

DESCRIPTION

The RS2051 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 Burst/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 RS2051 could use a large value start-up resistor (2M Ω). 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 snubber 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 start with 1.2ms \ soft driver and frequency jiggling to reduce EMI.

The RS2051 offers perfect protection like OVP, OLP, SCP, Sense Fault Protection, Latch Mode and OCP. The RS2051's output driver is soft clamped to maximum 18V to protect the power MOSFET. RS2051 is offered in SOT-26, SOP-8 and DIP-8 packages.

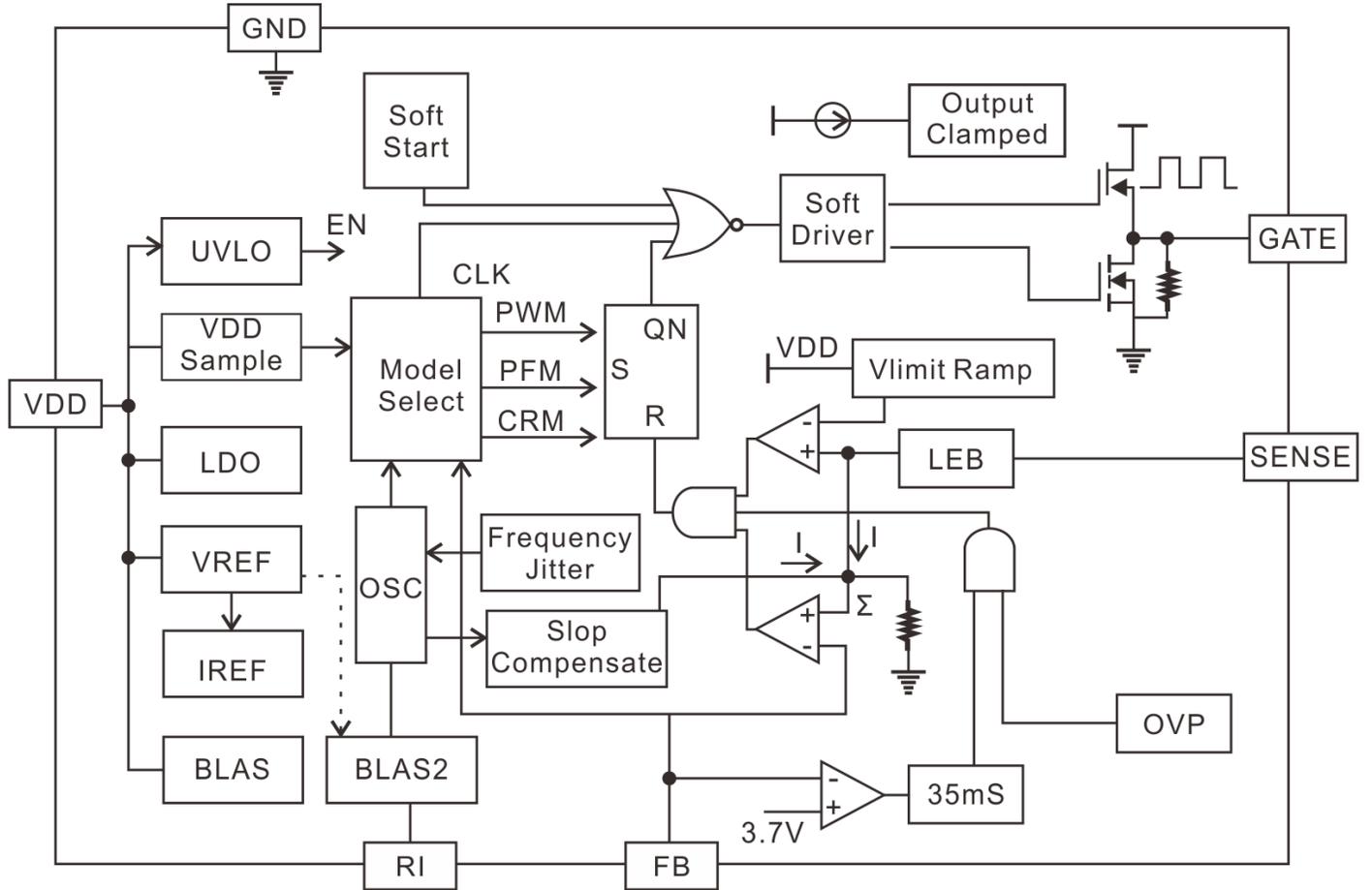
FEATURES

- Low Cost, PWM, Burst & CRM (Cycle Reset Mode)
- Low Operating Current (1.2mA)
- Low Start-up Current (about 3 μ A)
- Under Voltage Lockout (UVLO)
- Built-in Synchronized Slope Compensation
- Built-in Frequency Jiggling for better EMI Signature
- Programmable PWM Frequency
- Audio Noise Free Operation
- Soft Clamped GATE output voltage 18V
- VDD over voltage protect 34V
- Cycle-by-cycle current limiting
- Sense Fault Protection
- Latch mode After OLP&SCP
- RoHS Compliant and 100% Lead (Pb)-Free

