FEATURES

- **Built-in 600V Power MOSFET**
- **Proprietary NC-Cap/PSR-II™ Control:**
  - **±4% CC and CV Precision**
  - **Proprietary "Audio Noise Cancellation" Control**
  - **Built-in "Fast Dynamic Response" Control to Meet USB Charge Requirements**
  - **Proprietary "Zero-Output Startup" Control**
  - **Proprietary "Smart Output Short Protection"**
  - **Without External Compensation/Filtering Capacitor Needed**
  - **Max. 50V Output for AC/DC LED Lighting**
- **Proprietary Cable Drop Compensation**
- **Multi Mode Control**
- **Low Standby Power Under 70mW**
- **Wide VDD Operating Range**
- **Cycle-by-Cycle Current Limiting**
- **Leading Edge Blanking (LEB)**
- **Built-in Soft Start**
- **Pin Floating Protection**
- **VDD Under Voltage Lockout (UVLO)**
- **VDD OVP & Clamp**

APPLICATIONS

- **Battery chargers for cellular phones, cordless phones, PDA, digital cameras, etc**
- **Replaces linear transformer and RCC SMPS**
- **Small power adapter**
- **AC/DC LED lighting**

GENERAL DESCRIPTION

SF5938S is a high performance, highly integrated DCM (Discontinuous Conduction Mode) Primary Side Regulation (PSR) power switch for offline small power converter applications. It can achieve less than ±4% CV/CC precision.

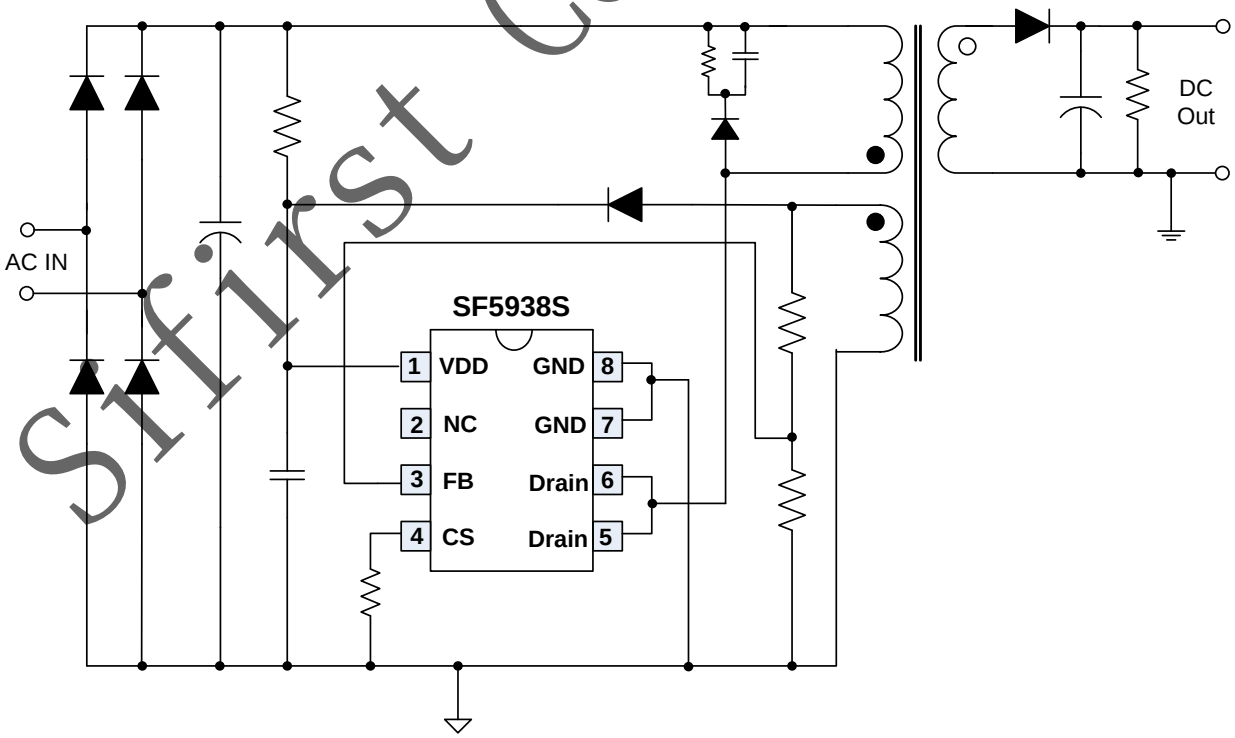
SF5938S has built-in proprietary **NC-Cap/PSR-II™** control for CV control, which eliminates external compensation or filtering capacitor. It has built-in cable drop compensation function, which can provide excellent CV performance. The IC uses Multi Mode Control to improve efficiency and reliability and to decrease audio noise energy @ light loadings. The IC can achieve less than 70mW standby power.

