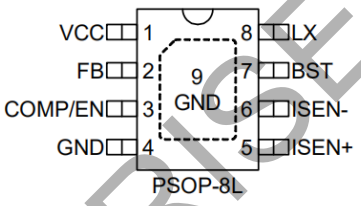
GENERAL DESCRIPTION

The NT3877 is a step-down PWM converter with a driving typical output current to 3A without additional transistor. It is designed to allow for operating a wide supply voltage range from 8V to 40V. The external shutdown function can be controlled by logic level to pull COMP/EN pin down, and then comes into standby mode. The external compensation makes feedback control have good line and load regulation with flexible external design.

The NT3877 features a programmable CV/CC mode control functions. The CV mode (constant voltage) function provides a regulated voltage output and the CC mode (constant current) function provides a current limitation function. The CC current value is set by external resistor during current sense amplifier input stage.

The NT3877 is suitable for the DC/DC switching power applications where current limit function is required. The devices are available in PSOP-8L package and require very few external devices for operation.

PIN CONFIGURATIONS



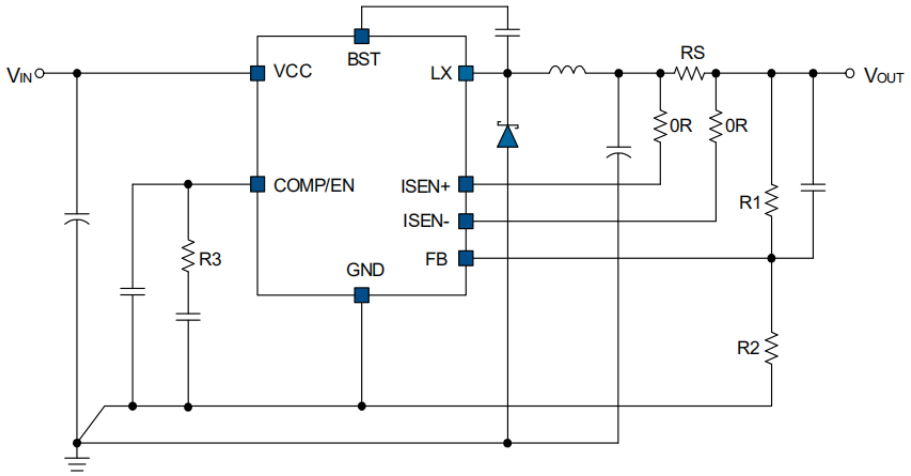
FEATURES

- Operates from 8V to 40V Supply Voltage with UVLO Protection
- 1.2V Feedback Voltage with 1% Accuracy Over Line Voltage
- CV/CC Mode Control (Constant Voltage and Constant Current)
- ±7% Current Limit Accuracy
- Output Short Circuit Protection
- Output Over Voltage Protection (Typical 5.9V)
- Over Temperature Protection
- Internal Soft Start ~ 12ms
- Fixed Frequency 120kHz
- UVLO Protection
- Duty Cycle Range (0 ~ 90%)
- Single Pin to External Compensation and Shutdown Control
- Integrated 140mΩ Power N-MOSFET
- PSOP-8L Package
- RoHS Compliant and Halogen-Free

APPLICATIONS

- Car Chargers
- Portable Charging Devices
- High-Brightness Lightings
- General-Purposed DC/DC Converters with Current Limit

TYPICAL APPLICATION CIRCUIT



FUNCTIONAL PIN DESCRIPTION

Pin No.	Pin Name	Pin Function
1	VCC	**Power Supply Input.** Bypass this pin with a 0.1uF ceramic capacitor to GND, placed as close to the IC as possible.
2	FB	**Feedback Pin.** The voltage at this pin is regulated to 1.2V. Connect to the resistor divider between output and GND to set the output voltage.
3	COMP/EN	**Error Amplifier Output.** This is the output of the error amplifier (EA) and the non-inverting input of the PWM comparator. Use this pin in combination with the FB pin to compensate the voltage control feedback loop of the converter. Pulling COMP/EN to a level below 0.35V nominal will disable the controller and stops the internal oscillator.
4	GND	**Ground.** Return FB, and COMP to this GND and connect this GND to power GND at a single point for best noise immunity.
5	ISEN+	**The Current Sense Input (+) Pin.**
6	ISEN-	**The Current Sense Input (-) Pin.**
7	BST	**Bootstrap Pin.** This provides power to the internal higher MOSFET gate driver. Connect a 100nF capacitor from BST pin to LX pin.
8	LX	**Power Switching Output to External Inductor.**
9	GND	**Ground.** Connect this pin to a large PCB copper area for best heat dissipation.

ORDERING INFORMATION

Order Number	Package	Top Marking
NT3877ASW8	PSOP-8L	NT3877A

Note: Erised products are compatible with the current IPC/JEDEC J-STD-020 requirement. They are halogen-free, RoHS compliant and 100% matte tin (Sn) plating that are suitable for use in SnPb or Pb-free soldering processes.