

STR-W6700 Series

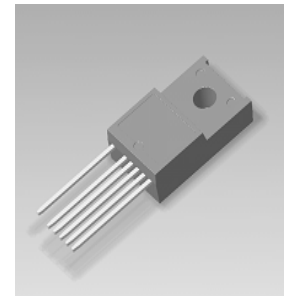


Power IC for Quasi-Resonant Type Switching Power Supply with High Efficiency and Low Noise in Full Load Range

General Descriptions

The STR-W6700 series products are power ICs for quasi-resonant type switching power supplies, incorporating a power MOSFET and a controller IC. The product achieves high efficiency and low noise power supply systems by the quasi-resonant operation and the bottom-skip quasi-resonant operation.

The STR-X6700 series products are the different package (TO-3PF) versions.



TO-220F-6

Features

Multi-Mode Control

The operation mode switching with three steps according to load conditions achieves the optimal high efficiency and low noise power supply systems across the full load range. (The confirmation of product number is necessary because some functions are different in each product.)

- In Standby (Under Standby Load Conditions):
 - UVLO Intermittent Oscillation by lowering output voltage --- Switched by Standby Signal, or
 - Auto Burst-Oscillation --- Switched Automatically
- Under Low to Middle Load Conditions: Bottom-Skip Quasi-Resonant Operation (Bottom-Skip QR)
- Under Middle to Rating (or Heavy) Load Conditions: Quasi-Resonant Operation (QR)

Current-Mode Control

Built-in PWM Oscillator

The PWM operates with the minimum frequency of around 22 kHz, until the quasi-resonant signal becomes valid, reduces the stress on components at startup and load-shorted.

Soft-Start Function

Step-Drive Function, reducing switching noise

Built-in Maximum ON Time Limitation Circuit

The function limits the maximum ON time of power MOSFET, during the transitions at low input voltage, power ON/OFF.

Input Compensation at Overcurrent

The function reduces the distortion of overcurrent operation point to AC input voltage change by adding three components.

Built-in Avalanche Energy Guaranteed High-Voltage Power MOSFET

Various Protections

- Overcurrent Protection (OCP) ----- Pulse-by-Pulse
- Overload Protection (OLP)----- Latch Shutdown
- Overvoltage Protection (OVP) ----- Latch Shutdown

Applications

Switching Power Supplies for

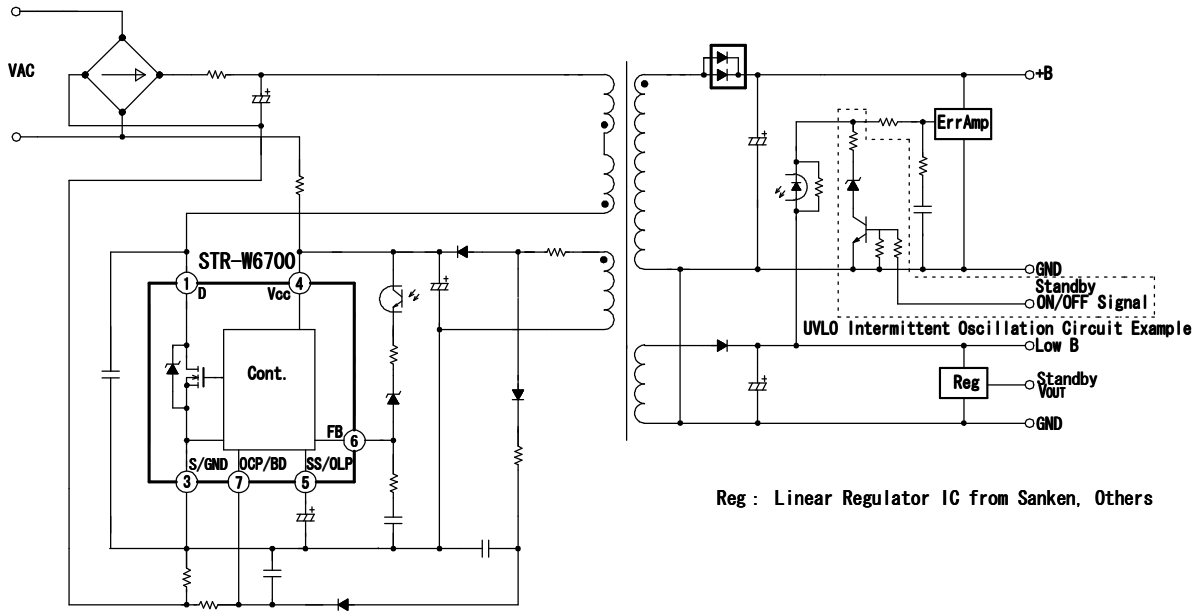
Digital Consumer Equipment; LCD-TVs, PDP-TVs, CRT-TVs, etc., Home Appliances, OA Equipments, Industry Machines, Communication Devices, Others

