



Working Together for a Greener Society

Future of Power Electronics and the Earth



LLC Current-resonant Off-line Switching Controller

SSC3S927A



## ■ Description

The SSC3S927A is a controller for LLC current resonant switching power supplies, incorporating a floating drive circuit for a high-side power MOSFET. The IC includes useful functions such as standby function, automatic dead time adjustment, and capacitive mode detection. The IC achieves high efficiency, low noise and high cost-effective power supply systems with few external components.

## ■ Package

SOP18



## ■ Applications

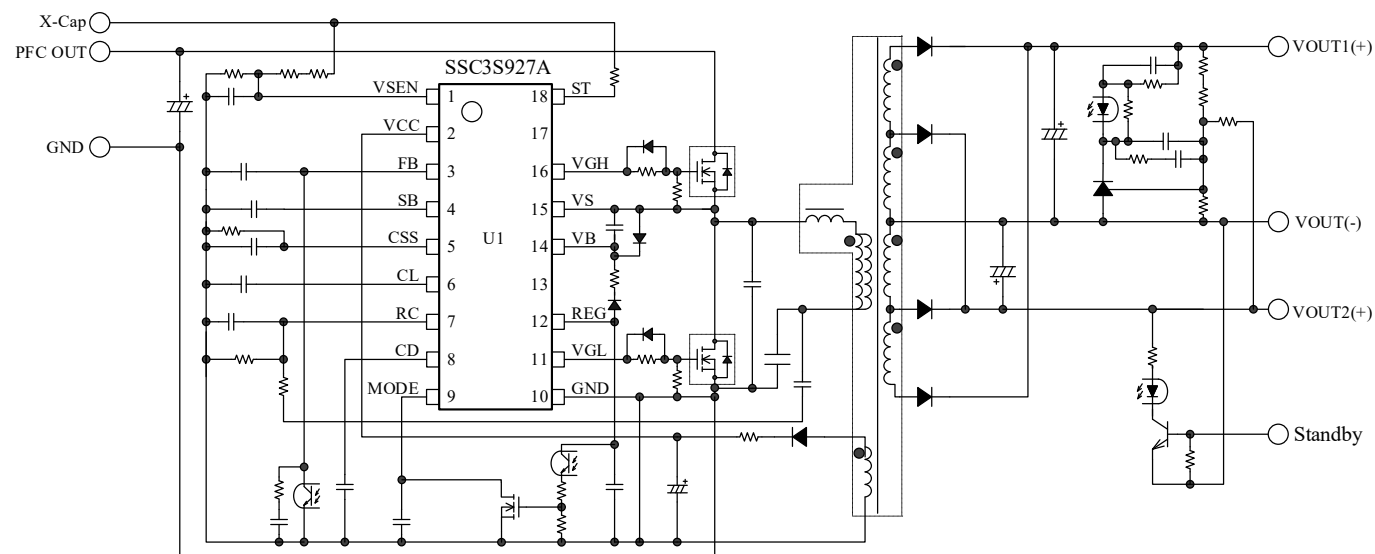
Switching power supplies for electronic devices of  $\leq 300$  W such as:

- Digital Appliances (e.g., Television)
- Office Automation (OA) Equipment (e.g., Server, Multifunction Printer)
- Industrial Apparatus
- Communication Facilities

## ■ Features

- Standby Mode Change Function by External Signal
  - Output Power at Light Load:  $P_O = 150 \text{ mW}$  ( $P_{IN} = 0.27 \text{ W}$ )
  - Burst Operation in Standby Mode
  - Soft-on/Soft-off Function: Reduces Audible Noise
- Soft-start Function
- Capacitive Mode Detection Function
- Reset Detection Function
- Automatic Dead Time Adjustment Function
- Built-in Startup Circuit
- X-capacitor Discharge Function
- Protections
  - Input Voltage Protection
    - Input Overvoltage Protection (HVP): Auto-restart
    - Input Undervoltage Protection (UVP): Auto-restart
  - High-side Driver UVLO: Auto-restart
  - Overcurrent Protection (OCP): Pulse-by-pulse
  - Overload Protection (OLP): Auto-restart
  - VCC Pin Overvoltage Protection (OVP): Auto-restart
  - REG Pin Overvoltage Protection (REG\_OVP): Auto-restart
  - Thermal Shutdown (TSD): Auto-restart

