

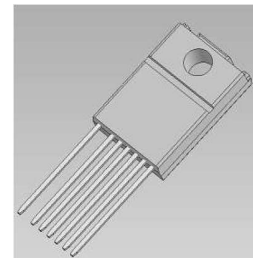
STR-Y6400 Series

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

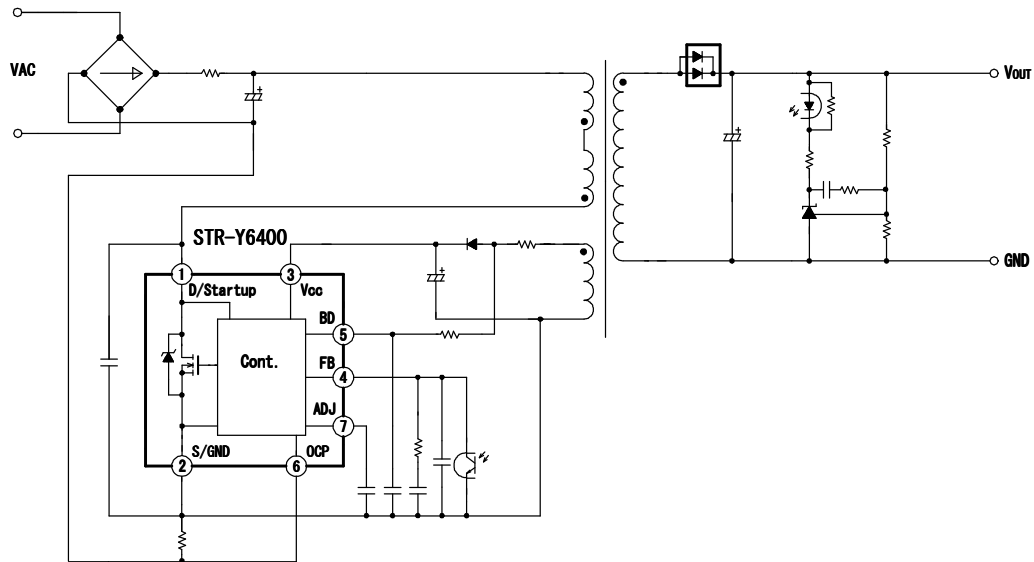
Switching Power Supplies for

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

Product Lineup

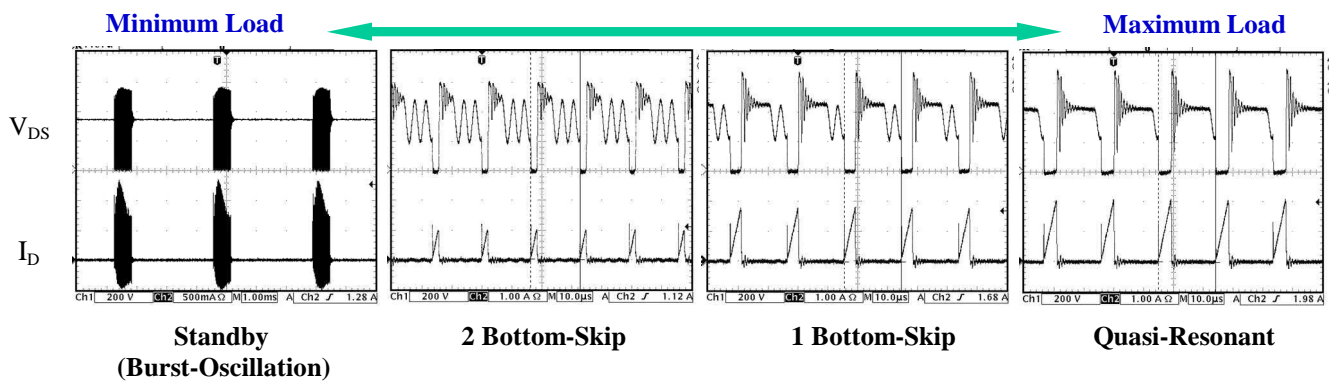
| Product No. | MOSFET $V_{DS}(MIN)$ (V) | $R_{DS(ON)}(MAX)$ (Ω) |
|-------------|--------------------------|--------------------------------|
| STR-Y6453 | 650 | 1.8 |
| STR-Y6456 | | 0.73 |
| STR-Y6473 | 850 | 3.6 |
| STR-Y6476 | | 1.3 |

■ Typical Application Circuit

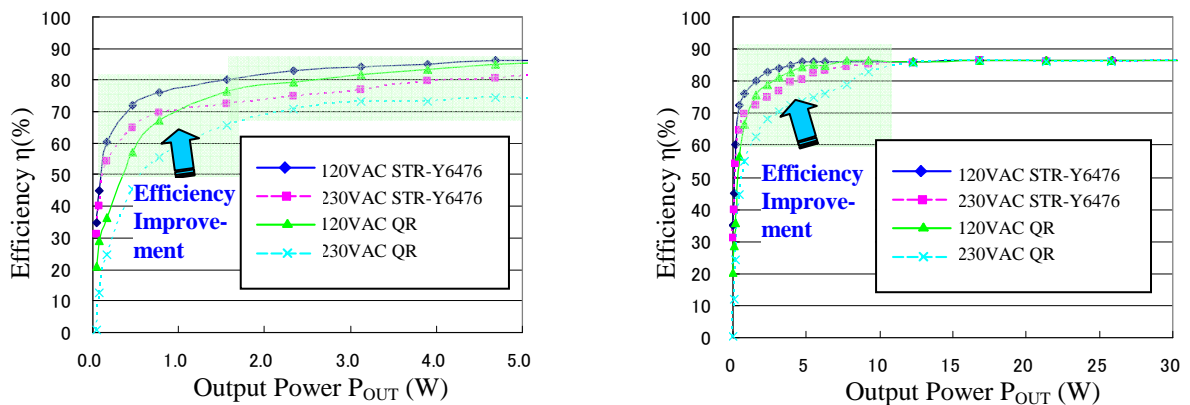


■ Typical Operation Waveforms & Typical Electrical Characteristics

Operation Mode Transitions



Efficiency Comparison of Multi Mode vs. Quasi-Resonant Mode



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