

## 2<sup>nd</sup> Generation Quasi-Resonant (QR-II™) PWM Controller

### FEATURES

- ◆ Easily Meet EPS Level 6
- ◆ Proprietary QR-II™ Technology:
  - Digital Anti-jitter for Audio Noise Free Operation
  - Digital Frequency Foldback
  - Digital Frequency Jittering for Better EMI
- ◆ Less than 100mW Standby Power
- ◆ Multi-Mode Operation for High Efficiency
- ◆ 12.7us Maximum On Time
- ◆ 80KHz Maximum Frequency Limit
- ◆ 52KHz Frequency Low Clamping in QR Mode
- ◆ 65% Maximum Duty Cycle
- ◆ Adaptive Slope Compensation for CCM Mode
- ◆ Built-in Soft Start Function
- ◆ Pin Floating Protection
- ◆ Built-in Synchronous Slope Compensation
- ◆ Cycle-by-Cycle Current Limiting
- ◆ Leading Edge Blanking (LEB)
- ◆ Constant Power Limiting
- ◆ VDD UVLO, OVP & Clamp

### APPLICATIONS

Offline AC/DC Flyback Converter for

- ◆ AC/DC Adaptors
- ◆ SMPS Power Supply

### GENERAL DESCRIPTION

SF5773 is a high performance, 2<sup>nd</sup> Generation Quasi-Resonant (QR-II™) PWM controller for offline flyback power converter applications. The built-in proprietary QR-II™ technology with high level protection features improves the SMPS reliability and performance.

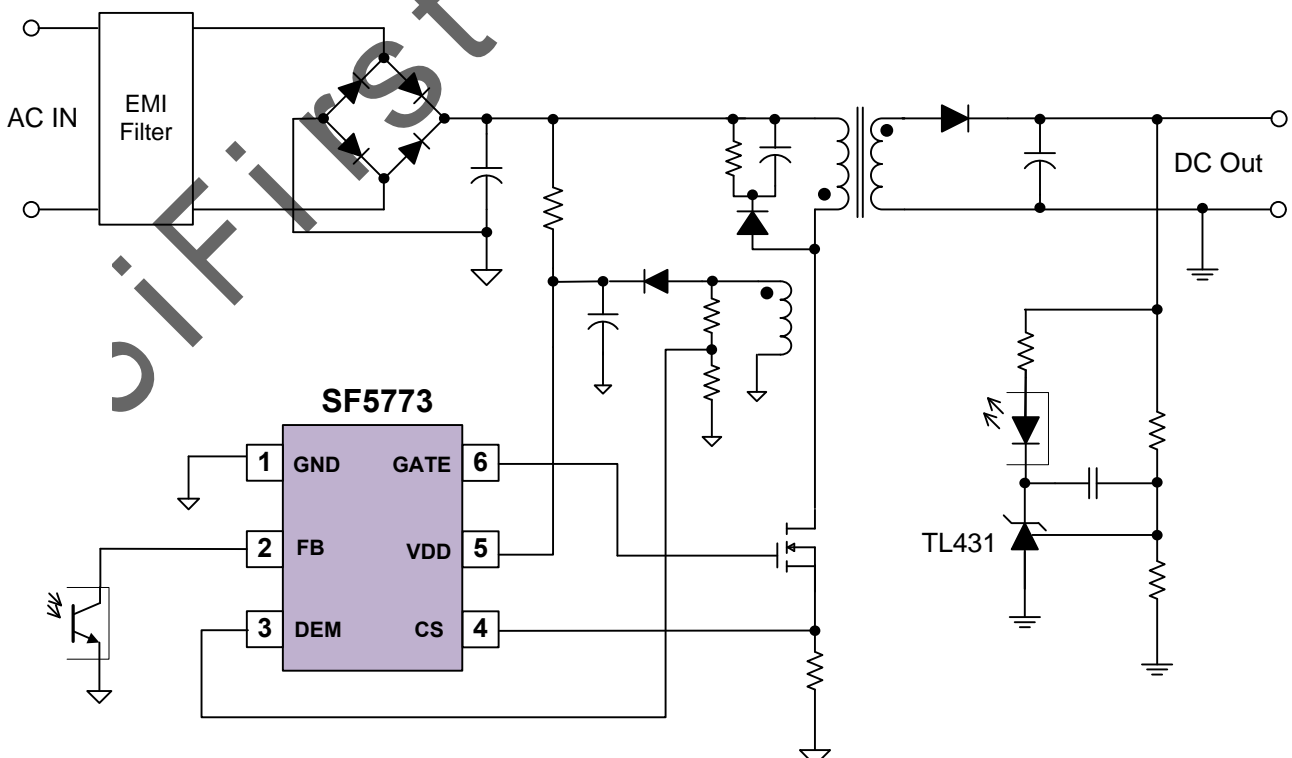
In SF5773, the “**Digital Anti-Jitter**” function can automatically select and lock a valley at a given loading, which can achieve audio noise free operation. On the other hand, the “**Digital Frequency Jittering**” function makes the system have superior EMI performance than conventional QR system.

