



# THE DATASHEET OF A6052M

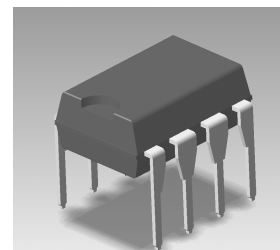


# STR-A6000 Series

## 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
- Protections
  - Overcurrent Protection (OCP)----- Pulse-by-Pulse
  - Overload Protection (OLP) ----- Auto-Restart
  - Overvoltage Protection (OVP) ----- Latch Shutdown
  - Thermal Shutdown Protection (TSD)----- Latch Shutdown

### Applications

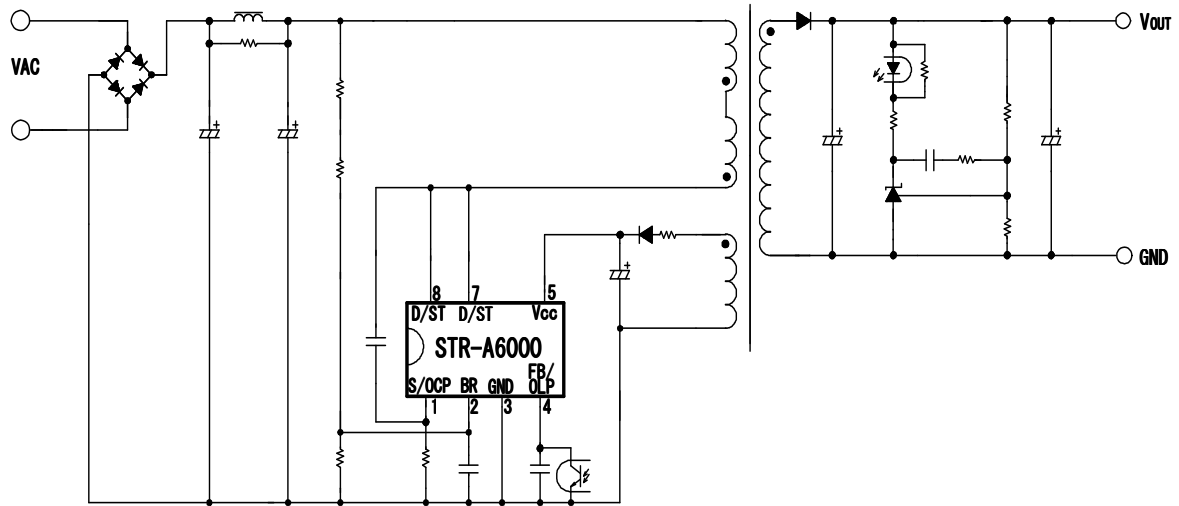
- Battery Chargers; Mobile Phones, Digital Cameras, Camcorders, Electric Shavers, Emergency/Inducement Lights etc.
- Standby Power Supplies; LCD-TVs, PDP-TVs, Desk-Top PCs, LBPs, Audio Equipment, etc.
- Small SMPSs; Ink Jet Printers, BD/DVD Players, CD Players, Set-Top-Boxes, etc.
- Auxiliary Power Supplies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

### Product Lineup

Product No	Operation Frequency (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-A6061H			3.95	13W/11W
STR-A6061HD			3.95	13W/11W
STR-A6062H			2.8	15W / 13W
STR-A6069H	67	800	6.0	10W / 8W
STR-A6079M			19.2	8W / 5W

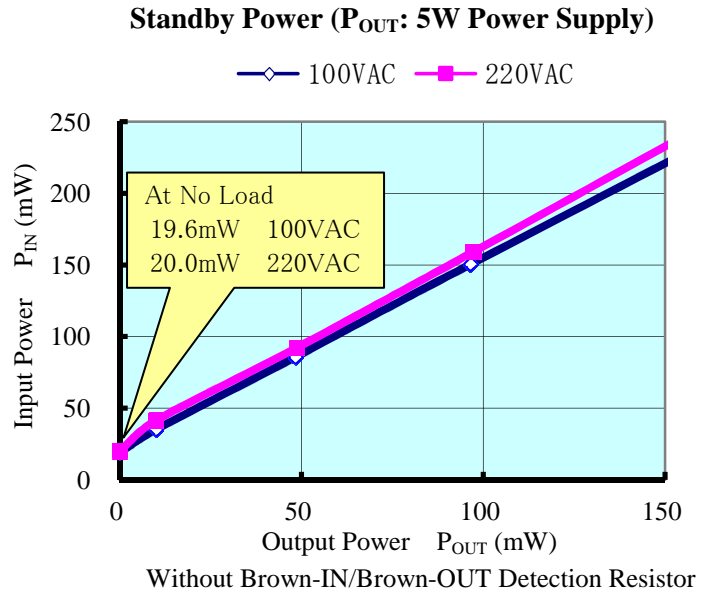
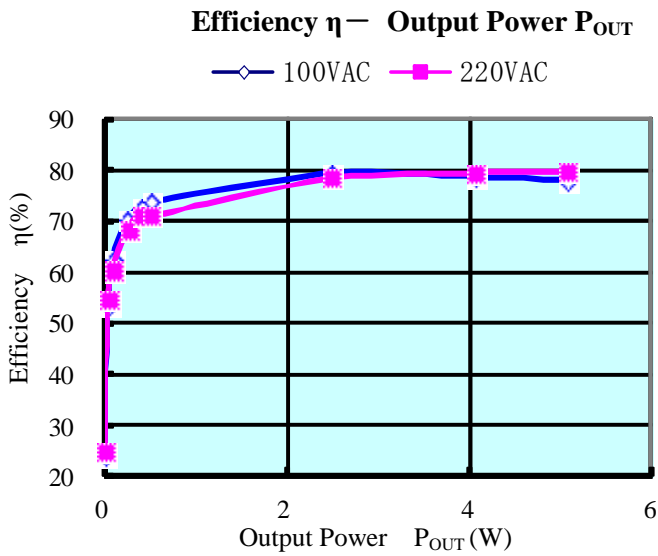
Note 1: The maximum output power is derived from thermal specifications. The actual output power may be available around 120 –140% of the above values, respectively, but may be limited by ON duty setting on transformer design or lower output voltage.

## ■ Typical Application Circuit



## ■ Typical Electrical Characteristics

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





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