

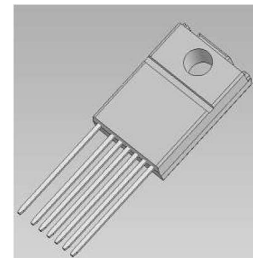
# STR-Y6400 Series

## Power IC for Quasi-Resonant Type Switching Power Supply with High Efficiency, Low Noise and Low Standby Power in Full Load Range

### General Descriptions

The STR-Y6400 series products are power ICs for quasi-resonant switching type power supplies, incorporating a power MOSFET and a controller IC. The product achieves high efficiency and low noise power supply systems across the full load range, by the low standby power, the quasi-resonant operation, the bottom-skip quasi-resonant operation, and the burst-oscillation.

The STR-L6400 series products are the different package (SIP-10) versions.



TO-220F-7

### Features

- Multi-Mode Control  
The operation mode switching with four steps according to load conditions achieves the optimal high efficiency and low noise power supply systems across the full load range.
  - In Standby: Auto Standby (Auto Burst-Oscillation)
  - Under Low to Middle Load Conditions: 1 or 2 Bottom-Skip Quasi-Resonant Operation (Bottom-Skip QR)
  - Under Middle to Rating (or Heavy) Load Conditions: Quasi-Resonant Operation (QR)
- Current-Mode Control
- Bottom-Skip Function with Delay Time Setting, enabling stable switching
- Built-in Startup Circuit, enabling low power consumption
- Auto-Standby Function with Burst-Oscillation, enabling low standby power (Input power  $P_{IN} < 100\text{mW}$  at no load)
- Soft-ON Function, preventing the audible noise from transformer, during the standby operation (burst-oscillation) and the dynamic load change.
- Soft-Start Function
- Step-Drive Function, reducing switching noise
- Leading Edge Blanking Function
- External ON/OFF Function
- Built-in Avalanche Energy Guaranteed High-Voltage Power MOSFET
- Various Protections
  - Overcurrent Protection (OCP)----- Pulse-by-Pulse with AC Input Compensation Function
  - Overload Protection (OLP) ----- Latch Shutdown or Auto-Restart Option by changing external components
  - Overvoltage Protection (OVP) ----- Latch Shutdown

### Applications

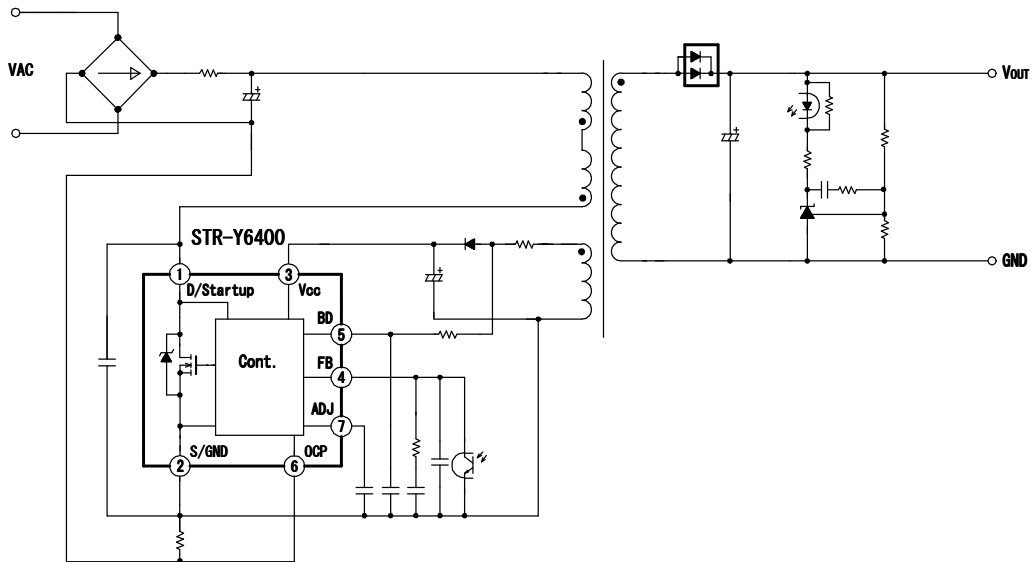
Switching Power Supplies for

Digital Consumer Equipment; LCD-TVs, BD/DVD Players/Recorders, etc., Home Appliance (White Goods), OA Equipments, Industry Machines, Communication Devices, Others

