International
IOR Rectifier

Data Sheet No. PD60062 revO

(NOTE:For new designs, we recommend IR's new product IRS2153D)

IR2153(D)(S)&(PbF)

SELF-OSCILLATING HALF-BRIDGE DRIVER

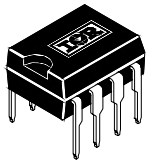
Features

- Integrated 600V half-bridge gate driver
- 15.6V zener clamp on Vcc
- True micropower start up
- Tighter initial deadtime control
- Low temperature coefficient deadtime
- Shutdown feature (1/6th Vcc) on C_T pin
- Increased undervoltage lockout Hysteresis (1V)
- Lower power level-shifting circuit
- Constant LO, HO pulse widths at startup
- Lower di/dt gate driver for better noise immunity
- Low side output in phase with R_T
- Internal 50nsec (typ.) bootstrap diode (IR2153D)
- Excellent latch immunity on all inputs and outputs
- ESD protection on all leads
- Also available LEAD-FREE

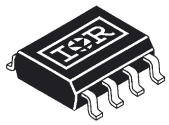
Product Summary

V_{OFFSET}	600V max.
Duty Cycle	50%
T_r/T_p	80/40ns
V_{clamp}	15.6V
Deadtime (typ.)	1.2 µs

Packages



8 Lead PDIP



8 Lead SOIC

Description

The IR2153D(S) are an improved version of the popular IR2155 and IR2151 gate driver ICs, and incorporates a high voltage half-bridge gate driver with a front end oscillator similar to the industry standard CMOS 555 timer. The IR2153 provides more functionality and is easier to use than previous ICs. A shutdown feature has been designed into the C_T pin, so that both gate driver outputs can be disabled using a low voltage control signal. In addition, the gate driver output pulse widths are the same once the rising undervoltage lockout threshold on V_{CC} has been reached, resulting in a more stable profile of frequency vs time at startup. Noise immunity has been improved significantly, both by lowering the peak di/dt of the gate drivers, and by increasing the undervoltage lockout hysteresis to 1V. Finally, special attention has been payed to maximizing the latch immunity of the device, and providing comprehensive ESD protection on all pins.

Typical Connections