

Bill of Materials

TI DESIGNS TIDA-00195

Isolated IGBT Gate driver evaluation platform for 3 phase inverter system

Qty	Reference	Part Description	Manufacturer	Manufacturer Part Number	PCB Footprint	Note
1	U19	IC REG CONV PWR SUPPLIES SOT23-5	Texas Instruments	SN6501DBVR	SOT23	Fitted
1	U16	IC DVR HIGH/LOW SIDE 4A 10WSON	Texas Instruments	UCC27211DPRT	10WSON	Fitted
4	U2, U3, U4, U5	IC BUS BUFF TRI-ST QD 14TSSOP	Texas Instruments	SN74ALVC125PWR	TSSOP-14	Fitted
1	U15	MOSFET 2N-CH 60V 15A 8SOIC	Texas Instruments	CSD88537ND	8-SOIC	Fitted
1	U17	IC REG BUCK ADJ 2A DL 14HTSSOP	Texas Instruments	TPS54286PWPR	14HTSSOP	Fitted
1	U14	IC OPAMP ISOLATION 100KHZ 8SOP	Texas Instruments	AMC1200SDUBR	8SOP	Fitted
1	U18	IC REG LDO 3.3V 0.5A TO252-3	Texas Instruments	LP38691DTX-3.3/NOPB	TO-252	Fitted
1	U1	IGBT Modules IGBT 1200V 200A	Infineon Technologies AG	FS200R12KT4R	-	Not fitted
1	U1	IGBT Modules IGBT 1200V 50A	Infineon Technologies AG	FS50R12KT4_B15	-	Not fitted
1	U1	1200V IGBT MODULE 150A	Fuji Electric	7MBR150VX120-50	-	Not fitted
1	U1	1200V IGBT module 50A	Fuji Electric	7MBR50VX120-50	-	Not fitted
1	U1	IGBT MOD NX 150A 1200V 6-PAC	Mitsubishi Electric	CM150TX-24S1	-	Fitted
7	U7, U9, U20, U22, U24, U26, U11	Isolated IGBT gate driver 2.5A/5A source/sink current	Texas Instruments	ISO5258S	16 pin SOW	Fitted
1	Q3	TRANS NPN/PNP 45V 100MA 6TSSOP	NXP Semiconductors	BC847BPN,115	6TSSOP	Fitted
1	Q5	TRANS SS SW NPN 600MA 40V SOT223	ON Semiconductor	PZT2222AT3G	SOT223	Fitted
1	Q4	MOSFET N-CH 60V 50A 8SON	Texas Instruments	CSD18531Q5A	VSON-8	Fitted
6	Q6, Q10, Q14, , Q18, Q22, Q26	TRANSISTOR PWR COMPL DPAK	STMicroelectronics	MJD3055T4	DPAK	Fitted
6	Q9, Q13, Q17, Q21, Q25, Q29	MOSFET P-CH 80V 50A DPAK	Vishay Semiconductors	SUD50P08-25L-E3	DPAK	Not Fitted
6	Q7, Q11, Q15, Q19, Q23, Q27	MOSFET N-CH 80V 40A TO252	Vishay Siliconix	SUD40N08-16-E3	DPAK	Not Fitted
6	Q8, Q12, Q16, Q20, Q24, Q28	TRANS PWR PNP 10A 60V DPAK	STMicroelectronics	MJD2955T4	DPAK	Fitted
1	Q1	IGBT 1200V 160A 961W TO264	Microsemi Corporation	APT70GR120L	TO264	Fitted
2	D1, D2	DIODE FAST REC 1.2KV 75A TO247	Fairchild Semiconductor Corporation	RHRG75120	TO-247	Fitted
7	D24, D26, D39, D47, D51, D55, D59	DIODE ZENER 12V 200MW SOD323F	Fairchild Semiconductor Corporation	MM3Z12VB	SOD-323F	Fitted
1	D63	DIODE ZENER 5.1V 200MW SOD323F	Fairchild Semiconductor Corporation	MM3Z5V1B	SOD-323F	Fitted
2	D40, D41	DIODE SCHOTTKY 20V 0.5A SOD123	ON Semiconductor	MBR0520LT3G	SOD-123	Fitted
