

4A, Synchronous Step-Down Converter

DESCRIPTION

The EUP3427 is a 1 MHz fixed frequency synchronous, current-mode, step-down dc-dc converter capable of providing up to 4A output current. The EUP3427 operates from an input range of 2.7V to 5.5V and provides a regulated output voltage from 0.6V to 5V. The internal synchronous power switch improves efficiency and eliminates the need for an external Schottky diode. The EUP3427 can be externally set for either forced PWM continuous mode or pulse skipping mode. Forced PWM operation provides very low output ripple voltage for noise sensitive applications while pulse skipping operation improves light load efficiency by reducing switching loss.

The EUP3427 features short circuit and thermal protection circuits to improve system reliability. Internally soft-start avoids input inrush current during startup. The EUP3427 is available in SOP-8 package with the exposed pad and TDFN-10 package.

FEATURES

- 2.7V to 5.5V Input Voltage Range
- High Efficiency up to 96%
- 4A Available Load Current
- 57/35mΩ Integrated PFET/NFET Switches
- 1MHz Switching Frequency
- 100% Duty Cycle Low Dropout Operation
- Short Circuit and Thermal Protection
- Integrated UVLO and Power Good
- Excellent Line and Load Transient Response
- Available in SOP-8 (EP) and TDFN-10 Packages
- RoHS Compliant and 100% Lead(Pb)-Free Halogen-Free

APPLICATIONS

- High Performance DSPs, FPGAs, ASICs and Microprocessors
- Base Station, Telecom, and Networking Equipment Power Supplies
- ePC and NetPCs

Typical Application Circuit

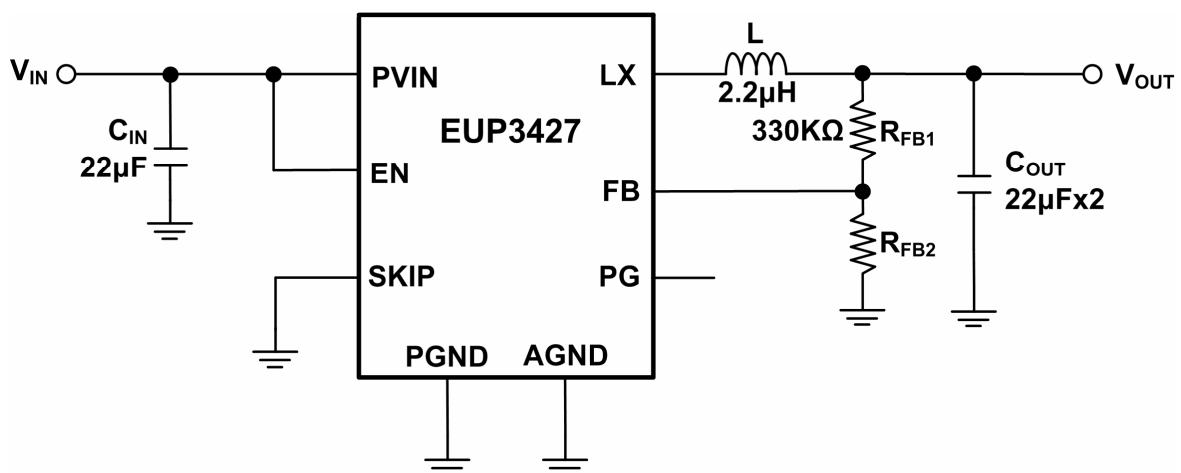


Figure1. SOP-8(EP) Typical Application Circuit

Typical Application Circuit (continued)

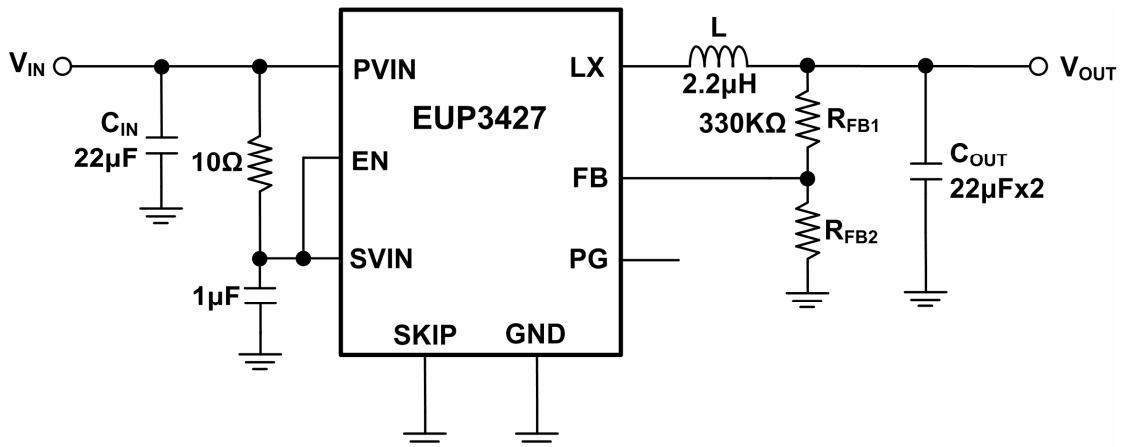


Figure2. TDFN-10 Typical Application Circuit

Pin Configurations

Package Type	Pin Configurations	Package Type	Pin Configurations
SOP-8 (EP)	<p>(TOP VIEW)</p>	TDFN-10	<p>(TOP VIEW)</p>

Pin Description

PIN	SOP-8 (EP)	TDFN-10	DESCRIPTION
LX	1	2,3	Switch node connected to inductor. This pin is connected to the drains of the internal main and synchronous power MOSFET switches.
SKIP	2	7	Operation Mode Select Input. Logic high selects pulse skipping mode, and logic low or floating chooses forced PWM mode. An internal 5µA current pull it down to ground.
EN	3	5	Chip enable pin. Forcing this pin above 1.5V enables the part. Forcing this pin below 0.3V or floating it shuts down the device. An internal 600kΩ Resistor pulls it down to ground.
PG	4	4	Power good output signal. Logic high when regulator output is within ±10% of target output voltage. A pull-up resistor of 10kΩ to 100kΩ is recommended for most applications.
AGND	5	-	Analog ground.
FB	6	6	Feedback pin. Connect it to an external resistor divider to set output voltage.
PVIN	7	9,10	Power supply input.
PGND	8	-	Power ground.
SVIN	-	8	Analog input supply which is connected to PVIN through a low pass RC filter.
NC	-	1	No connect.
Thermal Pad	-	-	Ground. (Thermal pad must be connected to the ground of PCB.)