## ■ Typical Application

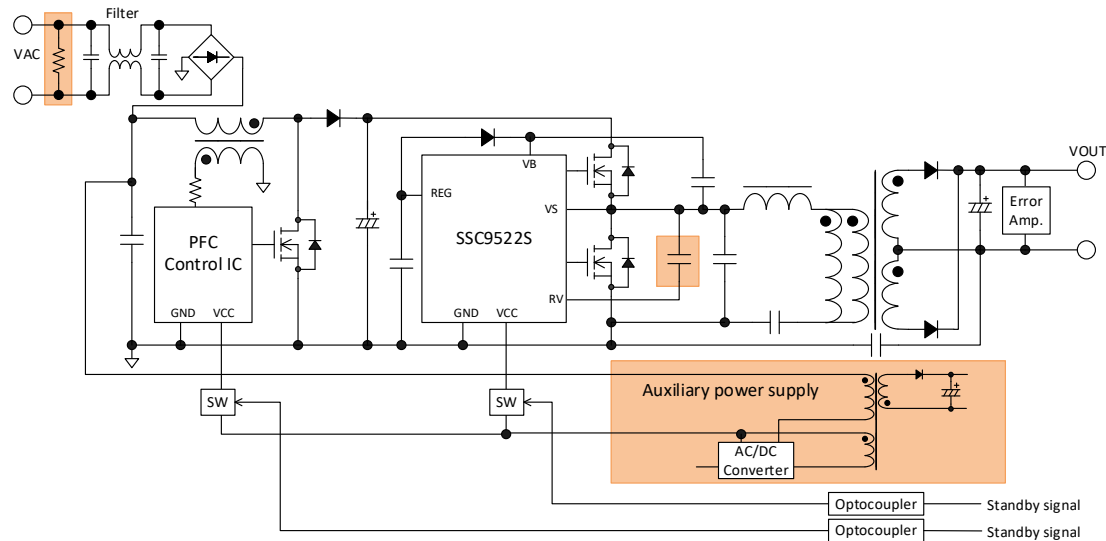


# Product Features

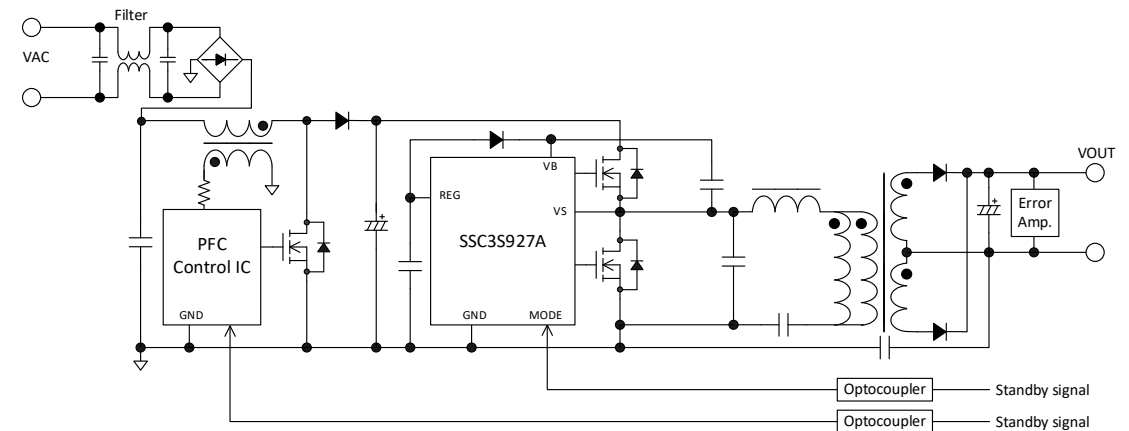
The SSC3S927A achieves high efficiency and few external components count.

- Higher efficiency at light load: No discharge resistor required by **X-capacitor discharge**
- Standby function : No auxiliary power supply required, improved control during standby operation, lower standby power
- Built-in capacitor for dead time detection: No high voltage capacitor required
- **Realizing the power boost for output current** : Larger range of normal operation by larger overcurrent protection range

## ■ Conventional



## ■ SSC3S927A



Requires no X-capacitor discharge resistors, high voltage capacitors, and auxiliary power supply circuit. This results in a downsized circuit with few components!

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