

Bill of Materials

TI DESIGNS

TIDA-00872 Unipolar Stepper Motor Driver using a Bipolar Stepper Motor Controller Reference Design

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint
1	1	!PCB1		Printed Circuit Board	Any	TIDA-00872	
2	1	C1	100uF	CAP ALUM 100UF 100V 20%	Panasonic Electronic C	ECA-2AM101	Radial, Can
3	1	C2	0.01uF	CAP, CERM, 0.01uF, 100V, +/- 10%, X7R, 0603	TDK	C1608X7R2A103K	0603
4	1	C3	0.01uF	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	Wurth Elektronik	885012205031	0402
5	1	C4	1uF	CAP, CERM, 1 uF, 100 V, +/- 20%, X7R, 1206	TDK	C3216X7R2A105M160A A	1206
6	1	C5	0.1uF	CAP, CERM, 0.1 uF, 100 V, +/-	TDK	C2012X7R2A104K125A	0805
7	1	C6	1200pF	CAP, CERM, 1200 pF, 50 V, +/-	Kemet	C1206C122K5RACTU	1206
8	1	C7	4.7uF	CAP, CERM, 4.7 uF, 16 V, +/-	Wurth Elektronik	885012107013	0805
9	1	C8	0.47uF	CAP, CERM, 0.47 uF, 16 V, +/-	Wurth Elektronik	885012207049	0805_140
10	1	C9	1uF	CAP CER 1UF 100V 10% X7R 1206	Taiyo Yuden	HMK316B7105KL-T	1206
11	1	C10	0.1uF	CAP, CERM, 0.1 uF, 25 V, +/-	Wurth Elektronik	885012206071	0603
12	1	C11	1uF	CAP, CERM, 1 uF, 16 V, +/- 10%,	Wurth Elektronik	885012206052	0603
13	1	C12	0.1uF	CAP, CERM, 0.1uF, 100V, +/- 10%, X7R, 0603	MuRata	GRM188R72A104KA35D	0603
14	1	C13	1000pF	CAP, CERM, 1000 pF, 16 V, +/- 10%, X7R, 0603	Wurth Elektronik	885012206034	0603
15	1	C14	1uF	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0805_140	Wurth Elektronik	885012207103	0805_140
16	1	D1	100V	Diode, Schottky, 100 V, 1 A, PowerDI123	Diodes Inc.	DFLS1100-7	PowerDI123
17	2	D6, D7	Red	LED, Red, SMD	Wurth Elektronik	150080SS75000	LED_0805
18	2	J1, J2		Receptacle, 2.54mm, 10x1, Gold, TH	Wurth Elektronik	61301011821	Receptacle, 2.54mm, 10x1, TH

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint
19	1	J3		Header, 2.54 mm, 6x1, Gold, TH	Wurth Elektronik	61300611121	Header, 2.54mm, 6x1, TH
20	1	J4		Terminal Block, 5 mm, 2x1, Tin, TH	Wurth Elektronik	691 101 710 002	Terminal Block, 5 mm, 2x1, TH
21	1	L1	470uH	Inductor, Shielded Drum Core,	Wurth Elektronik	744043471	WE-TPC-M2
22	8	Q1, Q2, Q5, Q6, Q7, Q8,	30V	MOSFET, N/P-CH, 30 V, 1.5 A,	Texas Instruments	CSD17483F4T	1.0x0.35x0.6mm
23	4	Q3, Q4, Q9, Q10	100V	MOSFET, N-CH, 100 V, 10 A,	Texas Instruments	CSD19534Q5A	SON 5x6mm
24	1	R1	100k	TRIMMER, 100k ohm, 0.5W, TH	Bourns	3386P-1-104LF	375x190x375mil
25	1	R2	274k	RES, 274 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW0402274KFKED	0402
26	1	R3	2.20k	RES, 2.20 k, 1%, 0.1 W, 0402	Panasonic	ERJ-2RKF2201X	0402
27	1	R4	154k	RES, 154 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW0402154KFKED	0402
28	1	R5	576	RES, 576, 1%, 0.063 W, 0402	Vishay-Dale	CRCW0402576RFKED	0402
29	1	R6	0.68	RES, 0.68, 1%, 0.125 W, 0402	Panasonic	ERJ-2BQFR68X	0402
30	4	R7, R8, R13, R14	100k	RES, 100 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW0402100KFKED	0402
31	1	R9	3.3k	RES, 3.3k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060333K30JNEA	0603
32	2	R10, R15	0.05	RES, 0.05 ohm, 1%, 3W, 2512	Bourns	CRA2512-FZ-R050ELF	2512
33	2	R11, R12	330	RES, 330 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603330RJNEA	0603
34	4	R16, R17, R18, R19	100	RES, 100, 1%, 0.125 W, 0805	Vishay-Dale	CRCW0805100RFKEA	0805
35	1	U1		150 mA, 100V Step-Down Switching Regulator, 8-pin MSOP, Pb-Free	Texas Instruments	LM5009MM/NOPB	MUA08A
36	1	U2		STEPPER MOTOR CONTROLLER IC, DCP0038A	Texas Instruments	DRV8711DCPR	DCP0038A
37	0	D2, D5, D8, D11	60V	Diode, Schottky, 60 V, 3 A, SMA	Rohm	RB050L-60TE25	SMA
38	0	D3, D4, D9, D10	60V	Diode, TVS, Uni, 60 V, 600 W, SMB	Diodes Inc.	SMBJ60A-13-F	SMB
39	0	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fiducial

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