25	D12, D13, D14, D15, D16, D17, D18, D19, D64, D65, D66, D67, D68, D76, D77, D78, D79, D80, D69, D70, D71, D72, D73, D74, D75	DIODE SCHOTTKY 60V 1A PMDU	ROHM Semiconductor	RB160M-60TR	SOD-123	Fitted
13	D3, D5, D20, D21, D22, D42, D43, D44, D48, D52, D56, D60, D61	DIODE SCHOTTKY 100V 3A DO214AC	Micro Commercial Components	SK310A-LTP	SMA	Fitted
1	D11	DIODE GEN PURP 100V 5A DO214AB	Vishay Semiconductors	S5B-E3/57T	SMC	Fitted
14	D4, D6, D10, D23, D25, D45, D46, D49, D50, D53, D54, D57, D58, D62	DIODE GEN PURP 1.6KV 1A DO213AB	Vishay Intertechnologies	GL41Y-E3/96	DO-213AB	Fitted
17	D7, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D81, D82, D83, D84	LED GREEN CLEAR 0805 SMD	Lite-On Semiconductor Corporation	LTST-C170GKT	0805	Fitted

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1	D8	LED RED ORANGE CLEAR 0805 SMD	Lite-On Semiconductor Corporation	LTST-C170EKT	0805	Fitted
1	RT1	THERMISTOR PTC 100 OHM 800V	TDK Epcos	B59109J130A20	Radial	Fitted
20	R7, R37, R107, R122, R135, R138, R146, R150, R162, R165, R173, R177, R184, R186, R188, R190, R192, R194, R182	RES 0.0 OHM 1W JUMP 2512	Samsung Electro-Mechanics	RC6432J000CS	2512	Fitted
13	R48, R233, R234, R236, R237, R239, R240, R242, R243, R245, R246, R248, R251	RES 0.0 OHM 1W JUMP 2512	Samsung Electro-Mechanics	RC6432J000CS	2512	Not Fitted
7	R36, R42, R103, R137, R149, R164, R176,	RES 10 OHM 1W 1% 2512 SMD	Panasonic Electronic Components	ERJ-1TYF100U	2512	Fitted
12	R121, R134, R145, R161, R172, R183, R185, R187, R189, R191, R193, R195	RES 2.2 OHM 1W 1% 2512 SMD	Panasonic Electronic Components	ERJ-1TRQF2R2U	2512	Fitted
6	R208, R209, R210, R211, R212, R213	RES 200K OHM 1W 1% 2512 SMD	Vishay Dale	CRCW2512200KFKEG	2512	Fitted
3	R47, R52, R154	RES 120 OHM 1/16W 1% 0402 SMD	Vishay Dale	CRCW0402120RFKED	0402	Fitted
1	R153	RES 300 OHM 1/16W 1% 0402 SMD	Vishay Dale	CRCW0402300RFKED	0402	Fitted
19	R9, R10, R11, R68, R69, R70, R71, R72, R73, R74, R96, R98, R214, R215, R216, R217, R218, R219, R220	RES 10.0 OHM 1/10W 1% 0603 SMD	Vishay Dale	CRCW060310R0FKEA	0603	Fitted
17	R12, R16, R17, R18, R19, R20, R23, R24, R25, R26, R27, R64, R65, R75, R88, R106, R180	RES 10K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF1002V	0603	Fitted
1	R85	RES 1K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF1001V	0603	Fitted
1	R101	RES 2.87K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF2871V	0603	Fitted
3	R50, R53, R100	RES 20K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF2002V	0603	Fitted
2	R93, R94	RES 3.30 OHM 1/10W 1% 0603 SMD	Vishay Intertechnologies	CRCW06033R30FKEA	0603	Fitted
