DESCRIPTION

The RS2052 is a highly integrated low cost current mode PWM controller, which is ideal for small power current mode of offline AC-DC fly-back converter applications. Making use of external resistors, the IC changes the operating frequency and automatically enters the PFM/CRM (Cycle Reset Mode) under light-load/zero-load conditions. This can minimize standby power consumption and achieve power-saving functions. With a very low start-up current, the RS2052 could use a large value start-up resistor (2MΩ).

Built-in synchronized slope compensation enhances the stability of the system and avoids sub-harmonic oscillation. Dynamic peak current limiting circuit minimizes output power change caused by delay time of the system over a universal AC input range. Leading edge blanking circuit on current sense input could remove the signal glitch due to snubbed circuit diode reverse recovery and thus greatly reduces the external component count and system cost in the design. Cycle-by-Cycle current limiting ensures safe operation even during short-circuit. Excellent EMI performance is achieved built-in soft driver and low EMI technique.
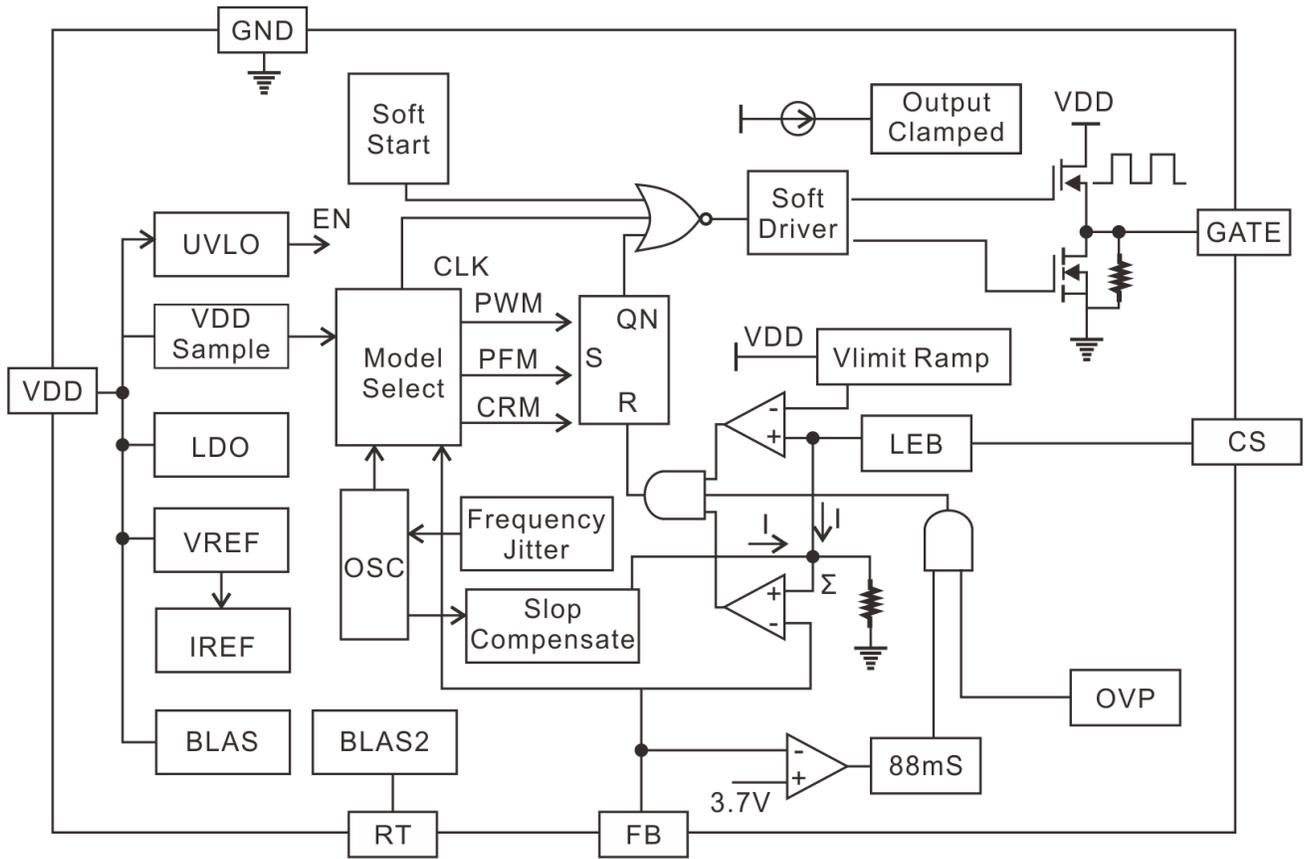
APPLICATIONS

- Switching AC/DC Adaptor
- Open Frame Switching Power Supply
- Standby Power Supplies
- Set-Top Box Power Supplies

