

Bill of Materials

TI DESIGNS TIDA00255-bq76940

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	6	C1, C2, C3, C40, C41, C42	0.1uF	CAP, CERM, 0.1uF, 50V, +10/%,	MuRata	GCM188R71H104KA57B		0603	-
2	4	C4, C5, C6, C7	0.1uF	CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0603	MuRata	GRM188R72A104KA35D		0603	
3	21	C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C21, C22, C23, C28, C29, C30, C31, C32, C33	1uF	CAP, CERM, 1uF, 16V, +10/%, X7R, 0805	MuRata	GRM21BR71C105KA01L		0805	
4	3	C24, C25, C26	4700pF	CAP, CERM, 4700pF, 50V, +/-10%, X7R, 0805	AVX	08055C472KAT2A		0805	
5	1	C27	4.7uF	CAP, CERM, 4.7uF, 10V, +10/%, X7R, 0805	MuRata	GRM21BR71A475KA73L		0805	
6	3	C34, C35, C36	10uF	CAP, CERM, 10uF, 35V, +/-10%, X7R, 1210	MuRata	GRM32ER7YA106KA12L		1210	
7	1	C37	1uF	CAP, CERM, 1uF, 50V, +/-10%, X7R, 1206	MuRata	GRM31MR71H105KA88L		1206	
8	1	C39	3300pF	CAP, CERM, 3300pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E332KA01D		0603	
9	1	D1	75V	Diode, TVS, Uni, 75V, 1500W, SMC	Fairchild Semiconducto	SMCJ75A		SMC	
10	6	D2, D22, D23, D24, D41, D46	100V	Diode, Ultrafast, 100V, 0.15A, SOD- 123	Diodes Inc.	1N4148W-7-F		SOD-123	
11	3	D3, D45, D47	16V	Diode, Zener, 16V, 500mW, SOD- 123	Diodes Inc.	MMSZ5246B-7-F		SOD-123	
12	1	D4	600V	Diode, Ultrafast, 600V, 3A, SMC	ON Semiconductor	MURS360T3G		SMC	
13	21	D6, D7, D8, D9, D10, D11, D15	5.6V	Diode, Zener, 5.6V, 200mW, SOD- 323	Diodes Inc.	MMSZ5232BS-7-F		SOD-323	
14	5	D48, D49, D50, D51, D52	Green	LED, Green, SMD	Lite-On	LTST-C190GKT		1.6x0.8x0.8mm	
15	1	D55	Orange	LED, Orange, SMD	Lite-On	LTST-C190KFKT		1.6x0.8x0.8mm	
16	1	D56	6.8V	Diode, Zener, 6.8V, 500mW, SOD- 123	Diodes Inc.	MMSZ5235B-7-F		SOD-123	
17	3	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A		Fiducial	
18	4	H1, H2, H3, H4		Bumpon, Hemisphere, 0.375 X 0.235, Black	3M	SJ61A2		Black Bumpon	
19	4	J1, J2, J3, J4		TERMINAL SCREW PC 30AMP, TH	Keystone	8199		12.9x6.3x7.9 mm	
20	1	J5		Header, 3.5mm, 11POS, R/A, TH	Molex	395021011		39.90x7.03x9.33 mm	
21	4	J6, J7, J11, J12		Header, 100mil, 2x1, Tin plated, TH	Sullins Connector Solut	PEC02SAAN		Header, 2 PIN, 100mil, Tin	
22	2	J8, J17		Header, 100mil, 4x1, R/A, TH	Molex	22-05-3041		4x1 R/A Header	
23	1	J9		Header, 3.5mm, 5POS, R/A, TH	Molex	395021005		19.03x7.03x9.33 mm	

