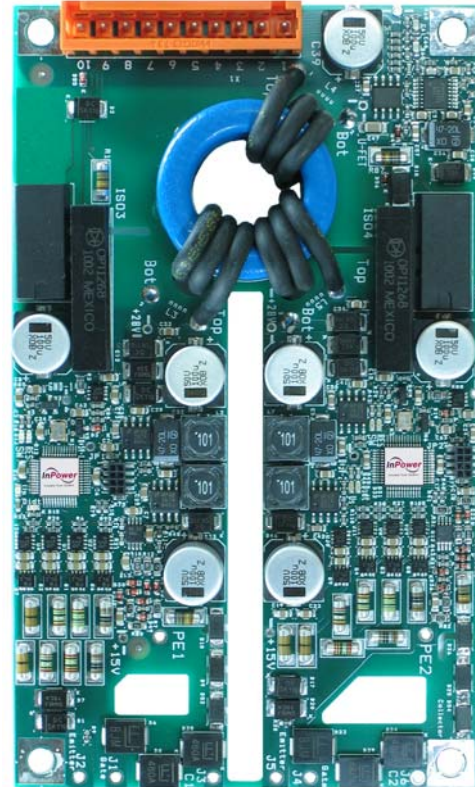


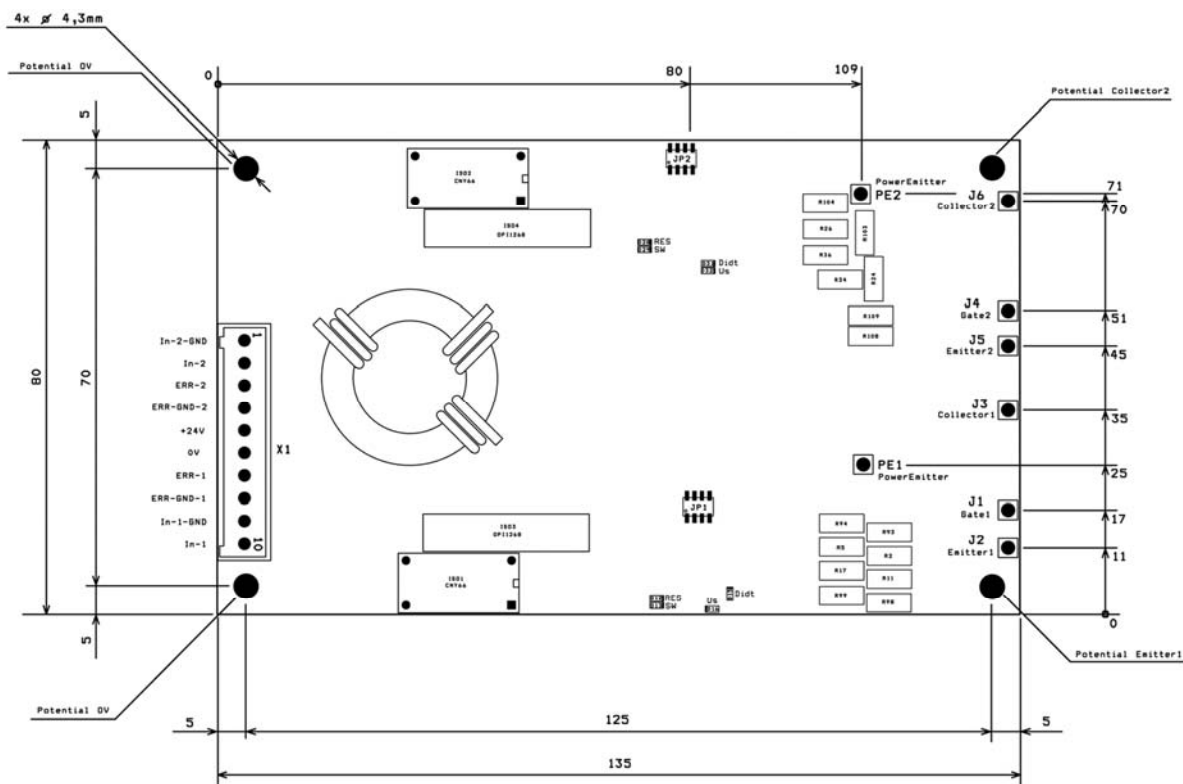
## DIGITAL HIGH POWER IGBT GATE DRIVER

### Main Features

- Dual 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
  - desaturation monitoring
  - di/dt monitoring
  - feedback clamping with active function
  - multiple soft shut down
  - supply voltage monitoring
- DC/DC converter included
- Cable connection for every type of IGBT module
- Electrical input and output



### Mechanical Dimensions



# DATASHEET 2IPSE3W12-60



## Key Data

Parameter	Symbol	Value (at +25°C)
Max. collector-emitter voltage	$V_{CE}$	1200V
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)	$V_{ISOL}$	6000V
Switching frequency (max.)	$f_{S\ max}$	120kHz
Peak output current (per channel)	$I_G$	$\pm 70A$
Peak output power (per channel)	$P_{DC/DC}$	3W
Quiescent current typically (at 15V)	$I_{DC}$	0.25A
Quiescent current typically (at 24V)	$I_{DC}$	0.16A
Max. input current at max. load (at 15V)	$I_{DC\ max}$	0.65A
Max. input current at max. load (at 24V)		0.52A
Coupling capacitance primary / secondary side	$C_{io}$	typ. 1pF, max. 2pF
Switching frequency of isolated converter	$f_{SMPC\ max}$	0.5MHz
Creepage distance (primary-secondary side)		>16mm
Creepage distance (secondary LOW – secondary HIGH)		>16mm
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
Turn-on delay time	$t_{pdON}$	400nsec
Turn-off delay time	$t_{pdOFF}$	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
Input driving and output error signal	electrical	
Recommended input (optocoupler) current:	$I_O$	20mA
Max. input (optocoupler) current:	$I_{O\ max}$	50mA

## Interfaces

PCB connector: WAGO 734-240, cable connector: WAGO 734-210 and 734-210/037-000 (traction app.)  
Used optocoupler: OPI1268, internal serial input resistor: 68R / 1% / MELF

## 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

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and auxiliary collector it is recommended to use HV isolation cable, for instance Radox 9 GKW-AX, 1.5mm<sup>2</sup>.