

## FEATURES

- ◆ Built-in 700V Power BJT
- ◆ 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
- ◆ Direct Drive of Low Cost BJT
- ◆ Proprietary Cable Drop Compensation
- ◆ Multi Mode Control
- ◆ Wide VDD Operating Range
- ◆ 11.7V UVLO Hysteresis Window
- ◆ Cycle-by-Cycle Current Limiting
- ◆ Leading Edge Blanking (LEB)
- ◆ Built-in Soft Start, Pin Floating Protection
- ◆ VDD UVLO, OVP & Clamp

## APPLICATIONS

- ◆ Battery chargers
- ◆ Replaces linear transformer and RCC SMPS
- ◆ Small power adapter
- ◆ AC/DC LED lighting

## GENERAL DESCRIPTION

SF6021 is a high precision, highly integrated DCM (Discontinuous Conduction Mode) Primary Side Regulation (PSR) power switch for offline small power converter applications. It has built-in power BJT, which can further lower system cost.

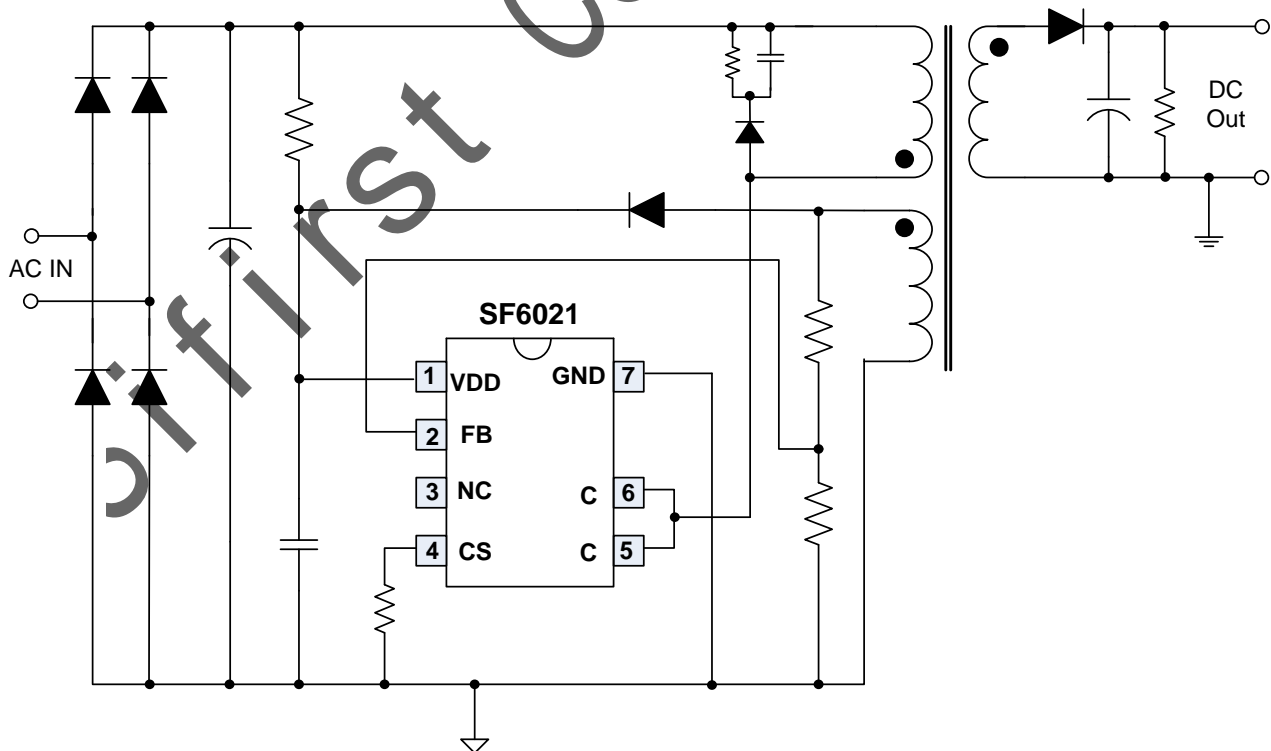
SF6021 has built-in proprietary **NC-Cap/PSR-II™** control for CV control, which eliminates external compensation or filtering capacitor. It has built-in cable drop compensation function, which can provide excellent CV performance. The IC uses Multi Mode Control to improve efficiency and reliability and to decrease audio noise energy @ light loadings.

SF6021 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. SF6021 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.

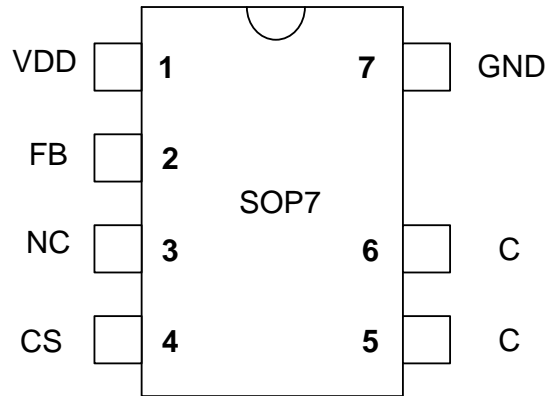
SF6021 integrates functions and protections of FB Short Protection, Under Voltage Lockout (UVLO), VDD Over Voltage Protection (VDD OVP), Soft Start, Cycle-by-cycle Current Limiting (OCP), Pin Floating Protection, VDD Clamping.

SF6021 is available SOP7 packages.

## TYPICAL APPLICATION



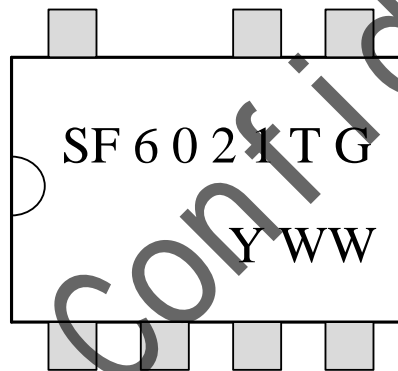
## Pin Configuration



### Ordering Information

Part Number	Top Mark	Package		Tape & Reel
SF6021TG	SF6021TG	SOP7	Green	
SF6021TGT	SF6021TG	SOP7	Green	Yes

### Marking Information



YWW: Year&Week code

### Pin Description

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