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24	1	J14		Header, 100mil, 5x2, Tin plated, TH	Sullins Connector Solut	PEC05DAAN		Header, 5x2, 100mil, Tin	
25	1	J15		Header, 100mil, 3x2, Tin, TH	Sullins Connector Solut	PEC03DAAN		3x2 Header	
26	1	J16		Header, 100mil, 3x1, Tin plated, TH	Sullins Connector Solut	PEC03SAAN		Header, 3 PIN, 100mil, Tin	
27	1	LBL1		Thermal Transfer Printable Labels,	Brady	THT-14-423-10	-	PCB Label 0.650"H x 0.200"W	
28	1	P1		CONN TERM BLOCK 3.5MM 11POS	Molex Connector Corp	39500-0011	1840450	Term Block Plug	
29	1	P2		CONN TERM BLOCK 3.5MM 5POS	Molex Connector Corp	39500-0005	-	Term Block Plug	
30	2	Q2, Q4	100V	MOSFET, N-CH, 100V, 18A, DDPK	AOS	AOB290L		DDPAK	
31	2	Q5, Q15	-100V	MOSFET, P-CH, -100V, -0.6A, SOT-	Diodes Inc.	ZXMP10A13FTA		SOT-23	
32	8	Q6, Q7, Q8, Q9, Q10, Q11, Q	20V	MOSFET, P-CH, 20V, 0.83A,	Fairchild Semiconducto	FDY1002PZ			
33	2	Q14, Q22	100V	MOSFET, N-CH, 100V, 0.19A, SOT-	NXP Semiconductor	BST82,215		SOT-23	
34	2	Q16, Q17	100V	MOSFET, N-CH, 100V, 0.17A, SOT-	Fairchild Semiconducto	BSS123		SOT-23	
35	1	Q18	0.5V	Transistor, PNP, 300V, 0.2A, SOT-	Fairchild Semiconducto	MMBTA92	None	SOT-23	
36	1	Q19	50V	MOSFET, N-CH, 50V, 0.22A, SOT-	Fairchild Semiconducto	BSS138		SOT-23	
37	1	Q20	0.21V	Transistor, NPN, 20V, 5.25A, SOT-	Diodes Inc.	ZXTN19100CZTA		SOT-89	
38	18	R2, R4, R44, R45, R46, R47, R	100	RES, 100 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805100RFKEA		0805	
39	1	R3	0.001	RES, 0.001 ohm, 1%, 2W, 4527	Vishay-Dale	WSR21L000FEA		4527	
40	7	R5, R8, R9, R104, R111, R116	1.00Meg	RES, 1.00Meg ohm, 1%, 0.125W,	Vishay-Dale	CRCW08051M00FKEA		0805	
41	2	R6, R87	0	RES, 0 ohm, 5%, 0.125W, 0805	Vishay-Dale	CRCW08050000Z0EA		0805	
42	22	R7, R20, R21, R22, R23, R24,	1.00k	RES, 1.00k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW08051K00FKEA		0805	
43	15	R10, R11, R12, R13, R14, R15	100	RES, 100 ohm, 1%, 0.25W, 1206	Vishay-Dale	CRCW1206100RFKEA		1206	
44	19	R32, R33, R34, R35, R36, R37	10.0k	RES, 10.0k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080510K0FKEA		0805	
45	1	R42	499k	RES, 499k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805499KFKEA		0805	
46	1	R43	3.01k	RES, 3.01k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW08053K01FKEA		0805	
47	6	R75, R78, R101, R103, R107,	100k	RES, 100k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805100KFKEA		0805	
48	16	R76, R124, R125, R126, R127	200	RES, 200 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805200RFKEA		0805	
49	1	R85	0	RES, 0 ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW12060000Z0EA		1206	
50	1	R94	300k	RES, 300k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-304-B-T5		0603	
51	2	R95, R97	100k	RES, 100k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-104-B-T5		0603	
52	2	R96, R102	7.68k	RES, 7.68k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-7681-B-T5		0603	
53	1	R105	5.6k	RES, 5.6k ohm, 5%, 1W, 2512	Panasonic	ERJ-1TYJ562U		2512	
54	1	R106	196k	RES, 196k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805196KFKEA		0805	
55	2	R110, R122	49.9k	RES, 49.9k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW080549K9FKEA		0805	
56	1	R120	221k	RES, 221k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805221KFKEA		0805	
57	1	R121	698	RES, 698 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805698RFKEA		0805	
58	3	RT1, RT2, RT3	10.0k ohm	Thermistor NTC, 10.0k ohm, 1%,	SEMITEC Corporation	103AT-2		Disc, 5x8.4 mm	
59	2	S1, S2		Switch, Tactile, SPST-NO, 0.05A,	TE Connectivity	4-1437565-1		SW, SPST 6x6 mm	
60	1	S3		Switch, SPST 9Pos, Rocker, TH	Grayhill	76SB09ST		9.65X8X24.9mm	
61	1	S4		Switch, SPST 8Pos, Rocker, TH	Grayhill	76SB08ST		9.65X8X22.4mm	
62	10	SH-J6, SH-J7, SH-J11, SH-J12,	1x2	Shunt, 100mil, Gold plated, Black	3M	969102-0000-DA	SNT-100-BK-G	Shunt	
63	4	TP3, TP4, TP5, TP6	Black	Test Point, TH, Multipurpose, Black	Keystone	5011		Keystone5011	
64	3	TP48, TP49, TP50	Yellow	Test Point, Multipurpose, Yellow,	Keystone	5014		Yellow Multipurpose Testpoint	
65	1	U1		bq76940 AFE for 15-Series Cell	Texas Instruments	BQ7694000DBT		DBT0044A	
66	1	U2		Companion Controller for bq769x0	Texas Instruments	BQ78350DBT		DBT0030A	
67	0	C20	470pF	CAP, CERM, 470pF, 50V, +/-10%,	AVX	08055C471KAT2A		0805	
68	0	C38	3300pF	CAP, CERM, 3300pF, 25V, +/-10%,	MuRata	GRM188R71E332KA01D		0603	
69	0	D5	600V	Diode, Ultrafast, 600V, 8A, TH	ON Semiconductor	MUR860G		TO-220AC	
70	0	D16, D17, D18, D19, D20, D2	0.8V	Diode, Schottky, 30V, 0.2A, SOD-	ON Semiconductor	BAT54T1G		SOD-123	
71	0	D37		Diode, Schottky, 30V, 0.2A, SOD-	ON Semiconductor	BAT54T1G		SOD-123	
72	0	D38, D39, D40, D42		Diode, TVS, Uni, 30V, 600W, SMB	Diodes Inc.	SMBJ30A-13-F		SMB	
73	0	HS1, HS2, HS3, HS4		Heatsink, DDPK/TO-263, SMT	Aavid	573300D00010G		Heatsink, DDPK	

