## DATASHEET 1IPSE1S25-60



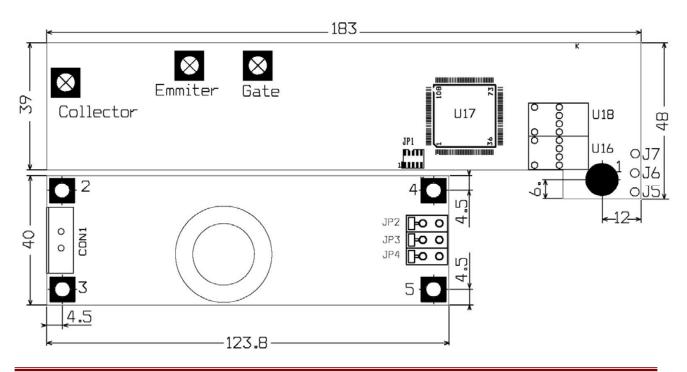
### DIGITAL HIGH POWER IGBT GATE DRIVER

#### 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
- Screw connection with high power IGBT modules (base plate 130x140mm or 190x140mm)



#### **Mechanical Dimensions**



# DATASHEET 1IPSE1S25-60



### Key Data

Parameter	Symbol	Value (at +25°C)
Max. collector-emitter voltage	V <sub>CE</sub>	2500V
Input supply voltage range	V <sub>DC</sub>	+14 to +30V
Output voltage: ON/OFF voltage	V <sub>ON</sub> /V <sub>OFF</sub>	±15V
Isolation testing voltage (V <sub>AC</sub> RMS 50Hz / 1 min)	VISOL	6000V
Switching frequency (max.)	f <sub>S max</sub>	120kHz
Peak output current	l <sub>G</sub>	±70A
Peak output power	P <sub>DC/DC</sub>	4W
Quiescent current typically	I <sub>DC</sub>	0.25A (at 15V)
Max. input current at max. load	I <sub>DC max</sub>	0.50A (at 15V)
Coupling capacitance primary / secondary side	C <sub>io</sub>	typ. 1pF, max. 2pF
Switching frequency of isolated converter	<b>f</b> <sub>SMPC max</sub>	0.5MHz
Creepage distance		>30mm
Frequency of logic controller	f	20MHz
Operating temperature (measured close to driver surface)	T <sub>OP</sub>	-40 to +85°C
Storage temperature	T <sub>st</sub>	-40 to +85°C
Input driving and output error signal	optical	660nm
Turn-on delay time	t <sub>pdON</sub>	400nsec
Turn-off delay time	t <sub>pdOFF</sub>	400nsec
Typical time of soft shut down	t <sub>ssD</sub>	1-2µsec
Max. system time between fault detection and error notification	t <sub>sys</sub>	100nsec
Time between detection of desaturation and gate voltage falling edge	t <sub>pDES</sub>	300nsec

Interfaces			
Interface	Part Type	Remarks	
Optical Receiver	HFBR-2531Z (Avago)	For suitable connectors see	
Optical Transmitter	HFBR-1531Z (Avago)	www.avagotech.com	
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)	

#### Connections

For the connection between DC/DC converter and the driver board as well as for the power emitter connection we recommend normal cable as short as possible.