

620kHz/1.25MHz Step-up DC/DC Converter

DESCRIPTION

The EUP2627 is a high performance current mode, PWM step-up converter with pin selectable operating frequency. With an internal 3.5A, 160mΩ MOSFET, it can generate 12V at up to 500mA output current from a 5V supply. The selectable 620kHz and 1.25MHz allows smaller inductors and faster transient response. An external compensation pin gives the user greater flexibility in setting loop compensation allowing the use of low ESR Ceramic output capacitors. Soft-start is controlled with an external capacitor, which determines the input current ramp rate during start-up.

When shut down, it draws <math>< 10\mu\text{A}</math> of current and can operate down to 2.5V input supply. These features along with 1.25MHz switching frequency makes it an ideal device for portable equipment and TFT-LCD displays.

The EUP2627 is available in an 10-pin TDFN package. The device is specified for operation over the full -40°C to $+85^{\circ}\text{C}$ temperature range.

FEATURES

- 90% Efficiency
- 3.5A, 160mΩ Power MOSFET
- 2.5V to 5.5V Input Range
- Adjustable Output Voltage up to 28V
- 620kHz/1.25MHz Switching Frequency Selection
- Adjustable Soft-Start
- Internal Thermal Protection
- Small TDFN-10 package
- RoHS Compliant and 100% Lead (Pb)-Free

APPLICATIONS

- TFT-LCD Displays
- DSL Modems
- Set-Top Boxes
- PCMCIA Cards
- Portable Equipment
- Handheld Devices

Typical Application Circuit

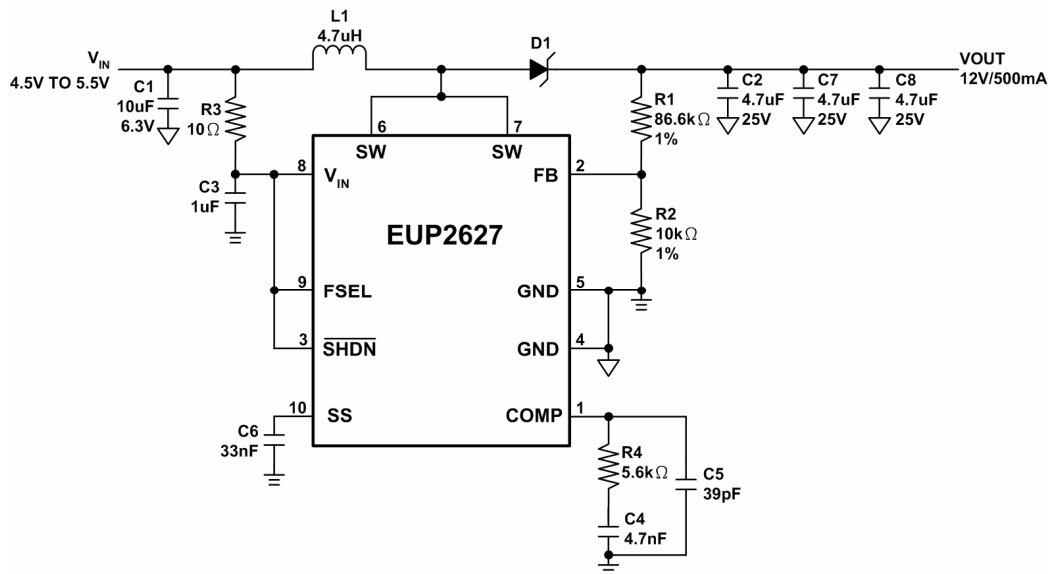


Figure 1.

Typical Application Circuit (continued)

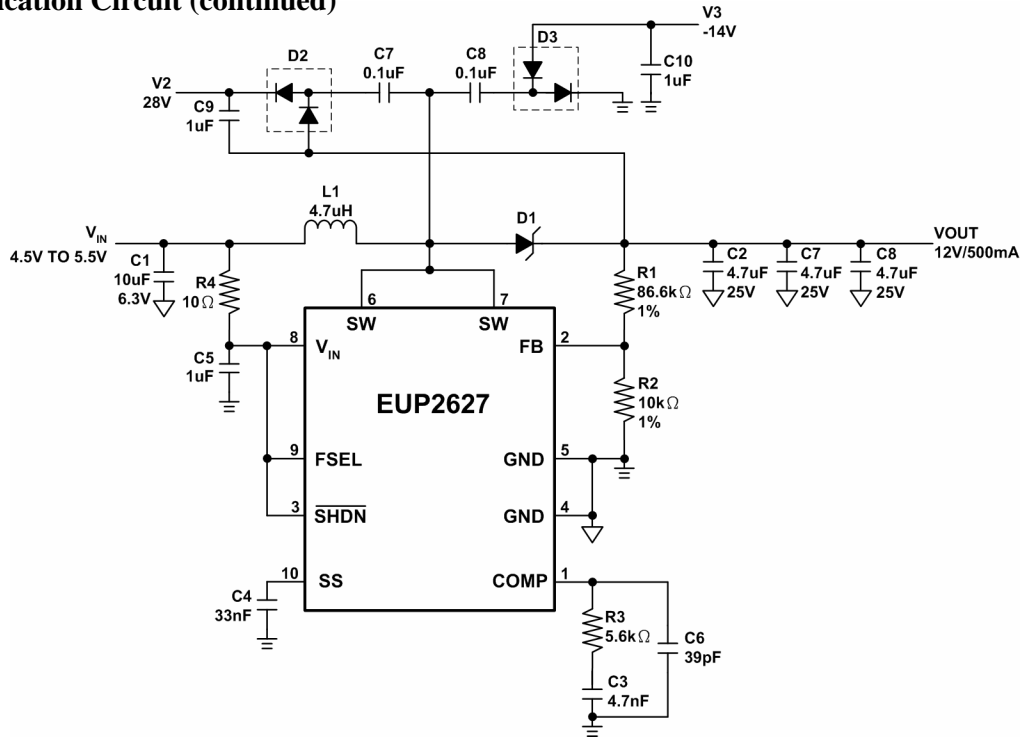


Figure 2. Multiple-Output TFT LCD Power Supply

Pin Configurations

Package Type	Pin Configurations
TDFN-10	

Pin Description

PIN	TDFN-10	DESCRIPTION
COMP	1	Compensation pin. Output of the internal error amplifier. Capacitor and resistor from COMP pin to ground.
FB	2	Voltage feedback pin. Internal reference is 1.24V NOMINAL. Connect a resistor divider from V _{OUT} . $V_{OUT}=1.24V (1+R_1/R_2)$.
SHDN	3	Shutdown control pin. Pull SHDN low to turn off the device.
GND	4.5	Analog and power ground.
SW	6.7	Power switch pin. Switch connected to the drain of the internal power MOSFET.
V _{IN}	8	Analog power input pin.
FSEL	9	Frequency select pin. When FSEL is connected to GND, switching frequency is set to 620kHz. When connected to V _{IN} , switching frequency is set to 1.25MHz
SS	10	Soft-start control pin. Connect a capacitor to control the converter start-up