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74	0	J10		Header, TH, 100mil, 3x1, Gold	Samtec, Inc.	TSW-103-07-G-S		TSW-103-07-G-S	
75	0	J13		Header, TH, 100mil, 7x1, Gold	Samtec	TSW-107-07-G-S		7x1 Header	
76	0	J18, J19		Header, TH, 100mil, 5x1, Gold	Samtec, Inc.	TSW-105-07-G-S		TSW-105-07-G-S	
77	0	J20		Header, TH, 100mil, 6x1, Gold	Samtec, Inc.	TSW-106-07-G-S		TSW-106-07-G-S	
78	0	Q1, Q3	100V	MOSFET, N-CH, 100V, 18A, DDPAK	AOS	AOB290L		DDPAK	
79	0	Q21	0.7V	Transistor, NPN, 65V, 0.1A, SOT-23	ON Semiconductor	BC846BLT1G	None	SOT-23	
80	0	R1, R50, R51, R123	0	RES, 0 ohm, 5%, 0.125W, 0805	Vishay-Dale	CRCW08050000Z0EA		0805	
81	0	R74	100k	RES, 100k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805100KFKEA		0805	
82	0	R77	200	RES, 200 ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW0805200RFKEA		0805	
83	0	R80, R81, R98, R99, R113	1.00k	RES, 1.00k ohm, 1%, 0.125W, 0805	Vishay-Dale	CRCW08051K00FKEA		0805	
84	0	R84	300k	RES, 300k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-304-B-T5		0603	
85	0	R86	0	RES, 0 ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW12060000Z0EA		1206	
86	0	R88, R93	100k	RES, 100k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-104-B-T5		0603	
87	0	R91, R92, R100	1.00Meg	RES, 1.00Meg ohm, 1%, 0.125W,	Vishay-Dale	CRCW08051M00FKEA		0805	
88	0	TP1	Black	Test Point, TH, Multipurpose, Black	Keystone	5011		Keystone5011	
89	0	TP2, TP14	Red	Test Point, TH, Multipurpose, Red	Keystone	5010		Keystone5010	
90	0	TP7, TP8, TP10, TP11, TP13,	White	Test Point, TH, Multipurpose,	Keystone	5012		Keystone5012	

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