SF5938S integrates proprietary "**Audio Noise Cancellation**" control for audio noise free operation. The IC has built-in "**Fast Dynamic Response**" control to meet USB Charge requirements. SF5938S also integrates proprietary "**Zero-Output Startup**" control to achieve startup when output is near zero voltage. The IC has proprietary "**Smart Output Short Protection**", which can protect the system with large leakage inductance when output is short circuit.

SF5938S integrates functions and protections of FB Short Protection, Under Voltage Lockout (UVLO), VDD Over Voltage Protection (VDD OVP), Soft Start, Cycle-by-cycle Current Limiting (OCP), Pin Floating Protection, VDD Clamping.

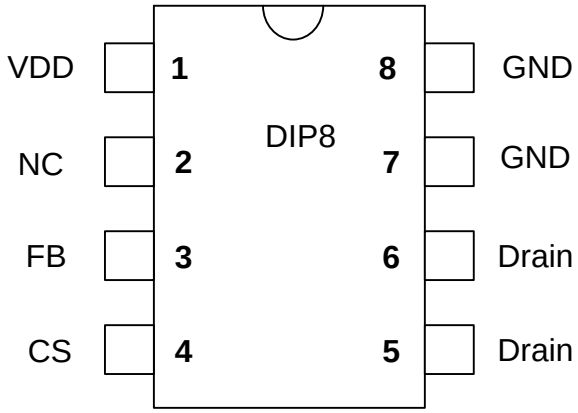
SF5938S is available in DIP8 package.

TYPICAL APPLICATION



Pin Configuration

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Ordering Information

Part Number	Top Mark	Package		Tape & Reel
SF5938SDP	SF5938SDP	DIP8	RoHs	

Output Power Table(1)

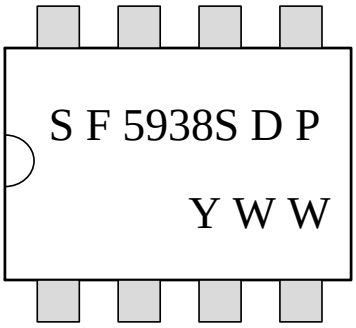
Part Number	230VAC ± 15%(2)	85-265VAC
	Adapter(3)	Adapter(3)
SF5938S	18W	13W

Note 1. The Max. output power is limited by junction temperature.
Note 2. 230VAC or 100/115VAC with doublers
Note 3. Typical continuous power in a non-ventilated enclosed adapter with sufficient drain pattern as a heat sink at 50°C ambient.

Comparison between NC-Cap/PSR-II™ and NC-Cap/PSR™

Function	NC-Cap/PSR-II™	NC-Cap/PSR™
CV/CC Precision	±4%	±5%
Audio Noise Cancellation Control	√	
Fast Dynamic Response Control	√	
Zero Output Startup Control	√	
Smart Output Short Protection	√	
FB Short Protection	√	
Maximum Output Voltage	50V	20V

Marking Information



YWW: Year&Week code

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