MP6920

Fast Turn-Off Intelligent Rectifier

The Future of Analog IC Technology

DESCRIPTION

The MP6920 is a fast turn-off intelligent rectifier for Flyback converters that combines a 60V power switch that replaces diode rectifiers for high efficiency. The chip regulates the forward voltage drop of the internal power switch to about 70mV and turns it off before the voltage goes negative.

ORDERING INFORMATION

Part Number	Package	Maximum Junction Temperature
MP6920DN	SOIC8E	125°C

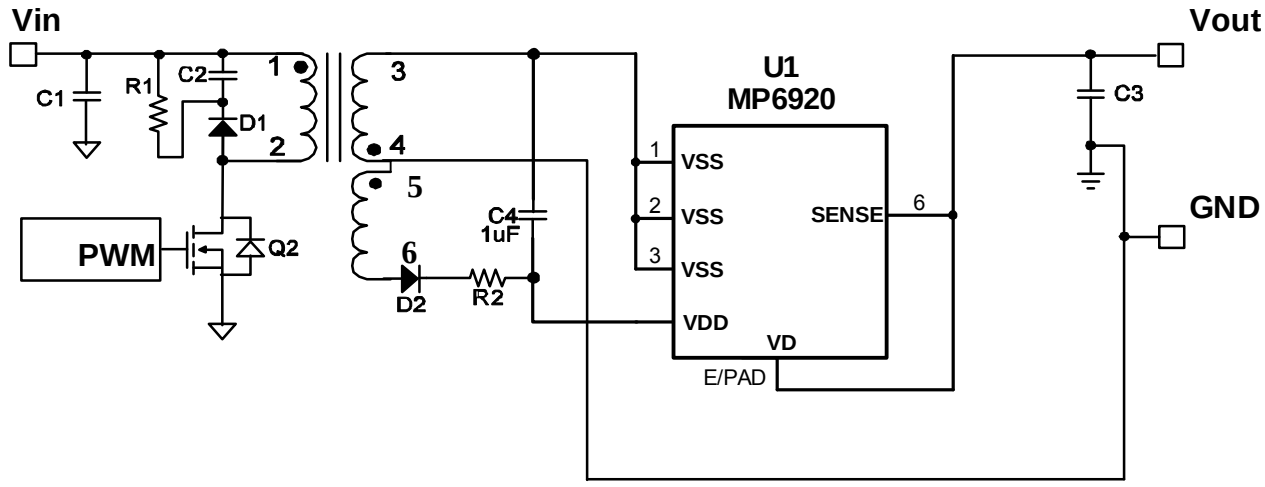
FEATURES

- Supports DCM and Quasi-Resonant Flyback converters
- Integrated 10mΩ 60V Power Switch
- Compatible with Energy Star, 1W Standby Requirements
- V_{DD} Range From 8V to 24V
- Max 300kHz Switching Frequency
- Supports High-Side and Low-Side Rectification
- Power Savings of Up to 1.5W in a Typical Notebook Adapter

APPLICATIONS

- Industrial Power Systems
- Distributed Power Systems
- Battery Powered Systems
- Flyback Converters

TYPICAL APPLICATION

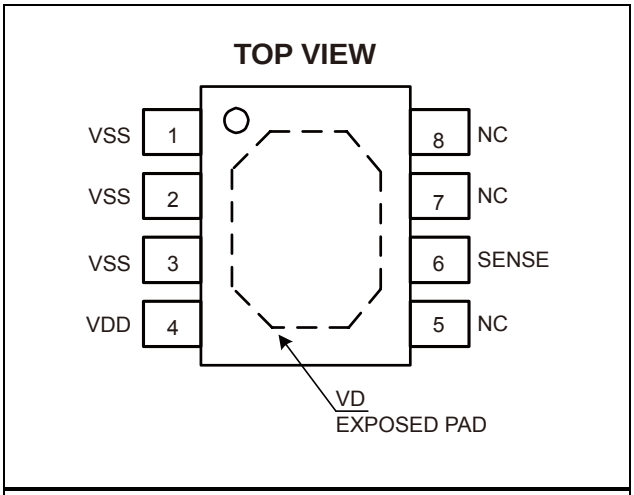


ORDERING INFORMATION

Part Number	Package	Top Marking	Free Air Temperature (T_A)
MP6920DN*	SOIC8E	MP6920	-40°C to +85°C

* For Tape & Reel, add suffix –Z (e.g. MP6920DN–Z);
For RoHS Compliant Packaging, add suffix –LF; (e.g. MP6920DN–LF–Z)

PACKAGE REFERENCE



SOIC8E

ABSOLUTE MAXIMUM RATINGS (1)

V_{DD} to V_{SS} .....-0.3V to +26V
V_D to V_{SS} .....-0.7V to +60V
Maximum Operating Frequency..... 300kHz
Continuous Power Dissipation (T_A = 25°C) (2)
SOIC8E.....2.5W
Junction Temperature.....150°C
Lead Temperature (Solder).....260°C
Storage Temperature ..... -55°C to +150°C

Recommended Operation Conditions (3)

V_{DD} to V_{SS} .....8V to 24V
Maximum Junction Temp. (T_J) .....125°C

Thermal Resistance (4) θ_{JA} θ_{JC}

SOIC8E.....50 ..... 10 ... °C/W

Notes:

1) Exceeding these ratings may damage the device.
2) The maximum allowable power dissipation is a function of the maximum junction temperature T_J (MAX), the junction-to-ambient thermal resistance θ_{JA}, and the ambient temperature T_A. The maximum allowable continuous power dissipation at any ambient temperature is calculated by P_D (MAX) = (T_J (MAX)-T_A)/θ_{JA}. Exceeding the maximum allowable power dissipation will cause excessive die temperature, and the regulator will go into thermal shutdown. Internal thermal shutdown circuitry protects the device from permanent damage.
3) The device is not guaranteed to function outside of its operating conditions.
4) Measured on JESD51-7, 4-layer PCB. Without heatsink.