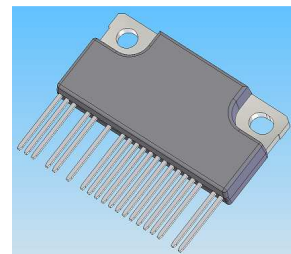


# STR-Z2500 Series

## Power IC for Current Resonant Type Switching Power Supply with Half-Bridge Resonance, High Efficiency and Low Noise

### ■ General Descriptions

The STR-Z2500 series products are power ICs for current resonant type switching power supplies, incorporating a controller IC including high-side and low-side MOSFETs of half-bridge type resonance and a floating-drive circuit. The product achieves high efficiency and low noise power supply systems by the ZVS and ZCS. The product is recommended for high-efficiency small and standardized power supplies because of easy circuit designs with few external components.



SIP-24

### ■ Features

- Soft-Switched Multi-Resonant Zero Current Switch (SMZ)  
The zero-current switching (ZSC) and zero-voltage switching (ZVS) of half-bridge type resonance achieve the high efficiency and low noise systems.
- 24-pin SIP Package with Al-Fin (Sanken designation: SLA-24)  
The product incorporates two power MOSFETs and a controller IC, and achieves small and highly integrated systems by few external components and smaller area size.
- Built-in Startup Circuit
- Automatic Dead Time Adjustment Function for Wide Resonant Conditions
- Burst-Oscillation Function  
The function enables the stable output control at no load to light load conditions and improves the efficiency.
- Soft-Start Function
- Brown-In / Brown-Out Function  
The function enables the oscillation start/stop by externally rated input voltage and makes protections at low input voltage.
- External Latch Protection (ELP)  
The function enables the latch shutdown by external signal.
- Built-in Avalanche Energy Guaranteed High-Voltage Power MOSFET
- Various Protections
  - Overcurrent Protection (OCP)----- Auto-Restart  
Three-Step Protections Depending on Overcurrent Status
  - Overload Protection (OLP) ----- Latch Shutdown
  - Overvoltage Protection (OVP) ----- Latch Shutdown
  - External Latch Protection (ELP)----- Latch Shutdown
  - Thermal Shutdown Protection (TSD) ----- Latch Shutdown

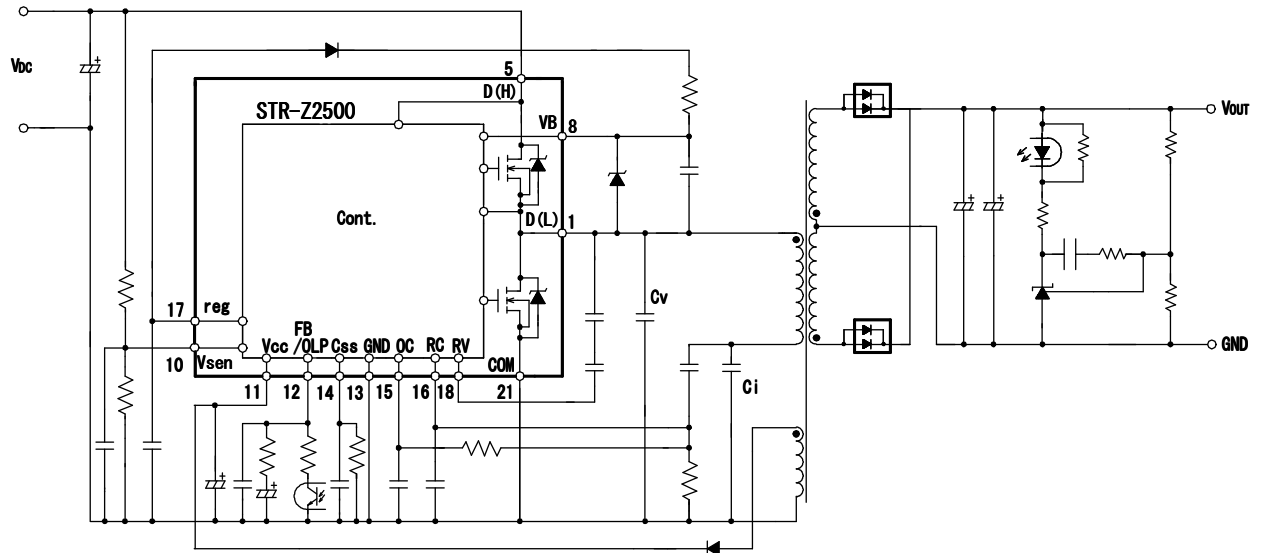
### ■ Applications

Switching Power Supplies for  
 Digital Consumer Equipment; LCD-TVs, PDP-TVs, etc.,  
 OA Equipment; Severs, Multi-Function Printers, etc.,  
 Industry Machines, Communication Devices, Others

