High-Speed Gate Driver (IX6611)

Capable of sourcing and sinking a peak current of 10A, the IX6611 is a secondary side, intelligent, high-speed gate driver designed to drive both IGBTs and Power MOSFETs. It contains the necessary circuit blocks for pulse transformer isolated applications. High-frequency narrow pulses (as short as 500ns) can be used for transmitting bidirectional signals across the isolation barrier to avoid duty cycle restrictions and prevent transformer saturation. Other features include supply under and over voltage lockout, thermal shutdown, overcurrent and over voltage protection. The IX6611 is designed to operate over a temperature range of -40°C and +125°C and available in a 16-pin SOIC with an exposed thermal pad.

Figure 1: IX6611 Functional Block Diagram

FEATUERES
- Input compatible with pulse transformer
- 10A peak source and sink current gate drive
- Separate source and sink outputs
- Negative gate drive capability
- Over current protection with adjustable blanking time
- Advanced active clamping protection
- Under voltage lockout protection
- Over voltage lockout protection
- Two 1A pulse transformer drivers for fault communication

APPLICATIONS
- AC and DC motor drives
- UPS systems
- High voltage DC/DC converters

Ordering Information

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<td>IX6611TR</td>
<td>16-Pin SOIC, Exposed Pad, Tape &amp; Reel (1000/Reel)</td>
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<td>IX6611</td>
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Transformer Coupled Driver Logic Interface (IX6610)

The IX6610 is a primary side logic device that implements a dual-channel bidirectional transformer interface to drive a secondary side gate driver. It is a TTL (Transistor-Transistor Logic) level microcontroller (MCU) interface that can transmit, through the isolation barrier, the primary side input commands, secondary side output faults, and power supply faults. Asynchronous data transmission is through high-frequency narrow pulses to avoid duty cycle restrictions, achieve shorter delays, and prevent any transformer core saturation issues. With a built-in interlock and dead time control, the IX6610 can be utilized with an MCU to condition input signals and monitor system errors. The IX6610 is designed to operate over a temperature range of -40°C and +85°C and available in a 28-pin TSSOP with an exposed thermal pad.

**FEATURES**
- TTL Logic level micro-controller Interface
- Pulse transformer bidirectional data interface
- Short input pulse suppression
- Interlock and dead time control
- Four 1A pulse transformer drivers
- Two 1A drivers for push-pull power converter for the secondary side power supply
- Non-overlap operation of high side and low side drivers
- Internal startup oscillator
- Primary side fault monitoring
- Secondary side fault monitoring
- Two fault status outputs
- 2mA quiescent current (non-switching)

**APPLICATIONS**
- Pulse transformer coupled IGBT/MOSFET gate driver interface

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