FEATURES

- Low standby power（<0.1W）
- Low startup current (about 5μA)
- Low operating current (about 1.5mA)
- Power on Soft Start Reducing Power MOSFET Vds Stress
- Adjustable OTP
- Over Voltage (fixed or adjustable) Protection (OVP)
- OLP, OVP and OTP coverage with auto-recovery
- PWM&PFM&CRM Current Control Mode
- Built-in Synchronized Slope Compensation
- Frequency shuffling for Excellent EMI Performance
- Fixed 65KHz Switching Frequency
- Audio Noise Free Operation
- Leading edge Blanking on Sense input
- Constant output power limiting for universal AC input Range
- Soft Clamped GATE output voltage 12.0V
- Good Protection Coverage With Under Voltage Lockout (UVLO)/Cycle-by-cycle current limiting/Power On Soft Start/OTP/SCP/OLP
- SOT-23-6L, DIP-8L Package
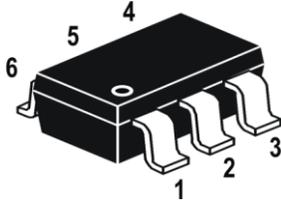- 3000V HBM ESD

BLOCK DIAGRAM
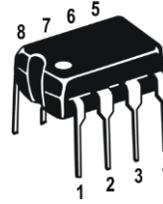
APPLICATION CIRCUITS
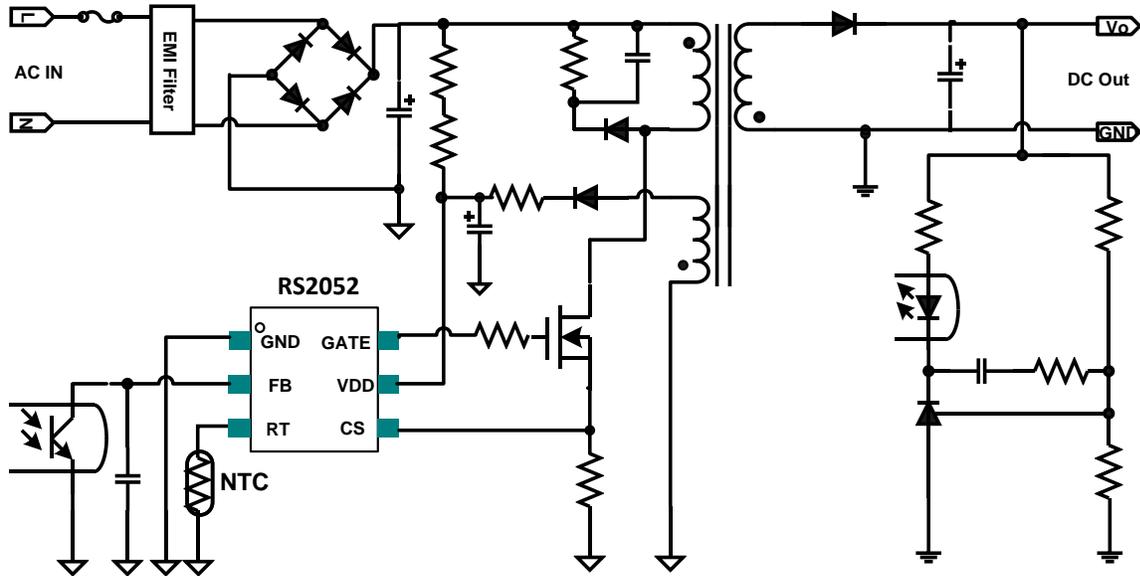
ORDERING INFORMATION

Device	Device Code

RS2052 Y Z	Y is package & Pin Assignments designator :
	  P : DIP-8
	  N: SOT-23-6
	Z is Lead Free designator :
	  P: Commercial Standard, Lead (Pb) Free and Phosphorous (P) Free Package
	  G: Green (Halogen Free with Commercial Standard)

PIN ASSIGNMENTS

SOT-23-6

DIP-8

PIN DESCRIPTION

Pin Name	Description	Pin No.	
		DIP	**SOT-23**
GATE	Totem output to drive the external power MOSFET.	1	6
VDD	Power Supply Voltage.	2	5
NC	No Connect.	3	-
CS	Current Sense Input pin. Connected to MOSFET Current Sensing Node.	4	4
RT	Connect through a NTC resistor to GND for OTP protect, connect through zener to VDD for adjustable over voltage protect.	5	3
NC	No Connect.	6	-
FB	Voltage feedback pin. Output current of this pin could controls the PWM duty cycle, OLP and SCP.	7	2
GND	Ground pin.	8	1

IMPORTANT NOTICE

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