

30V 3.0A Synchronous CV/CC Step-Down Converter

General Description

PN3030 is a wide input voltage, high efficiency Synchronous CC/CV step-down DC/DC converter that operates in either CV (Constant Output Voltage) mode or CC (Constant Output Current) mode. PN3030 provides up to 3.0A output current at 350kHz switching frequency.

PN3030 eliminates the expensive, high accuracy current sense resistor, making it ideal for battery charging applications and adaptors with accurate current limit. The PN3030 achieves higher efficiency than traditional constant current switching regulators by eliminating its associated power loss on the additional current sensing resistor.

Protection features include cycle-by-cycle current limit, thermal shutdown, and short circuit recovery. PN3030 are available in a SOP8-EP package and require very few external devices for operation.

Applications

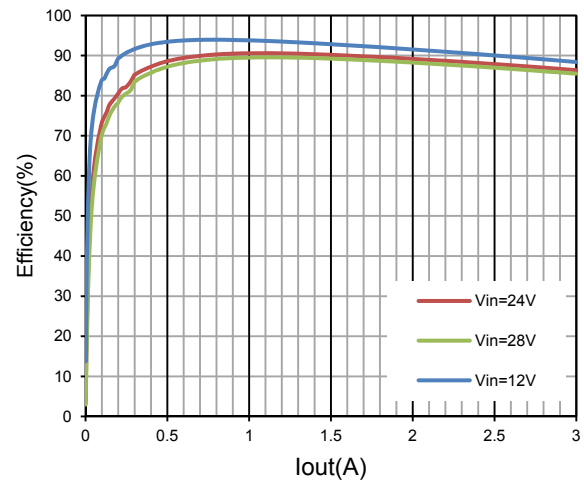
- Car Charger/ Adaptor
- Rechargeable Portable Devices
- General-Purpose CC/CV Supply

Features

- 30V Input Voltage Surge
- 28V Steady State Operation
- Up to 3.0A Output Current
- 350kHz Switching Frequency
- Up to 93% Efficiency
- Stable with Low-ESR Ceramic Capacitors to Allow Low-Profile Designs
- Constant Current Control Without Additional Current Sensing Resistor Improves Efficiency and Lowers Cost.

- Resistor Programmable Current Limit from 1.5A to 3.0A
- Up to 0.5V Excellent Cable Voltage Drop Compensation
- $\pm 7.5\%$ CC Accuracy
- 2% Feedback Voltage Accuracy
- Advanced Feature Set
 - Integrated Soft Start
 - Thermal Shutdown
 - Cycle-by-Cycle Current Limit
- SOP8-EP Package

Efficiency VS. Iout @Vout=5V



Typical Application Circuit

