

Bill of Materials

TI DESIGNS TIDA-00446
Small Form-Factor Reinforced Isolated IGBT Gate Drive Reference design for 3 Phase Inverter

| Quantity | Designator | Description | Manufacturer | PartNumber | PackageReference | Fitted |
|----------|---|--|---------------------------|---------------------|---------------------------------|------------|
| 1 | !PCB | Printed Circuit Board | Any | TIDA-00446_E2 | | Fitted |
| 24 | C1, C2, C5, C10, C11, C21, C22, C23, C24, C25, C26, C30, C33, C34, C36, C40, C43, C45, C46, C50, C53, C54, C56, C60 | CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0603 | MuRata | GRM188R71H104KA93D | 0603 | Fitted |
| 6 | C3, C12, C14, C35, C44, C55 | CAP, CERM, 1 µF, 30 V, +/- 10%, X7R, 0603 | TDK | C1608X7R1V105K080AC | 0603 | Fitted |
| 12 | C4, C13, C28, C38, C48, C58, C64, C65, C66, C67, C68, C69 | CAP, CERM, 10 µF, 35 V, +/- 10%, X7R, 1206_190 | TDK | C3216X7R1V106K160AC | 1206_190 | Fitted |
| 6 | C6, C15, C27, C37, C47, C57 | CAP, CERM, 10 µF, 10 V, +/- 20%, X6S, 0603 | MuRata | GRM188C81A106MA73D | 0603 | Fitted |
| 6 | C7, C16, C29, C39, C49, C59 | CAP, CERM, 220 pF, 50 V, +/- 10%, X7R, 0402 | MuRata | GRM155R71H221KA01D | 0402 | Fitted |
| 13 | C8, C9, C17, C18, C31, C32, C41, C42, C51, C52, C61, C62, C63 | CAP, CERM, 22 pF, 50 V, +/- 1%, C0G/NP0, 0402 | MuRata | GRM1555C1H220FA01D | 0402 | Fitted |
| 1 | C19 | CAP, CERM, 47 µF, 16 V, +/- 20%, X5R, 1210 | MuRata | GRM32ER61C476ME15L | 1210 | Fitted |
| 1 | C20 | CAP, CERM, 4.7 µF, 10 V, +/- 10%, X7S, 0603 | TDK | C1608X7S1A475K080AC | 0603 | Fitted |
| 12 | D1, D3, D7, D9, D14, D17, D21, D23, D27, D29, D33, D35 | Diode, Schottky, 40 V, 0.5 A, SOD-123 | ON Semiconductor | MBR0540T1G | SOD-123 | Fitted |
| 6 | D2, D8, D15, D22, D28, D34 | Diode, Ultrafast, 1200 V, 1 A, SMA | STMicroelectronics | STTH112A | SMA | Fitted |
| 6 | D4, D10, D18, D24, D30, D36 | Diode, Schottky, 40 V, 1 A, SOD-123 | Diodes Inc. | 1N5819HW-7-F | SOD-123 | Fitted |
| 6 | D6, D12, D20, D26, D32, D38 | Diode, Schottky, 30 V, 0.2 A, SOD-323 | Diodes Inc. | BAT54WS-7-F | SOD-323 | Fitted |
| 1 | D13 | Diode, Schottky, 40 V, 3 A, SMB | Diodes Inc. | B340LB-13-F | SMB | Fitted |
| 5 | H1, H2, H3, H4, H10 | Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead | B&F Fastener Supply | NY PMS 440 0025 PH | Screw | Fitted |
| 5 | H5, H6, H7, H8, H9 | Standoff, Hex, 0.5"L #4-40 Nylon | Keystone | 1902C | Standoff | Fitted |
| 1 | J1 | Terminal Block, 2x1, 2.54mm, TH | TE Connectivity | 282834-2 | Terminal Block, 2x1, 2.54mm, TH | Fitted |
| 1 | J2 | Header, 100mil, 6x2, Gold, TH | TE Connectivity | 87227-6 | Header, 6x2, 100mil, Gold | Fitted |
| 6 | J3, J4, J5, J6, J7, J8 | Terminal Block, 3x1, 5.08 mm, TH | On-Shore Technology | OSTTA034163 | 3x1 Terminal Block | Fitted |
| 1 | Q1 | Transistor, NPN, 30 V, 0.1 A, SOT-23 | ON Semiconductor | BC848CLT1G | SOT-23 | Fitted |
| 6 | R1, R6, R8, R21, R26, R31 | RES, 10, 5%, 0.063 W, 0402 | Vishay-Dale | CRCW040210R0JNED | 0402 | Fitted |
| 6 | R3, R10, R15, R22, R27, R32 | RES, 1.0 k, 5%, 0.125 W, 0805 | Vishay-Dale | CRCW08051K00JNEA | 0805 | Fitted |
| 6 | R5, R12, R19, R24, R29, R34 | RES, 4.7, 5%, 0.33 W, 1206 | Stackpole Electronics Inc | RPC1206JT4R70 | 1206 | Fitted |
| 6 | R7, R14, R20, R25, R30, R35 | RES, 4.7, 5%, 0.25 W, 0805 | Stackpole Electronics Inc | RPC0805JT4R70 | 0805 | Fitted |
| 1 | R9 | RES, 22 k, 5%, 0.1 W, 0603 | Vishay-Dale | CRCW060322K0JNEA | 0603 | Fitted |
| 2 | R13, R36 | RES, 100 k, 5%, 0.1 W, 0603 | Vishay-Dale | CRCW0603100KJNEA | 0603 | Fitted |
| 2 | R16, R17 | RES, 10 k, 5%, 0.063 W, 0402 | Vishay-Dale | CRCW040210K0JNED | 0402 | Fitted |
| 6 | T1, T2, T3, T4, T5, T6 | Transformer, 50 µH, SMT | Würth Elektronik | 750342879 | 9.14x8mm | Fitted |
| 6 | U1, U3, U5, U7, U9, U11 | Low-Noise 1A Transformer Drivers for Isolated Power Supplies, DBV0006A | Texas Instruments | SN6505BDBVR | DBV0006A | Fitted |
| 6 | U2, U4, U6, U8, U10, U12 | High-CMTI 2.5-A / 5-A Isolated IGBT, MOSFET Gate Driver with Active Safety Features, DW0016B | Texas Instruments | ISO5851DWR | DW0016B | Fitted |
| 1 | U13 | 150-mA, 6.5-V, 1-µA IQ Voltage Regulators with Enable, DRV0006A | Texas Instruments | TPS70633DRVR | DRV0006A | Fitted |
| 6 | D5, D11, D19, D25, D31, D37 | LED, Green, SMD | OSRAM | LG L29K-G2J1-24-Z | 1.7x0.65x0.8mm | Not Fitted |
| 6 | R4, R11, R18, R23, R28, R33 | RES, 4.99 k, 1%, 0.063 W, 0402 | Vishay-Dale | CRCW04024K99FKED | 0402 | Not Fitted |

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