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### Features

- ◆ Less than 75mW standby power consumption at 230VAC with typical application circuit
- ◆ Integrated 5A 650V MOSFET
- ◆ Less than  $\pm 5\%$  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
- ◆ SOP8 Package

### Applications

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

### General Description

SP2689F is a high performance offline PSR power switch for low power AC/DC charger and adapter applications. Using 3D packaging technology, integrated 5A/620V MOSFET in the SOP8 package. 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  $R_{CS}$  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. SP2689F 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.

SP2689F 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.

SP2689F is offered in SOP8 packages.

### Simplified Application

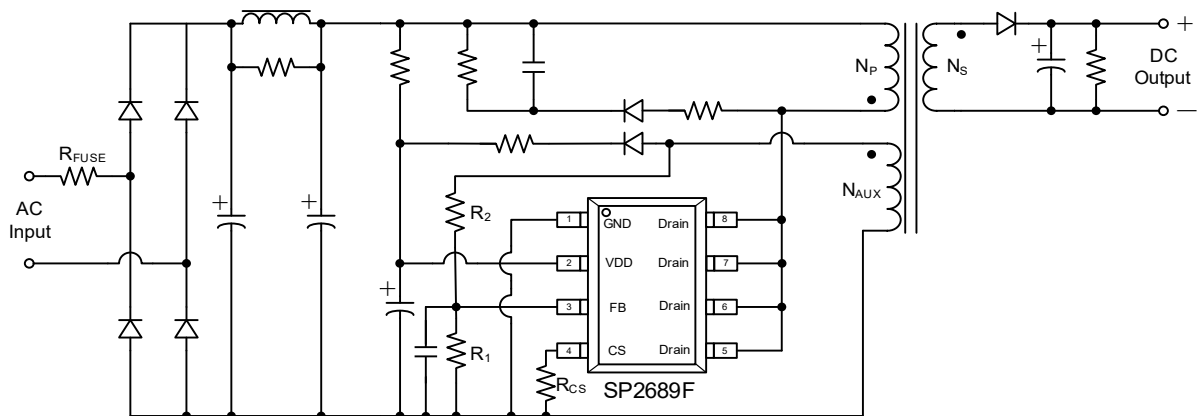


Figure 1. Simplified Application of SP2689F