1	R102	RES 3.83K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF3831V	0603	Fitted
1	R97	RES 51.1K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Components	ERJ-3EKF5112V	0603	Fitted
7	R2, R4, R6, R109, R111, R113	RES 620 OHM 1/10W 1% 0603 SMD	Vishay Dale	CRCW0603620RFKEA	0603	Fitted
1	RL1	RELAY GEN PURPOSE SPST 48A 24V	Panasonic Electric Works	HE1aN-P-DC24V-Y5	-	Fitted
4	R14, R15, R21, R22	RES 10.0 OHM 1/8W 1% 0805 SMD	Vishay Dale	CRCW080510R0FKEA	0805	Fitted
14	R60, R62, R66, R82, R117, R119, R128, R130, R140, R142, R155, R157, R167, R169	RES 0.0 OHM 1/8W JUMP 0805 SMD	Panasonic Electronic Components	ERJ-6GEY0R00V	0805	Fitted
14	R61, R63, R67, R105, R118, R120, R129, R131, R141, R143, R156, R158, R168, R170	RES 0.0 OHM 1/8W JUMP 0805 SMD	Panasonic Electronic Components	ERJ-6GEY0R00V	0805	Not Fitted
7	R1, R3, R5, R108, R110, R112, R116	RES 1.3K OHM .4W 1% 0805 SMD	ROHM Semiconductor	ESR10EZPF1301	0805	Fitted
7	R39, R45, R59, R132, R144, R159, R171	RES 1K OHM 1/8W 1% 0805 SMD	Panasonic Electronic Components	ERJ-6ENF1001V	0805	Fitted
2	R90, R91	RES 17.8 OHM 1/8W 1% 0805 SMD	Vishay Dale	CRCW080517R8FKEA	0805	Fitted

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12	R35, R38, R41, R44,R136, R139, R148, R151, R163, R166, R175, R178	RES 220 OHM 1/8W 1% 0805 SMD	Panasonic Electronic Components	ERJ-6ENF2200V	0805	Not Fitted
1	R104	RES 470 OHM 1/8W 1% 0805 SMD	Panasonic Electronic Components	ERJ-6ENF4700V	0805	Fitted
18	R8, R13, R34, R40, R51, R54, R84, R86, R89, R92, R123, R124, R125, R133, R147, R160, R174, R232	RES 0.0 OHM 1/4W JUMP 1206 SMD	Vishay Dale	CRCW12060000Z0EA	1206	Fitted
8	R49, R95, R99, R235, R238, R241, R244, R247	RES 0.0 OHM 1/4W JUMP 1206 SMD	Vishay Dale	CRCW12060000Z0EA	1206	Not Fitted
3	R200, R55, R58,	RES SMD 47 OHM 1% 1/8W 0805	Panasonic Electronic Components	ERJ-6ENF47R0V	0805	Fitted
1	R179	RES SMD 200 OHM 1% 1/10W 0603	Panasonic Electronic components	ERJ-3EKF2000V	0603	Fitted
2	R83, R87	RES SMD 10 OHM 1% 1/4W 1206	Panasonic Electronic components	ERJ-8ENF10R0V	1206	Fitted
6	R76, R77, R78, R79, R80, R81	RES 1M OHM .4W 1% SMD 1206	Vishay Intertechnologies	MCA12060C1004FP500	1206	Fitted
1	R152	RES 2.37K OHM 1/2W 1% 1210 SMD	Vishay Intertechnologies	CRCW12102K37FKEA	1210	Fitted
12	C2, C8, C12, C15, C19, C22, C95, C100, C106, C111, C115, C136	CAP ALUM 47UF 50V 20% SMD	Panasonic Electronic Components	EEE-FK1H470XP	Radial, Can-SMD	Fitted