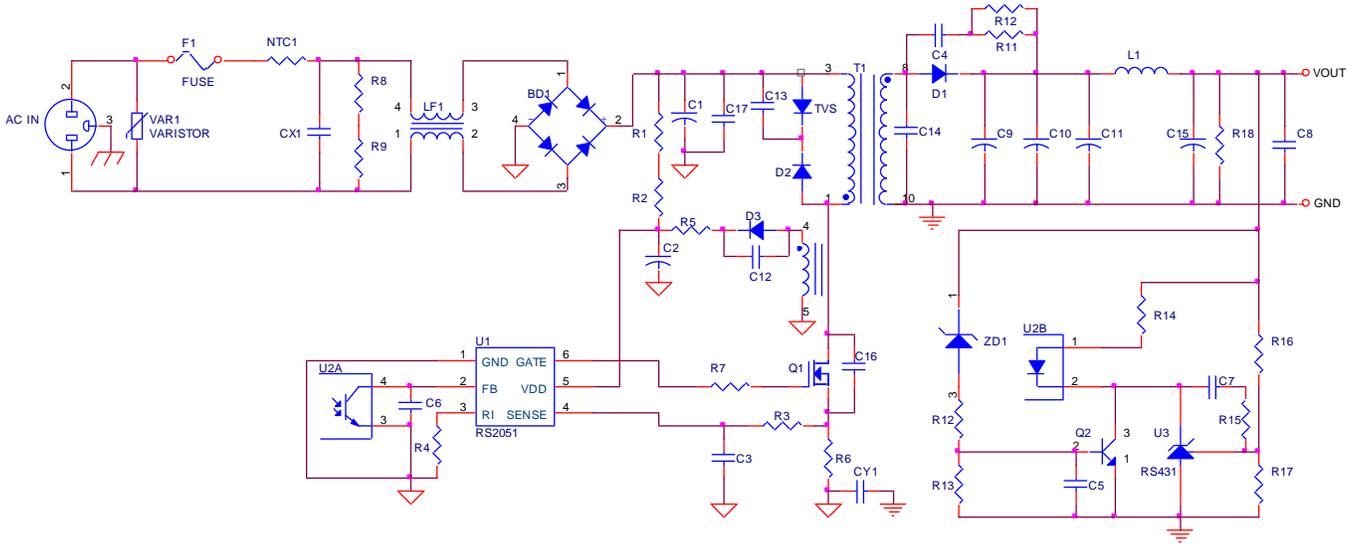
APPLICATIONS

- Switching AC/DC Adaptor
- Battery Charger
- Open Frame Switching Power Supply
- Standby Power Supplies
- VCR, SVR, STB, DVD & DVCD Player SMPS
- Auxiliary Power Supply for PC and Server
- Open-frame SMPS

BLOCK DIAGRAM



APPLICATION CIRCUITS

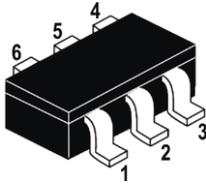


ORDERING INFORMATION

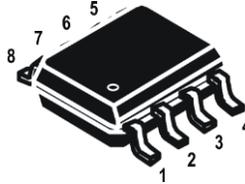
Device	Device Code
RS2051 Y	Y is package & Pin Assignments designator : N: SOT-26 S : SOP-8 P : DIP-8

PIN ASSIGNMENTS

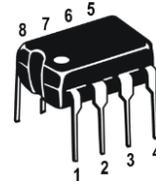
SOT-26



SOP-8



DIP-8



PIN DESCRIPTION

SOT-26

Pin Name	Description	Pin No.
GND	GND Pin	1
FB	Voltage feedback pin. Output current of this pin could controls the PWM duty cycle, OLP and SCP.	2
RI	This pin is to program the switching frequency. By connecting a resistor to ground to set the switching frequency	3
SENSE	Current sense pin, connect to sense the MOSFET current	4
VDD	Supply voltage pin	5
GATE	Totem output to drive the external Power MOSFET.	6

SOP-8 / DIP-8

Pin Name	Description	Pin No.
GATE	Totem output to drive the external Power MOSFET.	1
VDD	Supply voltage pin	2
NC	No Connect	3
SENSE	Current sense pin, connect to sense the MOSFET current	4
RI	This pin is to program the switching frequency. By connecting a resistor to ground to set the switching frequency	5
FB	Voltage feedback pin. Output current of this pin could controls the PWM duty cycle, OLP and SCP.	6
GND	GND Pin	7
GATE	Totem output to drive the external Power MOSFET.	8

IMPORTANT NOTICE

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