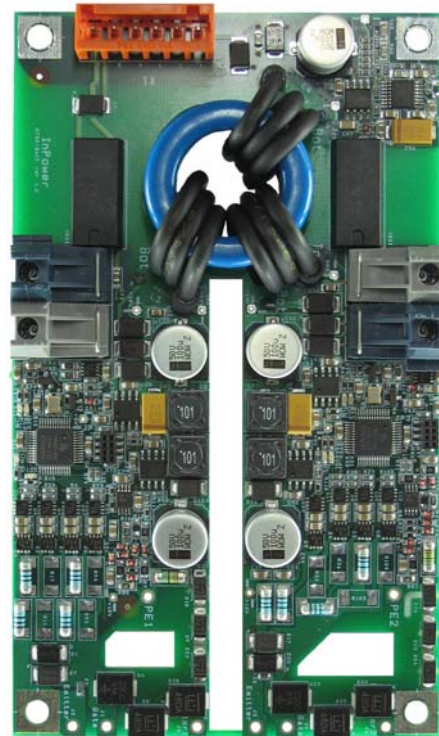


DIGITAL HIGH POWER IGBT GATE DRIVER

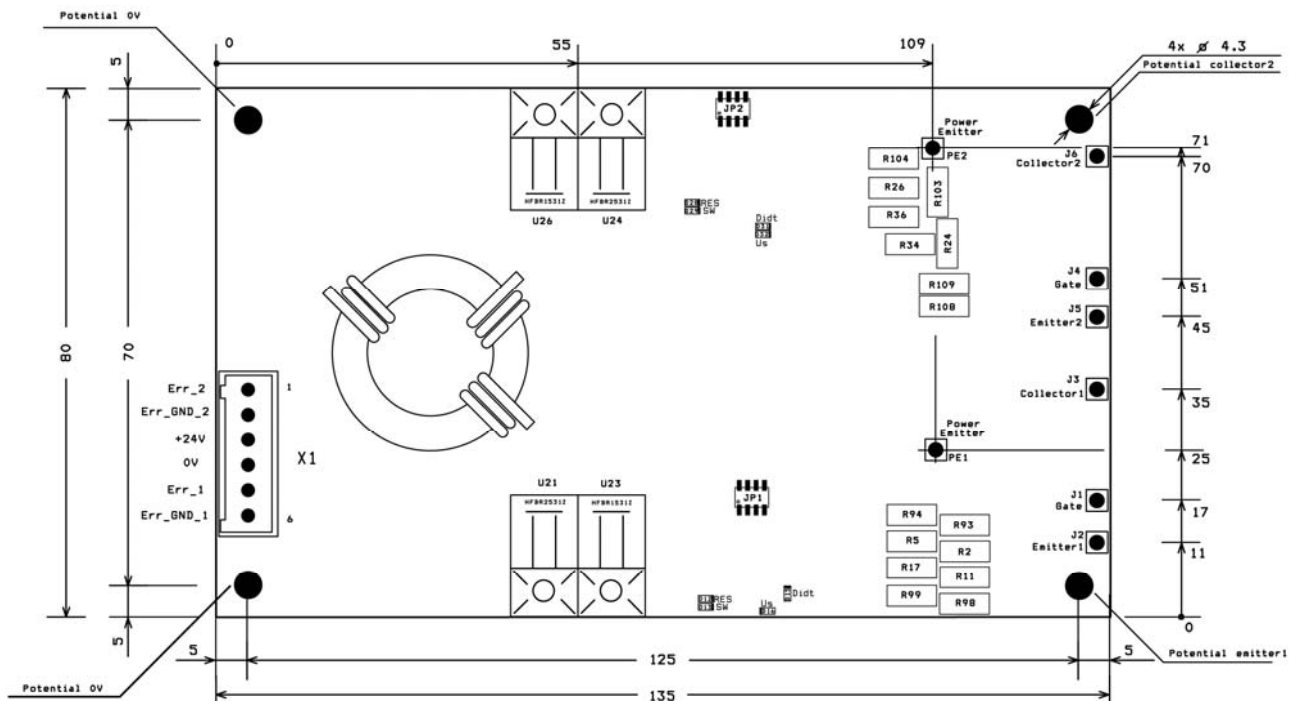
Main Features

- 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



The above picture shows a sample with optical and electrical outputs both connected

Mechanical Dimensions



DATASHEET 2IPSE1W12-60



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
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}	1-2µsec
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

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	WAGO 734-236	Opposite side connector - WAGO 734-206/037-000

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.