### ■ Product Lineup

Product No	MOSFET V <sub>DSS</sub> MIN (V)	R <sub>DS(ON)</sub> MAX (Ω)
STR-Z2527	250	0.12
STR-Z2586	500	0.94
STR-Z2587	500	0.56
STR-Z2588	500	0.35
STR-Z2589	500	0.30

## Typical Application Circuit



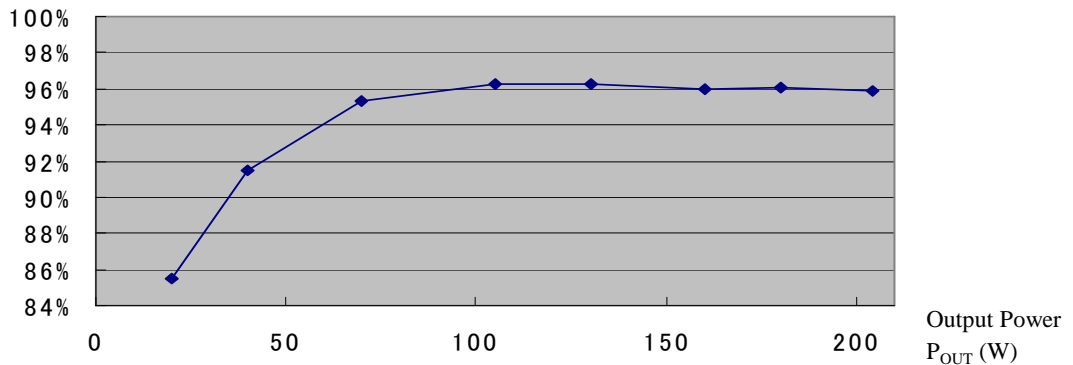
## Typical Electrical Characteristics & Operation Waveforms

### STR-Z2587 Power Supply Characteristics

Input: 380VDC, Output: 24V/8.5A (204W)

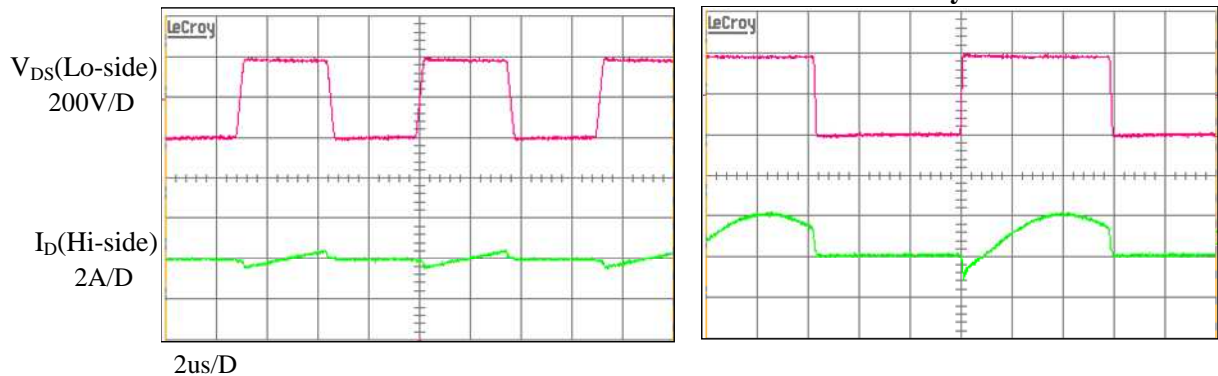
Efficiency  $\eta$  (%)

Efficiency  $\eta$  — Output Power  $P_{OUT}$



No Load

Heavy Load



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