

FEATURES

- ◆ Proprietary NC-Cap/PSR-II™ Control:
 - $\pm 4\%$ 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
- ◆ AC/DC LED lighting

GENERAL DESCRIPTION

SF5930S is a high performance, highly integrated DCM (Discontinuous Conduction Mode) Primary Side Regulation (PSR) power controller for offline small power converter applications. It can achieve less than $\pm 4\%$ CV/CC precision.

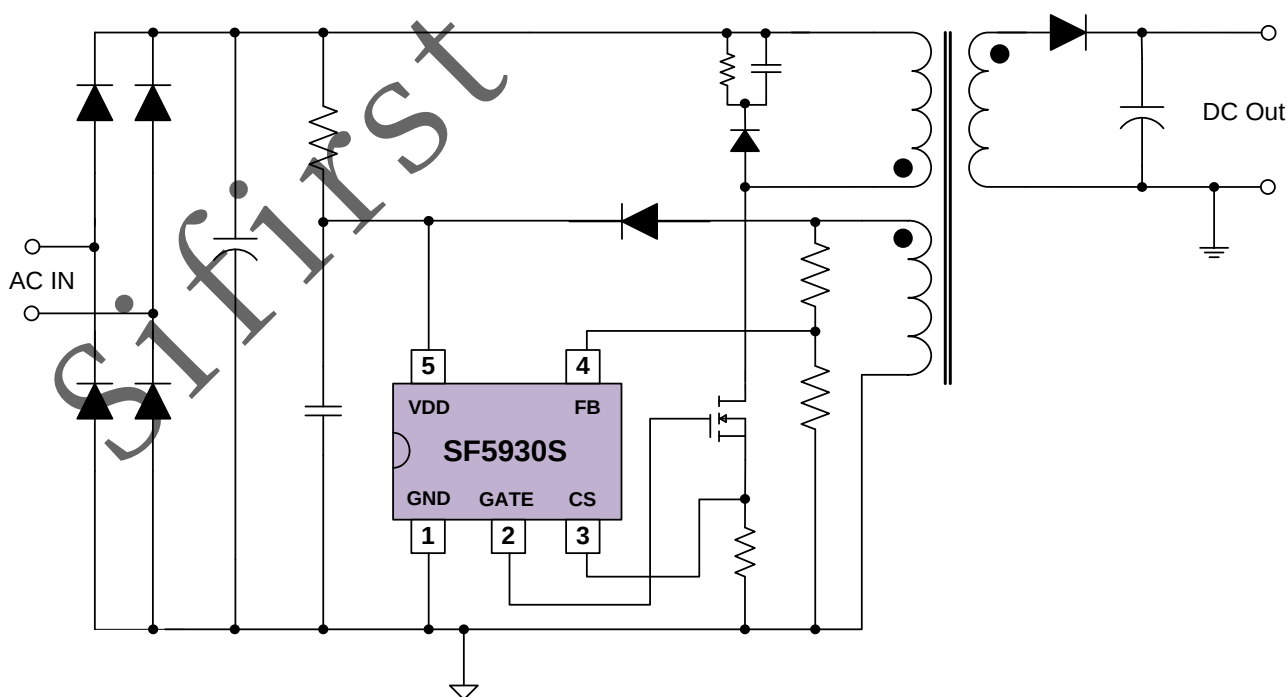
SF5930S has built-in proprietary **NC-Cap/PSR-II™** control for CV control, which eliminates external compensation or filtering capacitor. It has built-in cable drop compensation function, which can provide excellent CV performance. The IC uses Multi Mode Control to improve efficiency and reliability and to decrease audio noise energy @ light loadings. The IC can achieve less than 70mW standby power.

SF5930S 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. SF5930S 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.

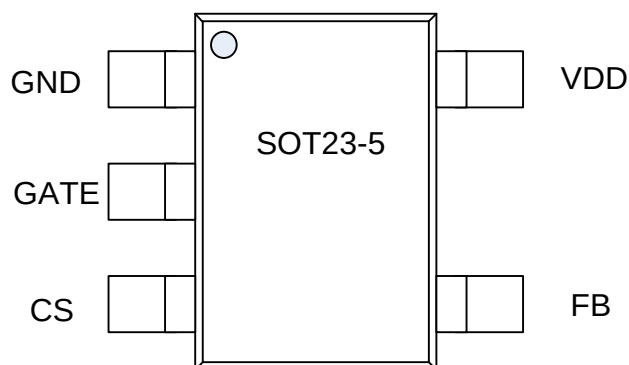
SF5930S integrates functions and protections of FB Short Protection, Under Voltage Lockout (UVLO), VDD Over Voltage Protection (VDD OVP), Soft Start, Cycle-by-cycle Current Limiting (OCP), Pin Floating Protection, Gate Clamping, VDD Clamping.

SF5930S is available in SOT23-5 package.

TYPICAL APPLICATION



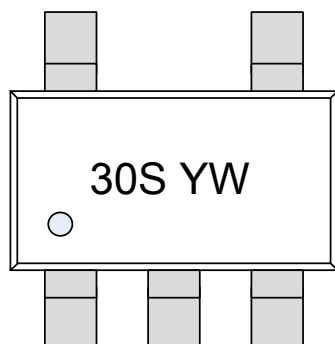
Pin Configuration



Ordering Information

Part Number	Top Mark	Package		Tape & Reel
SF5930SMGT	.30SYW	SOT23-5	Green	Yes

Marking Information



Dot: Pin1 Mark
YW: Year & Week Code

Pin Description

Pin Num	Pin Name	I/O	Description
1	GND	P	Ground
2	GATE	O	Totem-pole gate driver output to drive the external MOSFET.
3	CS	I	Current sense pin.
4	FB	I	System feedback pin. This control input regulates both the output voltage in CV mode and output current in CC mode based on the flyback voltage of the auxiliary winding.
5	VDD	P	IC power supply pin.

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