

# STR-L6400 Series

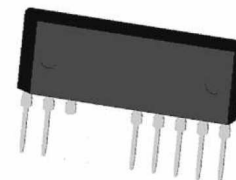
**Power IC for Quasi-Resonant Type Switching Power Supply  
with High Efficiency, Low Noise and Low Standby Power  
in Full Load Range**

**Low-Height and Enough Creepage Isolation (>6mm)  
between High and Low Voltage Terminals**

## ■ General Descriptions

The STR-L6400 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 product is recommended for the systems requiring low-height and enough clearance and creepage isolation between high and low voltage terminals.

The STR-Y6400 series products are the different package (TO-220F) versions.



SIP10L

## ■ 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.
- SIP10L Package (SanKen designation : STA10L), recommended for auxiliary power supplies of White Goods  
Straight lead pitch: 2.54mm, Height over PCB: < 12mm  
Clearance and Creepage Isolation between high and low voltage terminals: 6.5mm (3 pins removed)
- 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

Home Appliances (White Goods), Digital Consumer Equipment, OA Equipment, Industry Machines, Communication Devices, Others

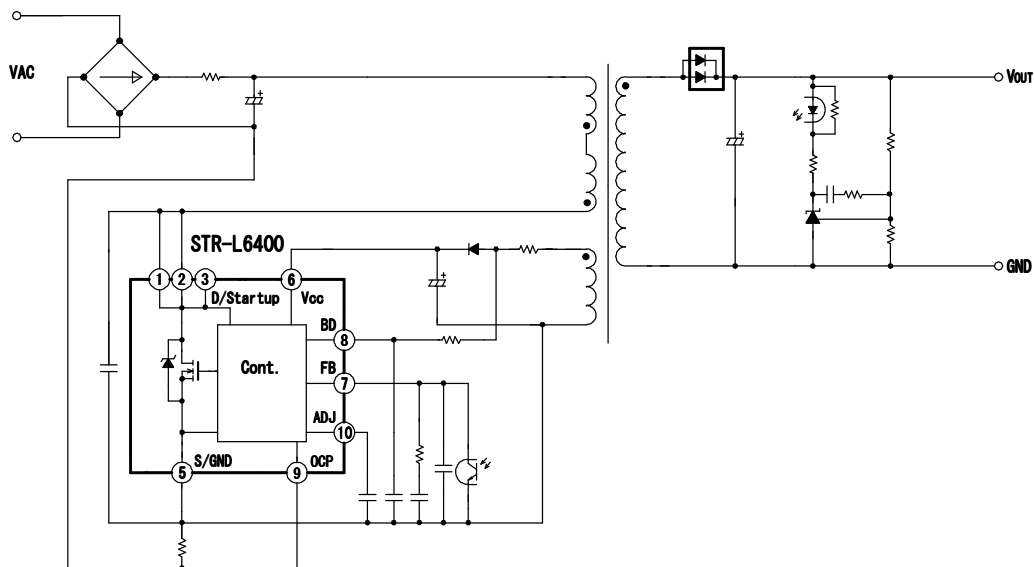
## ■ Product Lineup

| Product No | MOSFET<br>$V_{DS}$ MIN (V) | $R_{DS(ON)}$<br>MAX ( $\Omega$ ) | $P_{OUT}$ (Note 1,2)<br>100V / 220V |
|------------|----------------------------|----------------------------------|-------------------------------------|
| STR-L6472  | 850                        | 6.5                              | 15W / 25W                           |

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.

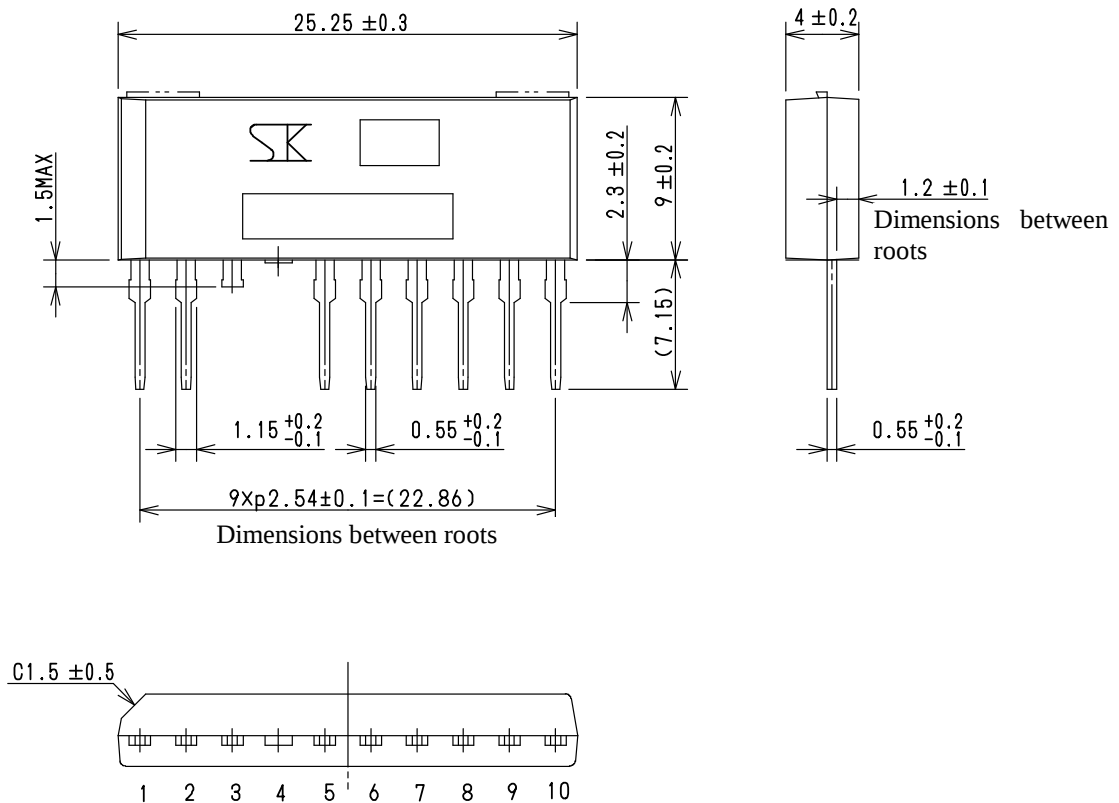
Note 2: The condition of the maximum output power is “without heat sink”.

## ■ Typical Application Circuit



## ■ Package Information

SIP10L (Sanken designation : STA10L)



- 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.

SANKEN ELECTRIC CO.,LTD.