

Bill of Materials

TI DESIGNS TIDA-00448
Flexible High Current IGBT Gate Driver with Reinforced Digital Isolator

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
1	IPC81	Printed Circuit Board	Any	TIDA-00448		Fitted
1	C1, C2, C3, C4, C6, C7, C9, C19, C20, C21, C40	CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0603	AVX	06035C104KAT2A	0603	Fitted
0	C10	CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 0805	AVX	08055C105KAT2A	0805	Fitted
1	C11, C15	CAP, AL, 100 µF, 25 V, +/- 20%, 0.34 ohm, SMD	Nichicon	UUD1E101MCL1GS	6.3x7.7	Fitted
1	C12, C13, C22	CAP, CERM, 10 µF, 35 V, +/- 10%, X7R, 1206	Taiyo Yuden	GMK316AB7106KL	1206	Fitted
3	C16, C17	CAP, CERM, 4.7 µF, 50 V, +/- 10%, X7R, 1206 190	Taiyo Yuden	UMK316AB7475KL-T	1206 190	Fitted
1	C18	CAP, CERM, 1000 pF, 50 V, +/- 10%, COG/NPO, 0603	AVX	06035A102KAT2A	0603	Fitted
1	C23, C24, C41	CAP, CERM, 75 pF, 50 V, +/- 5%, COG/NPO, 0603	MuRata	GRM1885C1H750JA01D	0603	Fitted
1	C5	CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 0603	Taiyo Yuden	UMK107AB7105KA-T	0603	Fitted
1	C8	CAP, CERM, 470 pF, 50 V, +/- 5%, COG/NPO, 0603	AVX	06035A471JAT2A	603	Fitted
1	D1	Diode, Schottky, 40 V, 3 A, SMA	ON Semiconductor	MBRA340T3G	SMA	Fitted
1	D13	LED, Yellow, SMD	Würth Elektronik	150060YS75000	LED_0603	Fitted
3	D14	LED, Super Red, SMD	Würth Elektronik	150060SS75000	LED_0603	Fitted
0	D18	Diode, Zener, 14 V, DO-214AC	Littelfuse Inc.	SMAJ14CA	SMA	Fitted
1	D2	Diode, Ultrafast, 1300 V, 1 A, SMA	Vishay-Semiconductor	BYG23T-M3/TR	SMA	Fitted
2	D20	Diode, Zener, 6.2 V, 200 mW, SOD-323	Diodes Inc.	MMSZ5234B5-7-F	SOD-323	Fitted
1	D4	Diode, Zener, 3 V, 500 mW, SOD-123	Vishay-Semiconductor	MMSZ4683-V	SOD-123	Fitted
2	D5, D6, D8	Diode, Switching, 75 V, 0.3 A, SOD-523	Micro Commercial Components	1N4148X-TP	SOD-523	Fitted
2	D9, D10, D11, D12	LED, Green, SMD	Würth Elektronik	150060GS75000	LED_0603	Fitted
1	FID1, FID2, FID3, FID4, FID5, FID6	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	Fiducial	Fitted
13	J1	Header, 2.54 mm, 6x1, Tin, TH	Molex	22-23-2061	Header, 2.54mm, 6x1, TH	Fitted
1	J2	Header (friction lock), 100mil, 4x1, Gold, TH	Molex	0022112042	Header 4x1 keyed	Fitted
1	LBL1	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Brady	THT-14-423-10	PCB Label 0.650" H x 0.200" W	Fitted
1	M1	IGBT, MOD NX, 450A, 1200V, DUAL	POWEREX INC	CM450DX-2451	N/A	Fitted
11	Q1	Synchronous Buck NexFET Power Block, DQY0008A	Texas Instruments	CSD87353Q5D	DQY0008A	Fitted
0	Q2, Q7	MOSFET, N-CH, 30 V, 5 A, SON 2x2mm	Texas Instruments	CSD17131Q2	SON 2x2mm	Fitted
1	Q3, Q4, Q6, Q9	Transistor, NPN, 40 V, 0.2 A, SOT-523	Diodes Inc.	MMBT3904T-7-F	SOT-523	Fitted
3	Q8	Bipolar, PNP, -40V, -200mA, -200mW	Diodes	MMBT3906T-7-F	SOT-523	Fitted
2	R1	RES, 10, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060310R0JNEA	0603	Fitted
7	R11, R12	RES, 1.8 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06031K80JNEA	0603	Fitted
2	R18, R43, R49	RES, 10 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060310K0JNEA	0603	Fitted
