

MAX256

3W Primary-Side Transformer H-Bridge Driver for Isolated Supplies

General Description

The MAX256 is an integrated primary-side controller and H-bridge driver for isolated power-supply circuits. The device contains an on-board oscillator, protection circuitry and internal FET drivers to provide up to 3W of power to the primary winding of a transformer. The MAX256 can be operated using the internal programmable oscillator or can be driven by an external clock for improved EMI performance. Regardless of the clock source being used, an internal flip-flop stage guarantees a fixed 50% duty cycle to prevent DC current flow in the transformer.

The MAX256 operates from a single-supply voltage of +5V or +3.3V, and includes undervoltage lockout for controlled startup. The device prevents cross-conduction of the H-bridge MOSFETs by implementing break-before-make switching. Thermal shutdown circuitry provides additional protection against damage due to overtemperature conditions.

The MAX256 is available in the 8-pin thermally-enhanced SO package. The device is specified for the automotive (-40°C to +125°C) temperature range.

Applications

Isolated Power Supplies Medical Equipment
Industrial Process Control Telecommunications
Isolated Communications Links

Benefits and Features

- Simple, Flexible Design Provides Up to 3W to the Transformer in Isolated Power Supplies
 - Single Supply +5V or +3.3V Operation
 - Internal Resistor-Programmable Oscillator Mode
 - External Clock Mode with Watchdog
 - Disable Mode
- Integrated System Protection
 - Undervoltage Lockout
 - Thermal Shutdown
- Saves Space on Board
 - 8-Pin Thermally-Enhanced SO Package

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE
MAX256ASA+	-40°C to +125°C	8 SO-EP*
MAX256ASA/V+T	-40°C to +125°C	8 SO-EP*

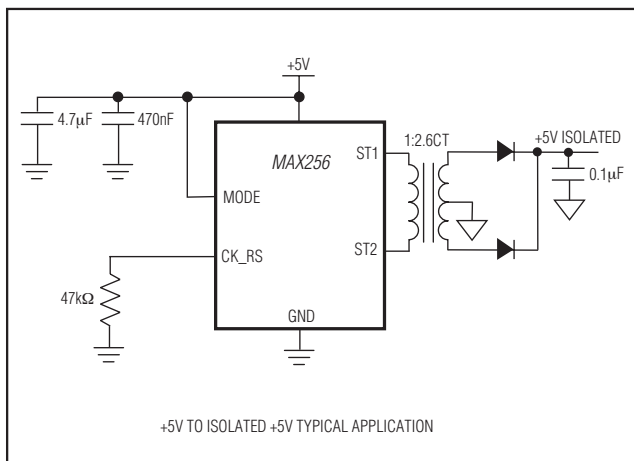
*EP = Exposed paddle.

*V denotes an automotive qualified part.

+Denotes a lead(Pb)-free/RoHS-compliant package.

T = Tape and reel.

Typical Application Circuit



Pin Configuration