7	C29, C46, C54, C63, C134, C145, C156	CAP TANT 4.7UF 50V 10% 2917	Vishay Intertechnologies	TR3D475K050C0300	2917	Not Fitted
17	C25, C35, C36, C42, C51, C52, C59, C60, C69, C91, C94, C98, C101, C104, C107, C168, C169	CAP ALUM 10UF 50V 20% SMD	Panasonic Industrial Company	EEE-TG1H100P	Radial, Can - SMD	Fitted
1	C89	CAP ALUM 68UF 50V 20% SMD	Panasonic Industrial Company	EEH-ZA1H680P	Radial, Can - SMD	Not Fitted
1	C110	CAP ALUM 0.1UF 50V 20% SMD	Nichicon Corporation	UWX1HOR1MCL1GB	Radial, Can - SMD	Fitted
1	C154	CAP FILM 0.22UF 1.6KVDC AXIAL	Cornell Dubilier Electronics	940C16P22K-F	Axial	Fitted
3	C3, C6, C7	CAP ALUM 680UF 500V 20% SNAP	KEMET Corporation	ALC10A681DL500	Radial, Can - Snap-In	Fitted
6	C88, C97, C158, C165, C167, C170	CAP TANT 3.3UF 50V 10% 2917	Vishay Intertechnologies	293D335X9050D2TE3	2917	Fitted
6	C38, C55, C71, C142, C153, C164	CAP CER 10000PF 100V X7R 1206	AVX Corporation	12061C103K4T2A	1206	Fitted
27	C1, C4, C9, C11, C13, C16, C18, C20, C23, C41, C44, C47, C93, C96, C102, C105, C108, C112, C114, C116, C117, C118, C124, C129, C130, C131, C143	CAP CER 10UF 50V 10% X5R 1206	Samsung Electro-Mechanics	CL31A106KBHNNNE	1206	Fitted
14	C173, C174, C176, C177, C179, C180, C182, C183, C185, C186, C188, C189, C191, C192	CAP CER 1UF 50V 10% X7R 0805	Samsung Semiconductor	CL21B105KBFNNNE	0805	Fitted
7	C39,C56,C66,C150,C161,C73,C139	CAP CER 100PF 50V 5% NPO 0805	Samsung Semiconductor	CL21C101JBANNNC	0805	
7	C40, C57, C64, C74, C138, C149, C160	CAP CER 200PF 50V 5% NPO 0805	Samsung Electro-Mechanics	CL21C201JBANNNC	0805	Not fitted
5	C123, C125, C127, C128, C166	CAP CER 4.7UF 50V 10% X5R 0805	Samsung Electro-Mechanics	CL21A475KBQNNNE	0805	Fitted
26	C28, C31, C33, C37, C43, C45, C48, C50, C53, C58, C61, C62, C65, C67, C83, C84, C90, C133, C135, C137, C144, C146, C148, C155, C157, C159, C197	CAP CER 0.1UF 50V 10% X7R 0603	TDK Corporation of America	C1608X7R1H104K080AA	0603	Fitted
2	C119, C120	CAP CER 0.033UF 50V 20% X5R 0603	TDK Corporation	C1608X5R1H333M080AA	0603	Fitted
1	C49	CAP CER 0.33UF 50V 10% X7R 0603	TDK	C1608X7R1H334K080AC	0603	Fitted
15	C24, C34, C68, C70, C76, C77, C78, C79, C80, C81, C82, C195, C196	CAP CER 10000PF 50V 10% X7R 0603	TDK	C1608X7R1H103K080AA	0603	Fitted
3	C30,C32,C85	CAP CER 10000PF 50V 10% X7R 0603	TDK	C1608X7R1H103K080AA	0603	Not Fitted

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2	C121, C122	CAP CER 1000PF 50V 5% NPO 0603	Murata Manufacturing Co Ltd	GRM1885C1H102JA01D	603	
2	C86, C87	CAP CER 10PF 50V 5% NPO 0603	AVX Corporation	06035A100JAT2A	603	