### Product Lineup

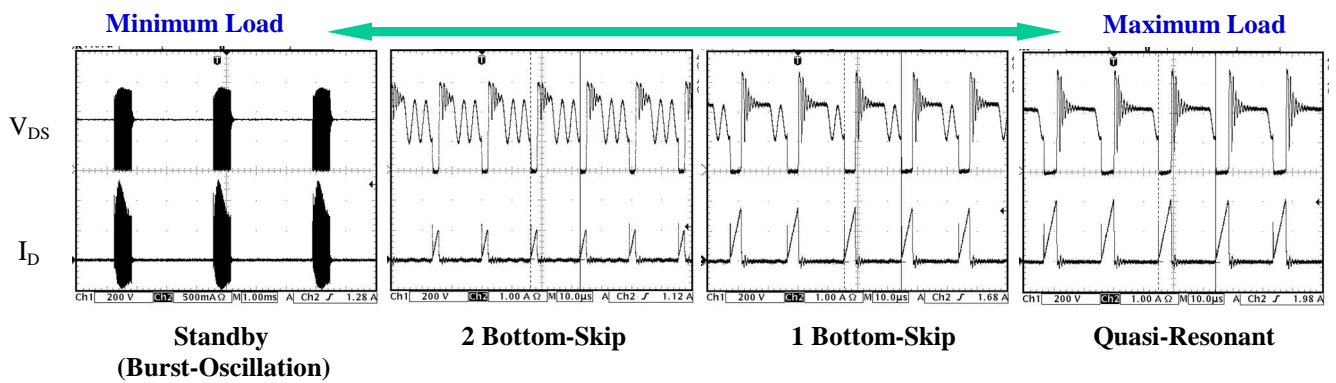
Product No.	MOSFET $V_{DSS}(\text{MIN})$ (V)	$R_{DS(\text{ON})}(\text{MAX})$ ( $\Omega$ )
STR-Y6453	650	1.8
STR-Y6456		0.73
STR-Y6473	850	3.6
STR-Y6476		1.3

## ■ Typical Application Circuit

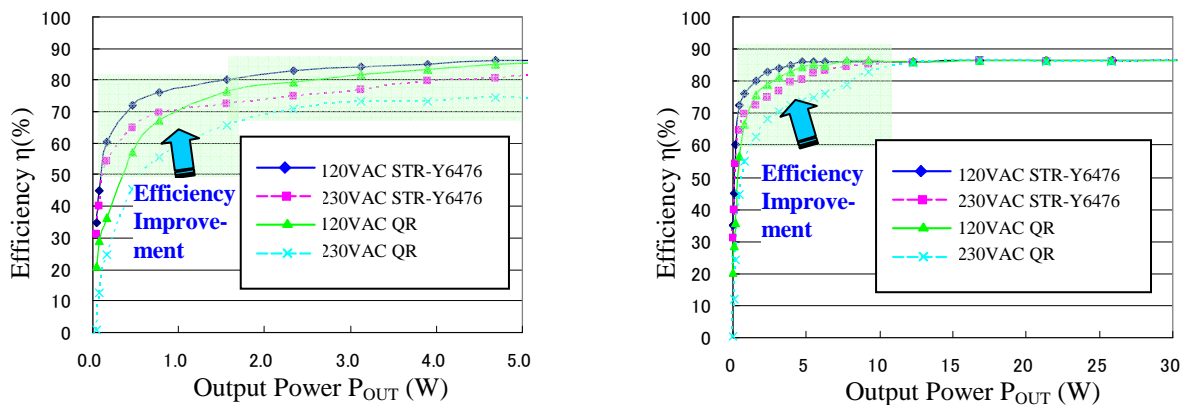


## ■ Typical Operation Waveforms & Typical Electrical Characteristics

### Operation Mode Transitions



### Efficiency Comparison of Multi Mode vs. Quasi-Resonant Mode



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