Product Lineup

Product No.	MOSFET V _{DSS} MIN (V)	R _{DS(ON)} MAX (Ω)	Burst- Oscillation	Bottom- Skip QR	Product No.	MOSFET V _{DSS} MIN (V)	R _{DS(ON)} MAX (Ω)	Burst- Oscillation	Bottom- Skip QR
STR-W6723N	450	1.4	N	Y	STR-W6750F	650	0.73	Y	N
STR-W6734	500	1.0	Y	Y	STR-W6756	650	0.73	Y	Y
STR-W6735	500	0.57	Y	Y	STR-W6756N	650	0.73	N	Y
STR-W6735N	500	0.57	N	Y	STR-W6765	800	1.8	Y	Y
STR-W6753	650	1.7	Y	Y	STR-W6765N	800	1.8	N	Y
STR-W6754	650	0.96	Y	Y					

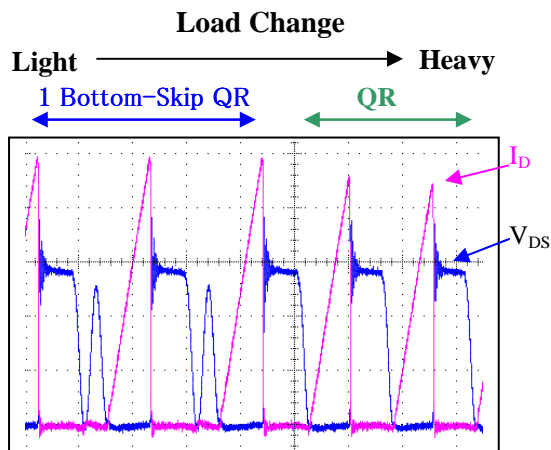
Y: Including the function N: Excluding the function

Typical Application Circuit

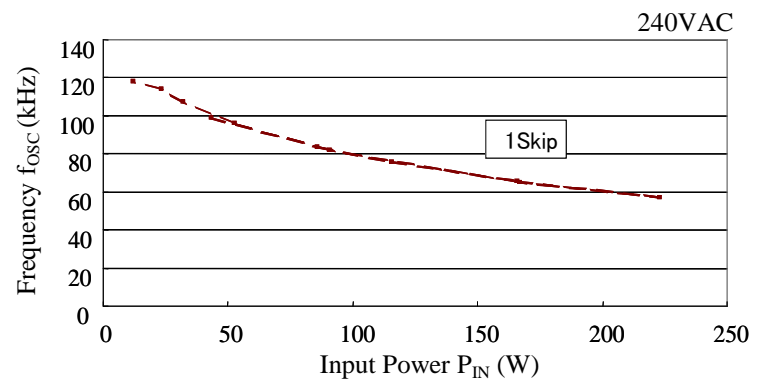
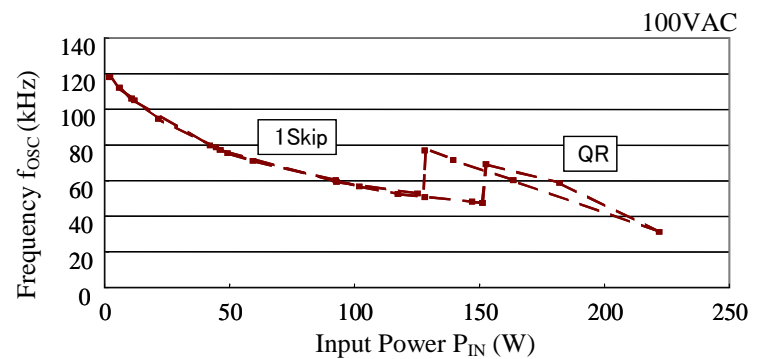


Typical Operation Waveforms

Transitions between Bottom-Skip QR Operation and Quasi-Resonant Operation



STR-W6700 Input Power - Frequency



Warning

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