252		
41	2	Q2, Q4	0.25V	Transistor, PNP, 40V, 0.2A, SOT-23	Fairchild Semiconductor	MMBT3906		
42	3	Q3, Q8, Q9	100V	MOSFET, N-CH, 100V, 26A, PowerPAK SO-8	Fairchild Semiconductor	FDMS86105		
43	1	Q5	0.25V	Transistor, NPN, 140V, 0.6A, SOT-23	ON Semiconductor	MMBT5550LT1G		
44	2	Q6, Q7	100V	MOSFET, N-CH, 100V, 0.17A, SOT-23	Fairchild Semiconductor	BSS123		
45	1	Q10	40V	MOSFET, N-CH, 40 V, 15 A, SON 5x6mm	Texas Instruments	CSD18504Q5A		
46	1	R1	39k	RES, 39k ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW120639K0JNEA		
47	1	R2	4.7	RES, 4.7 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06034R70JNEA		
48	2	R3, R45	6.04k	RES, 6.04 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06036K04FKEA		
49	1	R4	0.1	RES, 0.1, 1%, 2 W, 2512	Stackpole Electronics Inc	CSRN2512FKR100		
50	1	R5	1.00k	RES, 1.00k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K00FKEA		
51	1	R6	5.6	RES, 5.6, 5%, 1 W, 2512	Vishay-Dale	CRCW25125R60JNEG		
52	1	R7	20.0	RES, 20.0 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060320R0FKEA		

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53	1	R8	20.0	RES, 20.0 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080520R0FKEA		
54	2	R9, R12	121k	RES, 121k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603121KFKEA		
55	1	R10	2.61k	RES, 2.61k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K61FKEA		
56	4	R11, R18, R38, R39	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K0FKEA		
57	1	R13	4.22k	RES, 4.22k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K22FKEA		
58	1	R14	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA		
59	1	R15	7.50k	RES, 7.50k ohm, 1%, 0.1W, 0603	Panasonic	ERJ-3EKF7501V		
60	1	R16	80.6k	RES, 80.6k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060380K6FKEA		
61	1	R17	2.21k	RES, 2.21 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06032K21FKEA		
62	1	R19	5.76k	RES, 5.76 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06035K76FKEA		
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		
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	13.0k	RES, 13.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060313K0FKEA		
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		

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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	2	R46, R53	49.9k	RES, 49.9 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060349K9FKEA		
76	2	R47, R54	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0FKEA		
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		
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	1	T1	65uH	Transformer, 65uH, SMT	LinkCom	LDT0817-50	Würth	75031 5778
85	1	T2	1.2mH	Transformer, Gate Drive, 1.2mH, SMT	Pulse Engineering	PA0184NLT		
86	1	T3	350uH	TRANSFORMER/CMC MOD, GIGABIT POE+, SMT	Pulse Engineering	H6096NL		
87	14	TP1, TP3, TP5, TP6, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP17, TP20	SMT	Test Point, Miniature, SMT	Keystone	5015		
88	6	TP2, TP4, TP7, TP16, TP18, TP19		Test Point, Miniature, SMT	Keystone	5019		
89	2	U1, U7		Optocoupler, 3.75kV RMS, SMT	Fairchild Semiconductor	HMHA2801A		

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90	1	U2		PRECISION PROGRAMMABLE REFERENCE, DBV0005A	Texas Instruments	TL431AIDBV		
91	2	U3, U4		IEEE 802.3at PoE High-Power PD Interface, DDA0008E	Texas Instruments	TPS2378DDA		
92	2	U5, U8		Optocoupler, 5kV RMS, SMT	Fairchild Semiconductor	FOD817DS		
93	1	U6		Advanced Active Clamp PWM Controller with Current Control, -40 to +125 degC, 20 pin TSSOP	Texas Instruments	UCC2897APW		
94	1	U9		SUPPLY-VOLTAGE SUPERVISOR, DGK0008A	Texas Instruments	TL7700CDGKR		
95	0	J8		Receptacle, 100mil, 4x1, TH	FCI	76308-204LF		
96	0	J9, J10		Receptacle 100mil 2x1, Tin, TH	Sullins Connector Solution	PPTC021LFBN-RC		
97	0	R43	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA		
98	0	R50	20.0k	RES, 20.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060320K0FKEA		
99	0	R59	100	RES, 100, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100RFKEA		

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