

High Performance CC/CV Primary-Side Power Switch

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## **Features**

- Less than 75mW standby power consumption at 230VAC with typical application circuit
- Integrated 3A 650V MOSFET
- ♦ Less than ±5% constant voltage and current regulation at universal AC input
- Primary-side sensing and regulation without TL431 and opto-coupler
- Adjustable constant current and output power setting
- Compensates for input line voltage variations
- Eliminates all control loop compensation circuitry
- Start-up and static current as low as 5uA and 600uA.
- Built-in Leading Edge Blanking(LEB)
- Programmable cable voltage drop compensation
- Multi-mode PWM and PFM operation for efficiency improving and audio noise free operation
- SOP7 Package

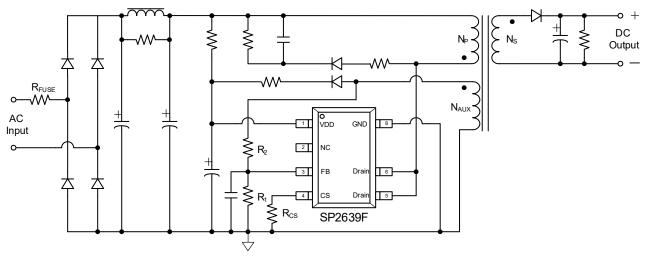
### **Applications**

- Small Power Adapter
- Cell Phone Charger
- Digital Cameras Charger
- Linear Regulator/RCC Replacement

### **General Description**

SP2639F is a high performance offline PSR power switch for low power AC/DC charger and adapter applications. It operates in primary-side sensing and regulation. Thus, opto-coupler and TL431 are not required. In CC control, the output current and power setting can be adjusted externally by the sense resistor R<sub>CS</sub> at CS PIN. In CV control, multi-mode operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in cable drop compensation. SP2639F operates in PFM in CC mode, and it operates in PWM+PFM in CV mode with frequency reduction at light/medium load. The chip consumes very low operation current. It achieves less than 75mW standby power to meet all global energy efficiency regulations.

SP2639F offers comprehensive protection coverage with auto-recovery feature including Cycle-by-Cycle current limiting, VDD over voltage protection (OVP), FB over voltage protection, load short circuit protection, VDD under voltage lockout (UVLO), OTP etc. SP2639F is offered in SOP7 packages.



#### Figure 1.Simplified Application of SP2639F

# **Simplified Application**