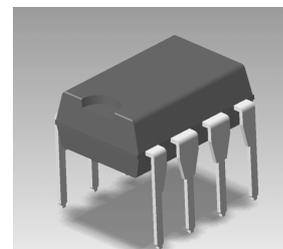


# STR-A6000 Series

## Power IC for PWM Type Switching Power Supply with Low Noise and Low Standby Power

### General Descriptions

The STR-A6000 series products are power ICs for switching power supplies, incorporating a power MOSFET and a current-mode type PWM controller IC. The low standby power is accomplished by the automatic switching between the PWM operation in normal operation and the burst-oscillation under light load conditions. The product achieves high cost-performance power supply systems with few external components.



DIP-8

### Features

- Current-Mode Type PWM Control
- Built-in Random Switching Function  
The function reduces the EMI noise and enables a simplified (low-cost) EMI filter, by the slight- random-change of PMW frequency  $f_{osc}$ .
- Auto-Standby Function: The burst-oscillation enables the low standby power. Input Power  $P_{IN} < 25mW$  at no load
- Built-in Startup Circuit, enabling low power consumption
- Brown-In / Brown-Out Function  
The function enables the oscillation start/stop by externally rated input voltage and makes protections at low input voltage.
- Overcurrent Protection (OCP) with Built-in Input Compensation Circuit:  
The protection has less AC input voltage dependency.
- Overload Protection (OLP) with Built-in Delay Timer
- High Speed Latch Release Function  
The function releases the latch immediately at AC supply OFF, after the latch protection operation.
- Bias-Assist Function, reducing Operating  $V_{CC}$  voltage drop  
The function improves the startup operation and makes a low  $V_{CC}$  capacitor applicable.
- Leading Edge Blanking Function
- Slope Compensation Function
- Built-in Avalanche Energy Guaranteed High-Voltage Power MOSFET
- Various Protections
  - Overcurrent Protection (OCP)----- Pulse-by-Pulse
  - Overload Protection (OLP) ----- Auto-Restart
  - Overvoltage Protection (OVP) ----- Latch Shutdown
  - Thermal Shutdown Protection (TSD) ----- Latch Shutdown

### Applications

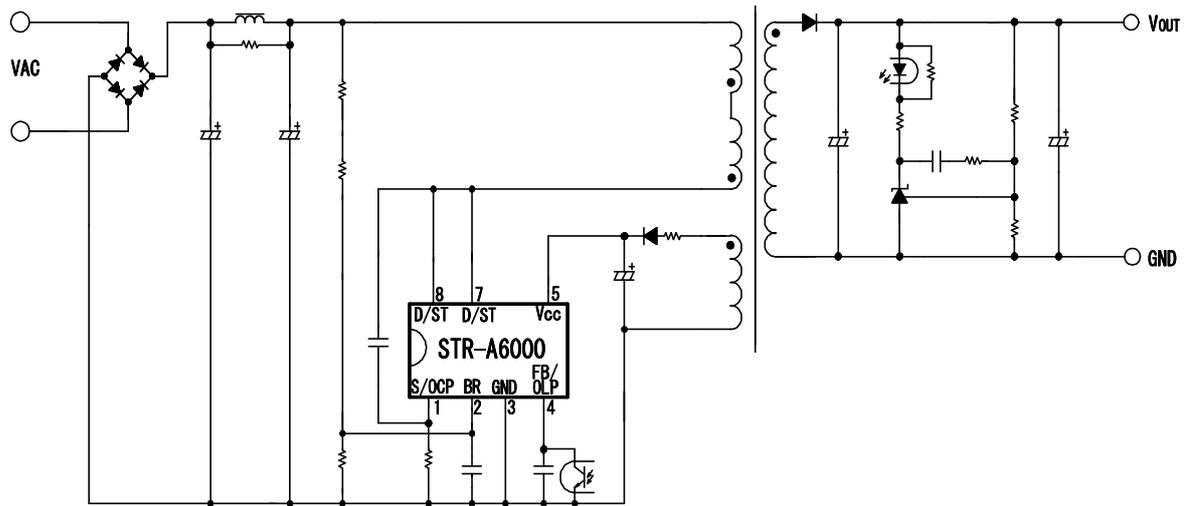
- Battery Chargers; Mobile Phones, Digital Cameras, Camcorders, Electric Shavers, Emergency/Inducement Lights etc.
- Standby Power Supplies; LCD-TVs, PDP-TVs, Desk-Top PCs, LBPs, Audio Equipment, etc.
- Small SMPSs; Ink Jet Printers, BD/DVD Players, CD Players, Set-Top-Boxes, etc.
- Auxiliary Power Supplies for Controllers; Air Conditioners, Refrigerators, Washing Machines, Dish Washers, etc