8	R2, R58	RES, 1.00, 1%, 1 W, 2512	Vishay-Dale	CRCW25121R00FKEG	2512	Fitted
2	R22, R26	RES, 0, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06030000Z0EA	0603	Fitted
1	R28	RES, 332 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603332KFKEA	0603	Fitted
1	R29	RES, 100 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KFKEA	0603	Fitted
1	R3, R55	RES, 2.00, 1%, 1 W, 2512	Vishay-Dale	CRCW25122R00FKEG	2512	Fitted
1	R30	RES, 100 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KJNEA	0603	Fitted
3	R31	RES, 15, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060315R0JNEA	0603	Fitted
1	R33, R35	RES, 220 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-07220KL	0603	Fitted
1	R34	RES, 0, 5%, 0.063 W, 0402	Vishay-Dale	CRCW04020000Z0ED	0402	Fitted
2	R36	RES, 9.76 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-079K76L	0603	Fitted
1	R37	RES, 4.12 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-074K12L	0603	Fitted
0	R39, R53	RES, 15 k, 5%, 0.1 W, 0603	Yageo America	RC0603JR-0715KL	0603	Fitted
1	R4, R7, R10, R17, R19, R20, R21, R23, R25, R27, R44, R51,	RES, 4.7 k, 5%, 0.1 W, 0603	Yageo America	RC0603JR-074K7L	0603	Fitted
0	R42, R57	RES, 2.2 k, 5%, 0.1 W, 0603	Yageo America	RC0603JR-072K2L	0603	Fitted
2	R46, R47	RES, 330, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603330RJNEA	0603	Fitted
1	R5	RES, 390, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603390RJNEA	0603	Fitted
1	R50	RES, 20, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060320R0JNEA	0603	Fitted
1	R59	RES, 10.0, 1%, 0.25 W, 0603	Vishay-Dale	CRCW060310R0FKEAHP	0603	Fitted
2	R6	RES, 150, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603150RJNEA	0603	Fitted
3	R60	RES, 470, 5%, 0.1 W, 0603	Vishay-Dale	CRCW0603470RJNEA	0603	Fitted
1	R8, R14, R15, R32, R41, R45, R52, R56	RES, 1.0 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00JNEA	0603	Fitted
1	R9	RES, 2.2 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW06032K20JNEA	0603	Fitted
4	TP1, TP2, TP3, TP4, TP7, TP9, TP10	Test Point, Miniature, Red, TH	Keystone	5000	Red Miniature Testpoint	Fitted
1	TP5, TP6, TP8	Test point, 40 mil SMT	None	None	None	Fitted
1	U1	High-Performance, 8000 VPK Reinforced Quad Channel Digital Isolator, DW0016B	Texas Instruments	ISO7842DWR	DW0016B	Fitted
1	U2	Synchronous Buck FET Driver Optimized for High-Frequency Applications, DSG0008A	Texas Instruments	TPS51604DSG	DSG0008A	Fitted
4	U3	40-ns, microPOWER, Push-Pull Output Comparators, DBV0005A	Texas Instruments	TLV3201DBV	DBV0005A	Fitted
1	U4	Single Output LDO, 50 mA, Adjustable 1.175 to 26 V Output, 7 to 28 V Input, 8-pin MSOP (DGN), -40 to 125 degC, Green (RoHS & no Sb/Br)	Texas Instruments	TPS7A4201DGNT	DGN0008B	Fitted
1	U5	IC, High Voltage, Over-Under Voltage Supervisory	Texas Instruments	TPS3700DDC	SOT-23	Fitted
1	U6	IC, Single Bus Buffer Gate With 3-States Outputs, OE Active Low	Texas Instruments	SN74LVC1G125DCK	DCK	Fitted

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