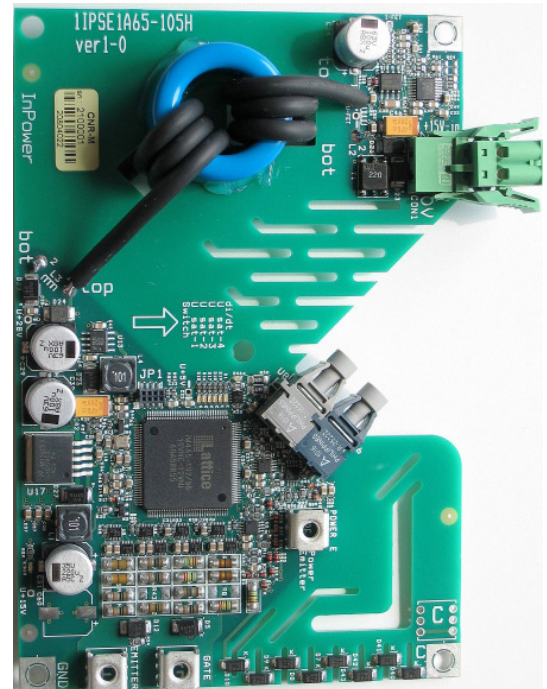


DIGITAL HIGH POWER IGBT GATE DRIVER

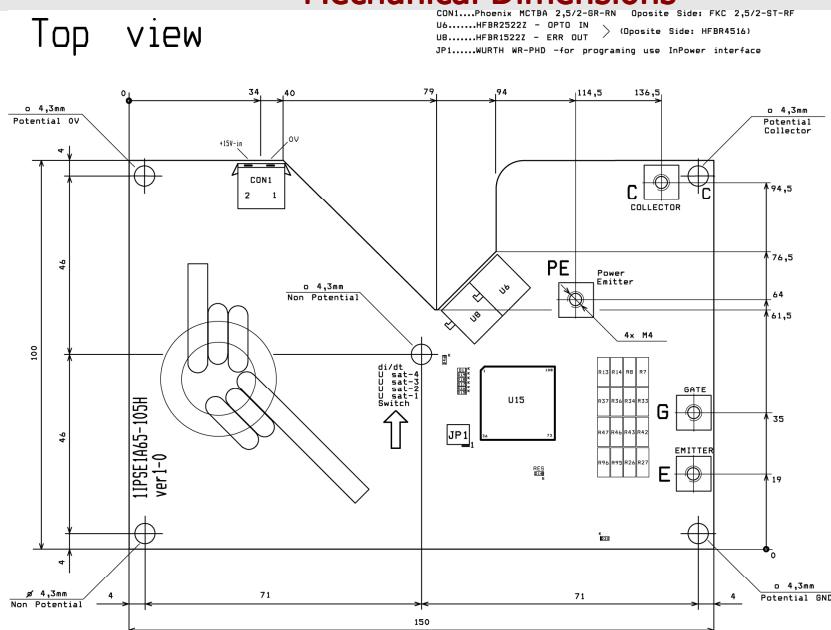
Main Features

- 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
 - four level desaturation monitoring
 - two level 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
- Cable connection with adaptation board matched for every type of IGBT module



Mechanical Dimensions

Top view



LEDs Diagnostic:

D1.....di/dt PROTECTION
 D19.....Ueat-4 PROTECTION
 D18.....Ueat-3 PROTECTION
 D17.....Ueat-2 PROTECTION
 D16.....Ueat-1 PROTECTION
 D15.....SWITCH
 D14.....+5V OK
 D20.....+15V OK
 D14.....RES RESET

| InPower | | |
|---------|--------------------|--------------|
| Size | Document | Version |
| A4 | DIM-1IPSE1A65-105H | ver1-0 |
| Date | 28/III 2011 | Sheet 1 of 1 |

Key Data

| Parameter | Symbol | Value (at +25°C) |
|--|------------------|------------------|
| Max. collector-emitter voltage | V_{CE} | 6500V |
| Input supply voltage range | V_{DC} | +14 to +30V |
| Output voltage: ON/OFF voltage | V_{ON}/V_{OFF} | $\pm 15V$ |
| Isolation testing voltage (V_{AC} RMS 50Hz / 1 min) | V_{ISOL} | 10500V |
| Switching frequency (max.) | $f_{S\ max}$ | 120kHz |
| Peak output current | I_G | $\pm 70A$ |
| Peak output power | $P_{DC/DC}$ | 3W |
| Quiescent current typically | I_{DC} | 0.25A (at 15V) |
| Max. input current at max. load | $I_{DC\ max}$ | 0.50A (at 15V) |
| Coupling capacitance primary/secondary side (typ.) | C_{io} | 2pF |
| Switching frequency of isolated converter | $f_{SMPC\ max}$ | 0.5MHz |
| Creepage distance | | >65mm |
| Frequency of logic controller | f | 20MHz |
| Operating temperature (measured on driver surface) | T_{OP} | -40 to +85°C |
| Storage temperature | T_{ST} | -40 to +85°C |
| Input driving and output error signal | optical | 660nm |
| Turn-on delay time | t_{pdON} | 400nsec |
| Turn-off delay time | t_{pdOFF} | 400nsec |
| Typical time of soft shut down | t_{SSD} | 1-2 μ sec |
| 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 |

Interfaces

| Interface | Part Type | Remarks |
|---------------------|------------------------------|--|
| Optical Receiver | HFBR-2531Z (Avago) | For suitable connectors see www.avagotech.com |
| Optical Transmitter | HFBR-1531Z (Avago) | |
| DC supply on PCB | FKC 2,5/2-STF-5,08 (Phoenix) | Connector: MSTBV 2,5/2-GF-5,08 (Phoenix) |

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.