7	C184,C190,C187,C181,C178,C175,C172	CAP CER 1UF 50V 10% X5R 0603	TDK	C1608X5R1H105K080AB	0603	Fitted
2	C168,C169	CAP ALUM 10UF 50V 20% SMD	Nichicon Corporation	UZG1H100MCL1GB	Radial, Can - SMD	Fitted
12	C5, C10, C14, C17, C21, C92, C99, C103, C109, C113, C126, C147	CAP CER 0.1UF 50V 5% X7R 0805	AVX Corporation	08055C104JAT2A	805	
2	C26, C27	CAP CER 1500PF 50V 10% X7R 0603	KEMET Corporation	C0603C152K5RACTU	0603	Fitted
1	L2	INDUCTOR SHIELD PWR 47UH 10145	TDK	SLF10145T-470M1R4-PF	-	Fitted
1	L1	INDUCTOR SHIELD PWR 100UH 7045	TDK	SLF7045T-101MR50-PF	-	Fitted
1	T1	TRANSFORMER SMD	Würth Elektronik	750313734	-	Fitted
3	T2, T3, T4	TRANSFORMER	Würth Elektronik	750342573	-	Fitted
22	J1, J3, J6,, J8, J11 J14, J16, J17, J18, J19, J22, J24, J25, J26, J28, J30, J31, J34, J36, J37, J40, J42	CONN JUMPER SHORTING .100" GOLD	Sullins Connector Solutions	QPC02SXGN-RC	2pin THT	Fitted
14	J2,J4, J7, J9,J20, J21,J26,J27, J32, J33, J38,J39, J12, J14	CONN JUMPER SHORTING .100" GOLD	Sullins Connector Solutions	QPC02SXGN-RC	2pin THT	Not Fitted
34	J1, J2, J3, J4, J6, J7, J8, J9, J11, J12, J14, J16, J17, J18, J19, J20, J21, J22, J24, J25, J26, J27, J28, J30, J31, J32, J33, J34, J36, J37, J38, J39, J40, J42	SIL VERTICAL PC TAIL PIN HEADER_	Harwin	M20-9990245	-	Fitted
4	CN1, CN2, CN11, CN12	POWER ELEMENT BUSH 2ROW M4 8PIN	Würth Elektronik	7460307	-	Fitted
1	CN10	CONN HEADER 2POS 2MM VERT T/H	TE Connectivity	440054-2	Through hole	Fitted
1	CN3	TERM BLOCK PWR 3POS 15MM	TE Connectivity	1986242-3	-	Fitted
2	CN6, CN9	CONN HEADER 20POS .100 STR TIN	FCI	67996-420HLF	20 pin THD	Fitted
1	P1	CONN TERMINAL BLOCK 2POS 3.5MM	Molex	393570002	-	Fitted
4	Screws for CN1, CN2, CN11, CN12	MACHINE SCREW PAN PHILLIPS M4	APM Hexseal	RM4X6MM 2701	M4	Fitted
1	Mating Connector for CN10	CONN RCPT HOUSING 2POS 2.0MM	TE Connectivity	440129-2	-	Fitted
2	Crimp for CN10	CONN SOCKET 24-30AWG TIN	TE Connectivity	1735801-1	-	Fitted
3	Screws for Diodes & IGBT (Q1, D1, D2)	MACHINE SCREW PAN PHILLIPS M3	APM HEXSEAL	RM3X10MM 2701	M3	Fitted
2	FAN	4" DC FAN 24 V DC 120X120X38MM BALL BEARING,HICOOL	Hicool	4"12P 24HBDC	-	Fitted
1	Heatsink	BONDED FIN HEATSINK	C&H Technology	CH5118	-	Fitted
6	PCB mounting screws, IGBT screws		B&H fastener supply	MPMS 005 0006 PH		
8	Board spacer	17mm Spacer	-	-	-	Fitted
1	Thermal silicon pad	TFLEX 220V0 9X9"	Laird technologies - Thermal materials	A14162-25	-	Fitted
3	Copper block	Copper block for IGBT and Diodes	-	-	35mm X 50mm	Fitted
8	Fan Screws					

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