### Product Lineup

Product No	$f_{osc}$ (kHz)	MOSFET $V_{DSS}$ MIN (V)	$R_{DS(ON)}$ MAX ( $\Omega$ )	$P_{OUT}$ (Note 1) 230VAC/Universal
STR-A6051M	67	650	3.95	16W / 12W
STR-A6052M			2.8	20W / 16W
STR-A6053M			1.9	24W / 20W
STR-A6059H	100	700	6.0	10W / 8W
STR-A6062H			2.8	15W / 13W
STR-A6069H			6.0	10W / 8W
STR-A6079M	67	800	19.2	8W / 5W

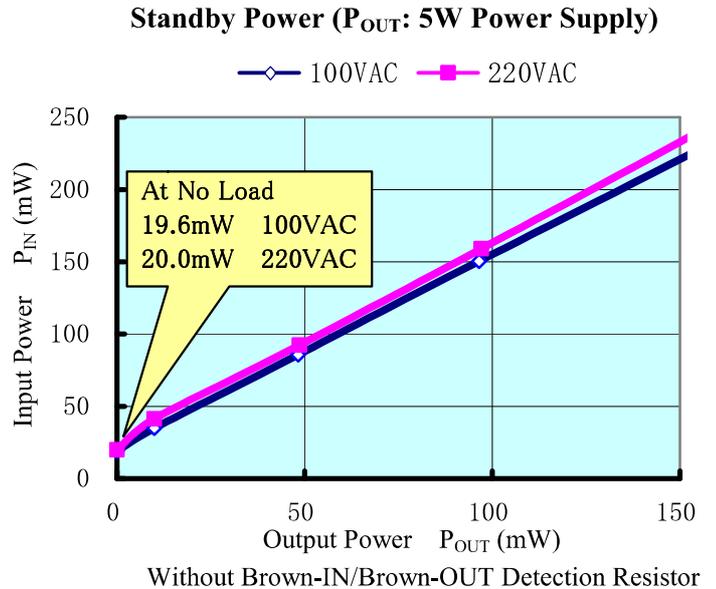
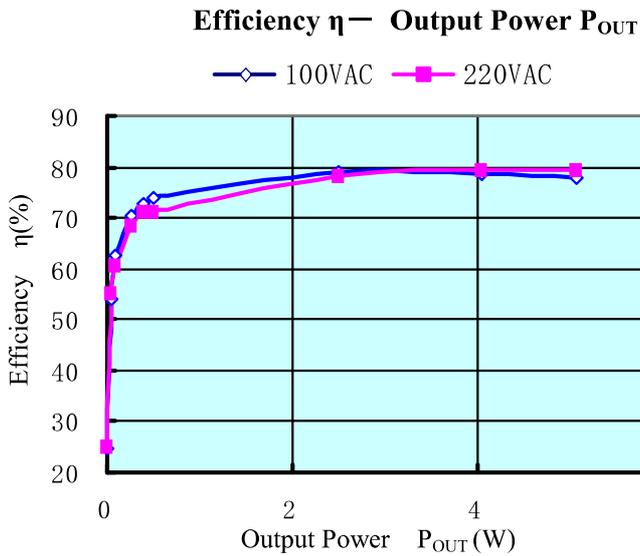
Note 1: The maximum output power is derived from thermal specifications. The actual output power may be available around 120 –140% of the above values, respectively, but may be limited by ON duty setting on transformer design or lower output voltage.

## ■ Typical Application Circuit



## ■ Typical Electrical Characteristics

### STR-A6079M Efficiency & Input Power at Standby



#### Warning

- The contents in this document are subject to changes, for improvement and other purposes, without notice. Make sure that this is the latest version of the document before use.
- The operation and circuit examples in this document are provided for reference purposes only. Sanken assumes no liability for violation of industrial property, intellectual property, or other rights of Sanken or third parties, that stem from these examples.
- The user must take responsibility for considering and determining which objects the products in this document are used with.
- Although Sanken will continue to improve the quality and reliability of its products, semiconductor products, by their nature, have certain fault and failure rates. The user must take responsibility for designing and checking to secure the device and system so that a part failure may not lead to human injury, fire, damages, or other losses.
- The contents in this document must not be transcribed or copied without Sanken's written consent.