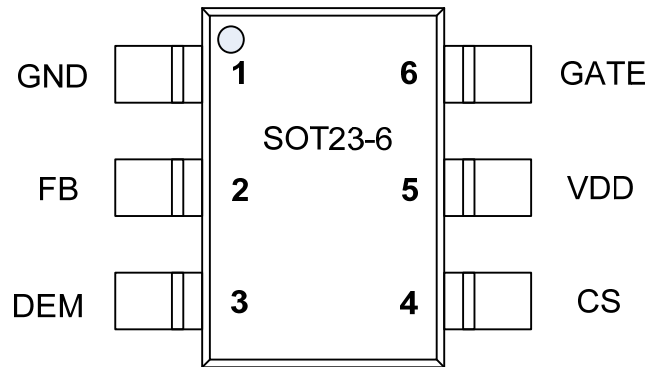
SF5773 is a multi mode controller. When full loadings, the IC works in CCM mode or QR mode based on the AC line input. When the loading goes low, the IC enters into “**Digital Frequency Foldback**” mode to boost power conversion efficiency. When the output power is very small, the IC enters into burst mode and can achieve less than 100mW no load power.

SF5773 integrates functions and protections of Under Voltage Lockout (UVLO), VCC Over Voltage Protection (OVP), Output Over Voltage Protection (Output OVP), Cycle-by-cycle Current Limiting (OCP), Pin Floating Protection, Over Load Protection (OLP), Soft Start, VCC Clamping, Gate Clamping, etc. In SF5773, the protection functions are auto-recovery mode protection.

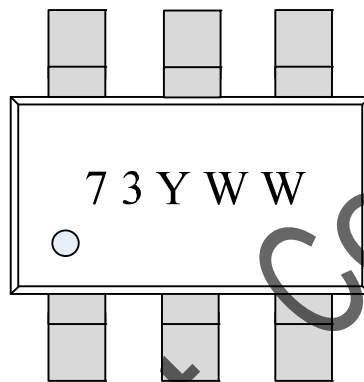
SF5773 is available in SOT23-6 package.

### TYPICAL APPLICATION



**Pin Configuration**

**Ordering Information**

Part Number	Top Mark	Package		Tape & Reel
SF5773LGT	.73YWW	SOT26	Green	Yes

**Marking Information**


Dot: Pin1 Mark  
 73: Part number SF5773  
 YWW: Year & Week Code

**Pin Description**

Pin Num	Pin Name	I/O	Description
1	GND	P	IC ground pin.
2	FB	I	Voltage feedback pin. The loop regulation is achieved by connecting a photo-coupler to this pin. PWM duty cycle is generated by this pin voltage and the current sense signal at Pin 4.
3	DEM	I	Transformer core demagnetization detection pin. This pin is also used for output over voltage protection (Output OVP).
4	CS	I	Current sense input pin.
5	VDD	P	IC power supply pin.
6	GATE	O	Totem-pole gate driver output to drive the external MOSFET.