

# 30V, 3A Wide-Input Range Step-Down Synchronous DC/DC Converter

## FEATURES

- 36V Input Voltage Surge
- Wide input voltage Range: 8V~30V
- Up to 3A Output Current
- 130kHz~500kHz Adjustable Frequency
- Internal Compensation
- 32V Input OVP Protection
- Output OVP Protection
- Efficiency up to 93%
- Force PWM Operation: TMI3331
- PFM Operation in Light Load: TMI3331A
- $\pm 2\%$  Feedback Voltage Accuracy
- Integrated Soft Start
- Thermal Shutdown
- Constant Current Limit
- Short Circuit Hiccup Mode
- Cycle-by-Cycle Current Limit
- ESOP8 Package

## GENERAL DESCRIPTION

TMI3331 and TMI3331A are wide input voltage, high efficiency step-down DC/DC converter. TMI3331 operates in force PWM mode with adjustable switching frequency, and TMI3331A operates in PFM mode at light load condition. TMI3331 and TMI3331A provide up to 3A output current. Switching frequency can be set by external resistor. TMI3331 and TMI3331A internal integrate 80m $\Omega$  high side and 60m $\Omega$  low side power MOSFET, which allows a high efficiency over the wider range of the load. Advanced production features include input UVLO, thermal shutdown, soft start and input and output OVP.

The TMI3331 and TMI3331A require a minimum number of readily available standard external components and is available in an 8-pin ESOP ROHS compliant package.

## APPLICATIONS

- Auto Electronic Equipment
- TV/Monitor
- Distributed Power Systems
- Networking Systems

## TYPICAL APPLICATION

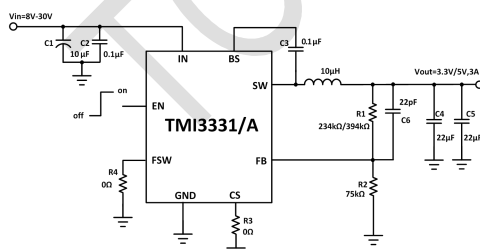


Figure 1. Basic Application Circuit as DC/DC Converter

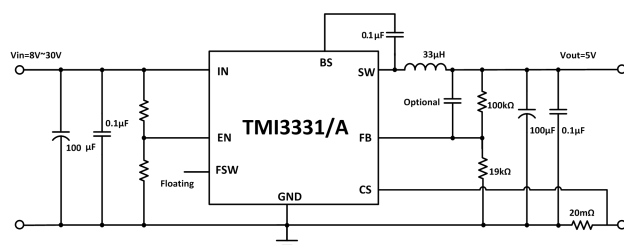


Figure 2. Basic Application Circuit as Car Charger Converter with CC function