NC-Cap/PSR™ (Primary Side Regulation) CV/CC Power Switch

FEATURES

- **Built-in 700V Power BJT**
- **Proprietary NC-Cap/PSR™ (Primary Side Regulation) Control without External Compensation/Filtering Capacitor Needed**
- **30KHz Max. Frequency Clamping @ Output Short Circuit**
- **±5% Constant Current (CC) and Constant Voltage (CV) Regulation at Universal AC Input**
- **Proprietary Cable Voltage Drop Compensation in CV Mode**
- **Low Standby Power Under 70mW**
- **Wide VDD Operating Range (7V to 31V)**
- **Compensate for Transformer Inductance Tolerances and Line Voltage Variation**
- **Pin Floating Protection**
- **Cycle-by-Cycle Current Limiting**
- **Built-in Leading Edge Blanking (LEB)**
- **Built-in Soft Start**
- **Output Over Voltage Protection**
- **VDD UVLO, 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

SF6072 is a high precision, highly integrated DCM (Discontinuous Conduction Mode) Primary Side Regulation (PSR) power switch for offline small power converter applications. It can directly drive power BJT, which can further lower system cost.

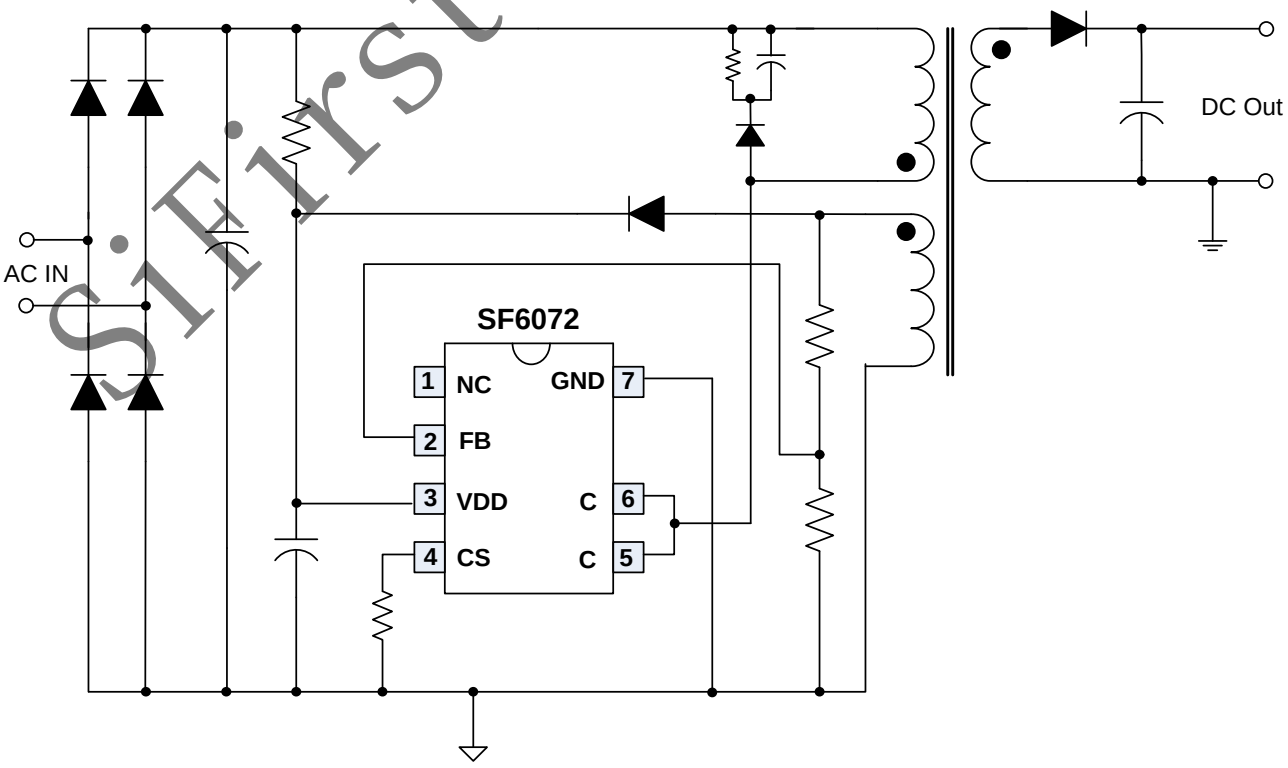
SF6072 uses ***Multi Mode Control*** to improve efficiency and reliability and to decrease audio noise energy @ light loadings. Around the full load, the system operates in PWM+PFM mode, which improve the system reliability. Under light load conditions, the IC operates in PFM mode to achieve excellent regulation and high efficiency, and to achieve less than 70mW standby power. SF6072 also integrates the function of "***Max. Frequency Clamping @ Output Short Circuit***" to limits power BJT Vce spike when output short circuits occurs.

SF6072 has built-in proprietary **NC-Cap/PSR™** 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.

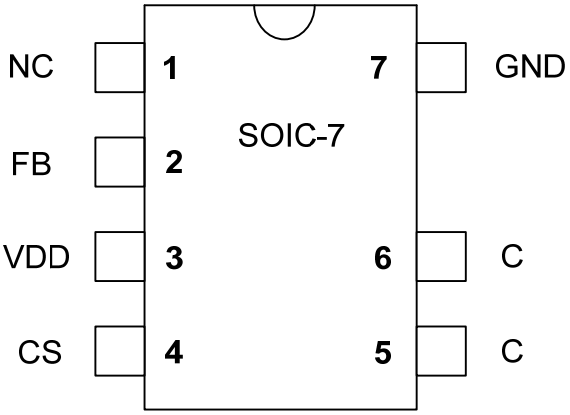
SF6072 integrates functions and protections of Under Voltage Lockout (UVLO), VDD Over Voltage Protection (VDD OVP), Output Over Voltage Protection (Output OVP), Soft Start, Cycle-by-cycle Current Limiting (OCP), Pin Floating Protection, VDD Clamping.

SF6072 is available in SOIC-7 package.

TYPICAL APPLICATION



Pin Configuration



Ordering Information

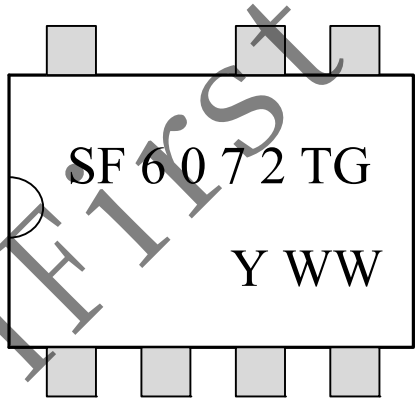
Part Number	Top Mark	Package		Tape & Reel
SF6072TG	SF6072TG	SOIC-7	Green	
SF6072TGT	SF6072TGT	SOIC-7	Green	Yes

Output Power Table[1]

Part Number	230VAC ± 15%[2]	85-265VAC
	Adapter[3]	Adapter[3]
SF6072	6.5W	4.5W

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.

Marking Information



YWW: Year&Week code

Pin Description

Pin Num	Pin Name	I/O	Description
1	NC	-	No connect.
2	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.
3	VDD	P	IC power supply pin.
4	CS	I	Current sense pin.
5-6	C	P	High voltage power BJT collector pin.
7	GND	P	Ground