

# Bill of Materials

TI DESIGNS TIDA-00289

Current Controlled Driver for 24V DC solenoid, with plunger fault detection

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
2	C1, C10	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	AVX	06035A101JAT2A	0603	Fitted
3	C2, C3, C6	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E104KA01D	0603	Fitted
1	C4	CAP, CERM, 0.47uF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E474KA12D	0603	Fitted
1	C5	CAP, CERM, 1uF, 100V, +/-10%, X7R, 1210	TDK	C3225X7R2A105K200AA	1210	Fitted
1	C7	CAP, CERM, 1uF, 10V, +/-10%, X5R, 0603	Kemet	C0603C105K8PACTU	0603	Fitted
1	C8	CAP, CERM, 1uF, 35V, +/-10%, X5R, 0603	Taiyo Yuden	GMK107BJ105KA-T	0603	Fitted
1	C11	CAP, CERM, 4700pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E472KA01D	0603	Fitted
8	D1, D2, D3, D8, D9, D10, D11, D12	DIODE SCHOTTKY 20V 0.5A SOD523	Diodes Inc.	NSR0520V2T1G	SOD-523	Fitted
1	D4	Diode, Zener, 10V, 500mW, SOD-123	Diodes Inc.	MMSZ5240B-7-F	SOD-123	Fitted
1	D5	Diode, Zener, 20V, 5 W, SMB	Micro Commercial Components	SMBJ5357B-TP	SMB	Fitted
1	D6	Diode, Ultrafast, 200V, 1A, SMA	Central Semiconductor	CMR1U-02M	SMA	Fitted
1	D7	Diode, Ultrafast, 100V, 1A, SMA	Diodes Inc.	US1B-13-F	SMA	Fitted
1	F1	Fuse, 0.5A, 250V, SMD	Littelfuse	0443.500DR	FUSE 10.1x3.12x3.13mm	Fitted
2	J1, J2	Header, 3x1, 100mil, SMT	Mill-Max	800-10-003-10-001000	Header, 3x1, 100mil, TH	Fitted
2	J3, J4	Terminal Block, 2x1, 2.54mm, TH	TE Connectivity	282834-2	Terminal Block, 2x1, 2.54mm, TH	Fitted
1	L1	Inductor, Shielded, Ferrite, 2.2 uH, 0.8A, 0.23 ohm, SMD	MuRata	LQM21PN2R2NGC	0805	Fitted
2	Q2, Q3	Transistor, N-Chan GP, 45V, 100mA	Philips	BC850x	SOT23	Fitted
1	Q4	MOSFET N-CH 100V 4A POWER33	Fairchild Semiconductor	FDMC8622	8-MLP	Fitted
8	R1, R5, R6, R8, R9, R11, R14, R19	RES, 1.00k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-071KL	0603	Fitted
1	R2	RES, 499 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603499KFKEA	0603	Fitted
2	R3, R20	RES, 15.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060315K0FKEA	0603	Fitted
7	R4, R7, R12, R13, R15, R17, R18	RES, 100 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KFKEA	0603	Fitted
4	R10, R24, R28, R40	RES, 10.0k ohm, 0.1%, 0.1W, 0603	Yageo America	RT0603BRD0710KL	0603	Fitted
3	R16, R32, R39	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603000Z0EA	0603	Fitted
1	R21	RES 300 OHM 1/2W 5% 1210 SMD	Panasonic Electronic Components	ERJ-14YJ301U	1210	Fitted
5	R22, R27, R36, R37, R38	RES, 51.1 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060351K1FKEA	0603	Fitted
1	R23	RES, 178 ohm, 1%, 0.75W, 2010	Vishay-Dale	CRCW2010178RFKEF	2010	Fitted
1	R25	RES, 121 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603121KFKEA	0603	Fitted
1	R26	RES, 100, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100RFKEA	0603	Fitted
1	R29	RES, 196 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603196KFKEA	0603	Fitted
1	R33	RES, 0.39 ohm, 1%, 0.5W, 1210	Rohm	MCR25JZHFLR390	1210	Fitted
1	R34	RES, 0.2 ohm, 1%, 0.5W, 1210	Rohm	MCR25JZHFLR200	1210	Fitted
1	R35	RES, 20.0 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060320K0FKEA	0603	Fitted
1	RV1	VARISTOR 90V 2.5KA DISC 10MM	Bourns Inc.	V100ZA4P	Varistor, TH, 10MM	Fitted
1	U1	TVS DIODE 15VVM 29VC SC746	ON Semiconductor	SMS15T1G	SC-74	Fitted
1	U2	36V, Single-Supply, SOT553, Low-Power OPERATIONAL AMPLIFIERS Value Line Series, PW0014A	Texas Instruments	OPA4170AIPW	PW0014A	Fitted
1	U3	550 uA/Ch, 3 MHz, Rail-to-Rail Output Operational Amplifier, 2.7 to 16 V, -40 to 125 degC, 5-pin SOT23 (DBV0005A), Green (RoHS & no Sb/Br)	Texas Instruments	TLV271IDBVR	DBV0005A	Fitted
1	U4	POWER SAVING SOLENOID CONTROLLER WITH INTEGRATED SUPPLY REGULATION, PW0014A	Texas Instruments	DRV110APW	PW0014A	Fitted
0	C9	CAP, CERM, 0.01uF, 100V, +/-10%, X7R, 0805	AVX	08051C103KAT2A	0805	Not Fitted
0	R30	RES, 100 ohm, 0.1%, 0.125W, 0805	Yageo America	RT0805BRD07100RL	0805	Not Fitted
0	R31	RES, 1.00k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-071KL	0603	Not Fitted

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