

PWM Off-Line Switching Regulator ICs

Features and Benefits

- Current mode PWM control
- Brown-In and Brown-Out function: auto-restart, prevents excess input current and heat rise at low input voltage
- Auto Standby function: improves efficiency by Burst mode operation in light load
 - Normal load operation: PWM mode
 - Light load operation: Burst mode
- No load power consumption < 30 mW
- Operating frequency, $f_{OSC(AVG)}(typ) = 67\text{ kHz}$
- Random Switching function: reduces EMI noise, and simplifies EMI filters
- Slope Compensation function: avoids subharmonic oscillation
- Leading Edge Blanking function

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Package: TO-220F-6L



Not to scale

Description

The STR-W6051S, STR-W6052S, and STR-W6053S are power ICs for switching power supplies, incorporating a power MOSFET and a current mode PWM controller IC in one package.

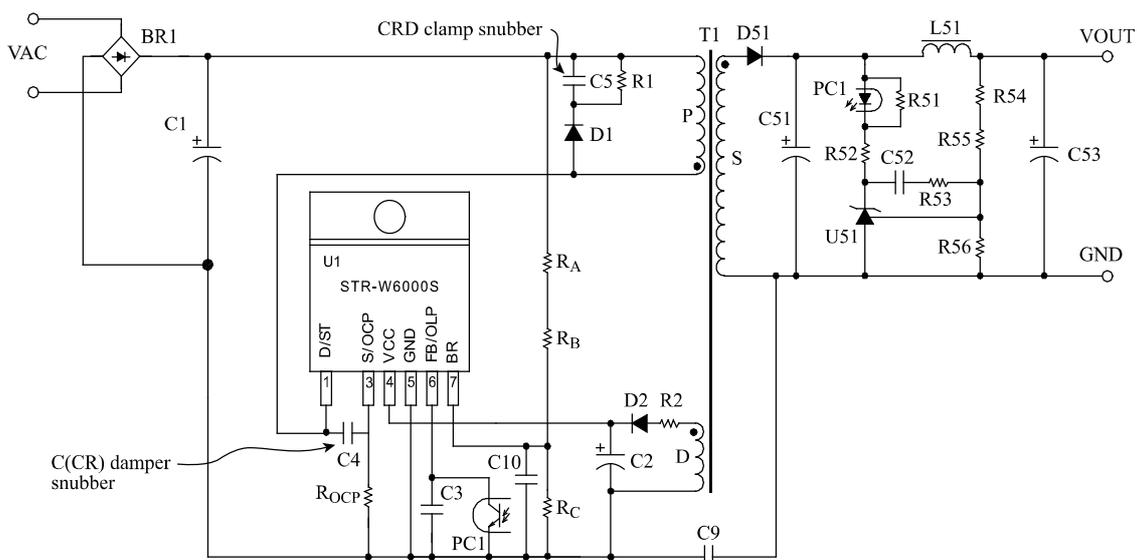
To achieve low power consumption, these products include a startup circuit and a standby function in the controller. The switching modes are automatically changed according to load conditions: in normal operation, PWM mode, and in light load conditions, burst mode. The rich set of protection features helps to realize low component counts, and high performance-to-cost power supply.

Applications:

Switching power supplies for electronic devices such as:

- Home appliances
- Digital appliances
- Office automation (OA) equipment
- Industrial apparatus
- Communication facilities

Typical Application Circuit



Features and Benefits (continued)

- Audible Noise Suppression function during Standby mode
- Protection features
 - Overcurrent protection (OCP): pulse-by-pulse, with input compensation function
 - Overvoltage protection (OVP): auto-restart
 - Overload protection (OLP): auto-restart, with timer
 - Thermal shutdown protection (TSD): auto-restart

Selection Guide

Part Number	Power MOSFET		Output Power*, P _{OUT} (W)	
	V _{DSS} (min) (V)	R _{DS(ON)} (max) (Ω)	230 VAC	85 to 265 VAC
STR-W6051S	650	3.95	45	30
STR-W6052S	650	2.8	60	40
STR-W6053S	650	1.9	90	60

*The listed output power is based on the thermal ratings, and the peak output power can be 120% to 140% of the value stated here. At low output voltage and short duty cycle, the output power may be less than the value stated here.