

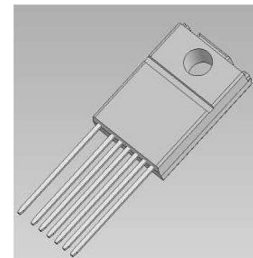
STR-Y6400 Series

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

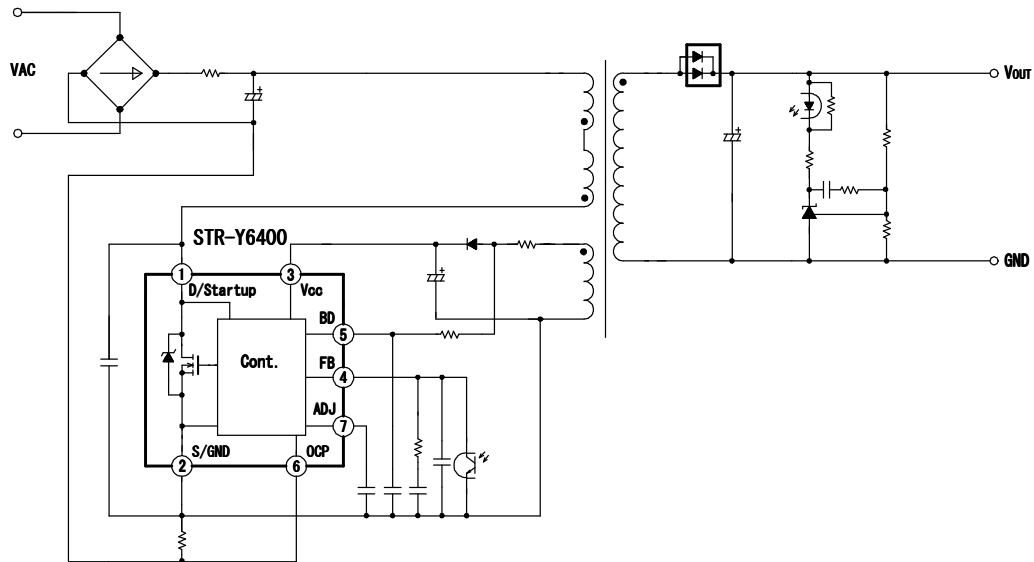
Switching Power Supplies for

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

Product Lineup

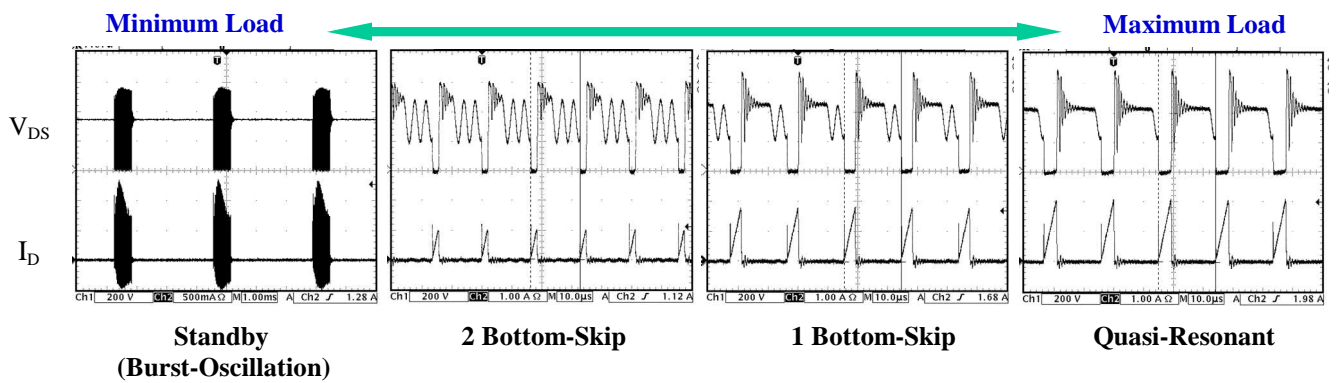
Product No.	MOSFET $V_{DS}(MIN)$ (V)	$R_{DS(ON)}(MAX)$ (Ω)
STR-Y6453	650	1.8
STR-Y6456		0.73
STR-Y6473	850	3.6
STR-Y6476		1.3

Typical Application Circuit

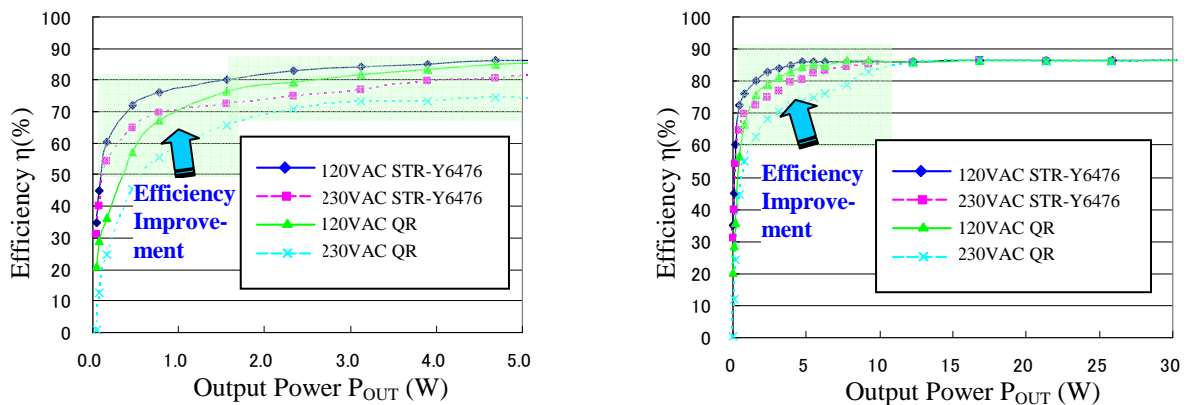


Typical Operation Waveforms & Typical Electrical Characteristics

Operation Mode Transitions



Efficiency Comparison of Multi Mode vs. Quasi-Resonant Mode



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.