3A, 28V, 1MHz Synchronous Step-Down Converter

DESCRIPTION

The EUP3475A is a 1MHz fixed frequency synchronous current mode buck regulator. The device integrates both 135mΩ high-side switch and 90mΩ low-side switch that provide 3A of continuous load current over a wide operating input voltage of 4.5V to 28V.The internal synchronous power switch increases efficiency and eliminates the need for an external Schottky diode. Current mode control provides fast transient response and cycle-by-cycle current limit.

At heavy load, the EUP3475A operates at a fixed frequency Pulse-Width Modulation mode for excellent stability and transient response. At light load, the EUP3475A will operates at a Pulse-Skipping mode to save power.

The EUP3475A features short circuit and thermal protection circuits to increase system reliability. Externally programmable soft-start allows for proper power on sequencing with respect to other power supllies and avoids input inrush current during startup. In shutdown mode, the supply current drops below 1μA. The EUP3475A is available in SOP-8 package with the exposed pad.

FEATURES

- Automatic Pulse Skipping Mode at Light Load
- 3A Continuous Output Current
- 110ns Minimum On Time
- Integrated 135mΩ High Side Switch
- Integrated 90mΩ Low Side Switch
- Wide 4.5V to 28V Operating Input Range
- Output Adjustable from 0.8V to 24V
- Up to 95% Efficiency
- Programmable Soft-Start
- <1μA Shutdown Current
- 1MHz Fixed Switching Frequency
- Thermal Shutdown and Over Current Protection
- Input Under Voltage Lockout
- Available in SOP-8 (EP) package
- RoHS Compliant and 100% Lead(Pb)-Free Halogen-Free

APPLICATIONS

- Distributed Power Systems
- Networking Systems
- FPGA, DSP, ASIC Power Supplies

Typical Application Circuit

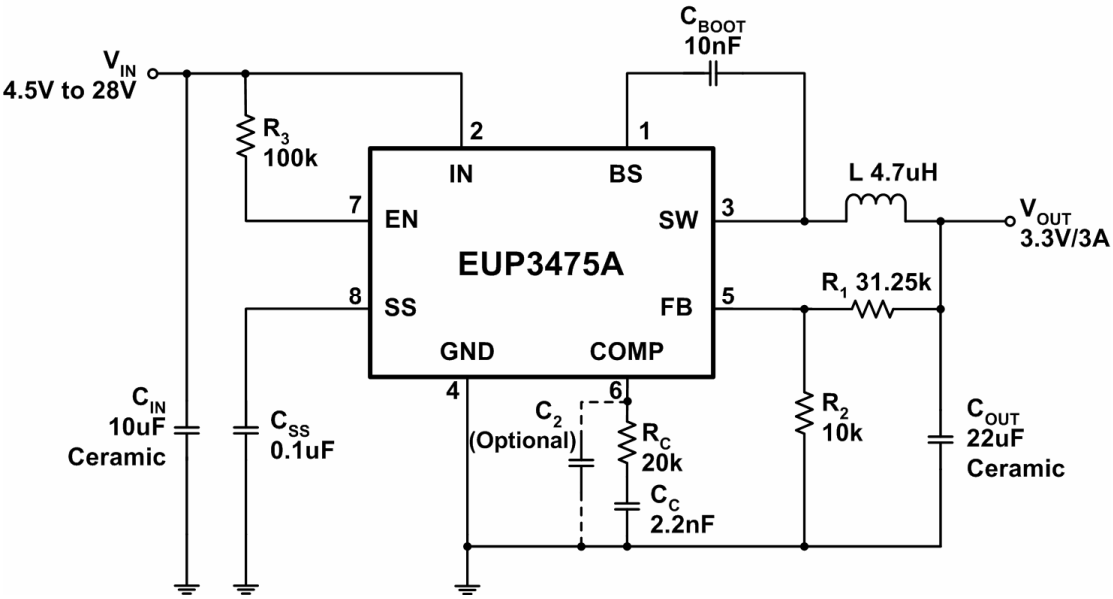


Figure 1.