

## Main Features

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- The left image shows a green printed circuit board (PCB) with various electronic components. A black cable is plugged into a blue circular component. The right image shows a green PCB with an InPower integrated circuit and various other components.

Top view of the PCB layout for the 100W 200V MOSFET power amplifier. The layout shows the placement of components U17 (MOSFET), U18 (diode), U16 (transformer), and various connectors (JP1, JP2, JP3, JP4, CON1). Dimensions are provided for the overall board size (183x48) and component placement (123.8x40).

# DATASHEET 1IPSE1S25-60



## Key Data

Parameter	Symbol	Value (at +25°C)
Max. collector-emitter voltage	$V_{CE}$	2500V
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	$I_G$	$\pm 70A$
Peak output power	$P_{DC/DC}$	4W
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	$C_{io}$	typ. 1pF, max. 2pF
Switching frequency of isolated converter	$f_{SMPC\ max}$	0.5MHz
Creepage distance		>30mm
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 <a href="http://www.avagotech.com">www.avagotech.com</a>
Optical Transmitter	HFBR-1531Z (Avago)	
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.