DATASHEET 1IPSE1W17-50

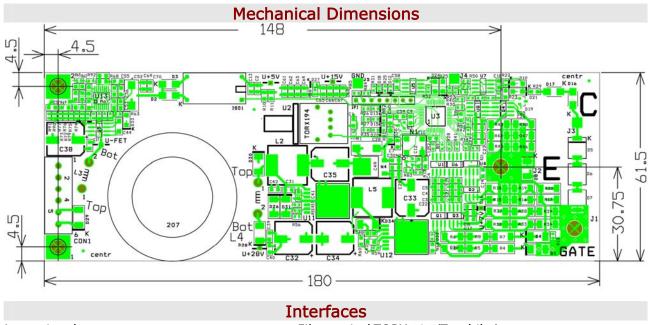


DIGITAL HIGH POWER IGBT GATE DRIVER

Main Features

- Single channel for dual- and multilevel topology
- Smart switching with variable gate resistors
- Tuned according to the application
- Reliable protection against
 - over-current in all short circuit conditions
 - over-voltage during turn-off
- Advanced control and protection functions
 - two level desaturation monitoring
 - di/dt monitoring
 - feedback clamping with active function
 - multiple soft shut down
 - supply voltage monitoring
 - digital input filter for switching signals
- DC/DC converter included
- Wire connection with every type of IGBT module





| Interfaces | | |
|---|---|--|
| Input signal: | Fibreoptical TORX 194 (Toschiba) | |
| Used optocoupler for ERROR feedback signal: | CNY66 | |
| DC supply on PCB | FKC 2,5/2-STF-5,08 (Phoenix) | |
| Connector: | 1 x MSTBV 2,5/2-GF-5,08, (part no. 1777073) (Phoenix) | |
| | | |

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| Key Data | | |
|--|-----------------------------------|--------------------|
| Parameter | Symbol | Value (at +25°C) |
| Max. collector-emitter voltage | V _{CE} | 1700V |
| Input supply voltage range | V _{DC} | +15 to +30V |
| Output voltage: ON/OFF voltage | V _{ON} /V _{OFF} | +15/-7V |
| Isolation testing voltage (V _{AC} RMS 50Hz / 1 min) | V _{ISOL} | 5000V |
| Switching frequency (max.) | f _{S max} | 200kHz |
| Peak output current | l _G | ±70A |
| Peak output power | P _{DC/DC} | 15W |
| Quiescent current typically | I _{DC} | 0.25A (at 24V) |
| Max. input current at max. load | I _{DC max} | 0.95A (at 24V) |
| Coupling capacitance primary / secondary side | Cio | typ. 1pF, max. 2pF |
| Switching frequency of isolated converter | f _{SMPC max} | 0.5MHz |
| Creepage distance | | >15mm |
| Frequency of logic controller | f | 20MHz |
| Operating temperature (measured close to driver surface) | T _{OP} | -40 to +85°C |
| Storage temperature | T _{st} | -40 to +85°C |
| Input driving signal | optical | 660nm |
| Output error signal | electrical | |
| Turn-on / turn-off delay time | t_{pdON}/t_{pdOFF} | 400nsec |
| Typical time of soft shut down | t _{SSD} | 1-2µsec |
| Max. system time between fault detection and error notification | t _{sys} | 100nsec |
| Time between detection of desaturation and gate voltage falling edge | t _{pDES} | 300nsec |

Connections

Max. length of coaxial cable: 30cm. Max. length of simple cable: 7cm. For gate and auxiliary emitter connections use coaxial cable RG58 C/U with auxiliary emitter connected to the shielding. For power emitter and auxiliary collector it is recommended to use HV isolation cable, for instance Radox 9 GKW-AX, 1.5mm².