



Transformer audible noise reduction



Low standby power



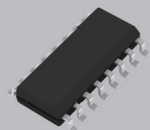
High-speed response

## Designed for systems that utilize power supplies with standby mode

The FA6C60N Series LLC current resonant control IC contributes to improving light-load efficiency and achieving lower standby power for various switching power supplies through automatic burst control. Depending on the system, users can select either IC-based protection mode auto restart or latch off<sup>\*1</sup>. At light loads, users can select soft-start to reduce transformer audible noise during burst mode. Fuji Electric's proprietary control method stabilizes output voltage by responding quickly to sudden load change.

<sup>\*1</sup>: When the IC is stopped by the latch mode protection, protective mode is maintained until the supply voltage of the IC drops.

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|--|--|
| • Achieve low standby power                | : Input power below 270mW at 220 V AC input and 144 mW output  |
| • Reduce transformer audible noise         | : Adjustable by setting soft-start during burst mode   |
| • Controls output with high-speed response | : Achieve high-speed response by Fuji Electric's proprietary technology  |
| • Reduce power supply components           | : Require no auxiliary power supply and no standby signal  |
| • Auto burst mode function                 | : Capable of automatically switching to burst mode at light loads  |
| • High reliability and high quality        | : ESD withstand $\pm 2$ kV (HBM), the capacitive mode prevention, Operating junction temperature: $-40^{\circ}\text{C}$ to $150^{\circ}\text{C}$ |

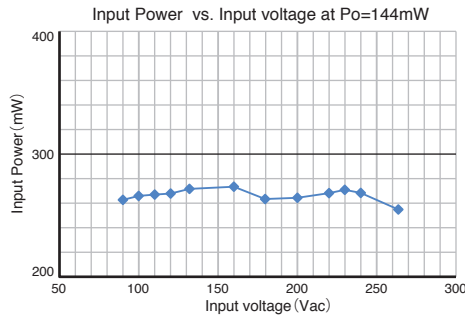


Package: SOP-16

Application examples: LCD-TV,  
OA equipment,  
industrial power supplies

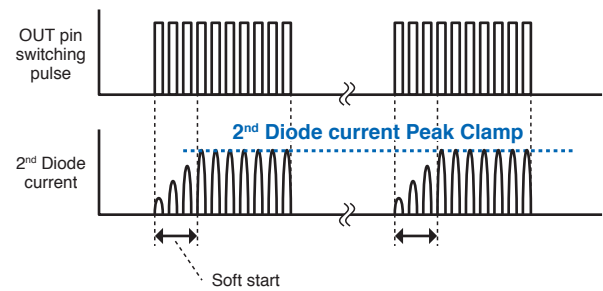
## 1. Low standby power

Depending on the selected product type and settings, it is possible to achieve an input power of 270 mW or less at 220 V AC input and 144 mW output power.



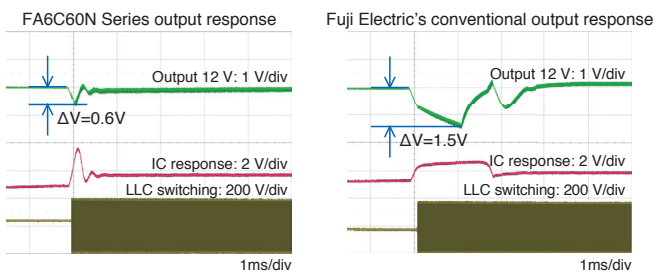
## 2. Transformer audible noise reduction

The FA6C60N Series can reduce transformer audible noise by selecting the product type and soft-start setting.



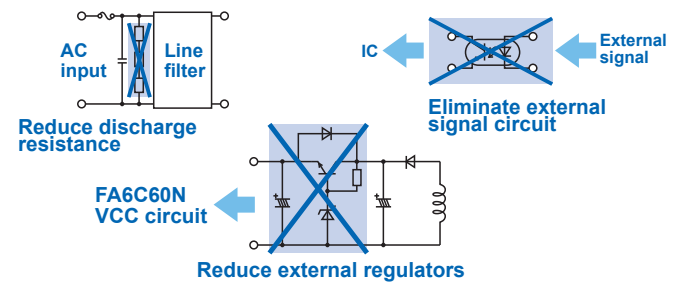
## 3. High-speed response

The FA6C60N Series uses Fuji Electric's proprietary control method to enable high-speed response in LLC current resonant converters and to suppress output voltage fluctuations.



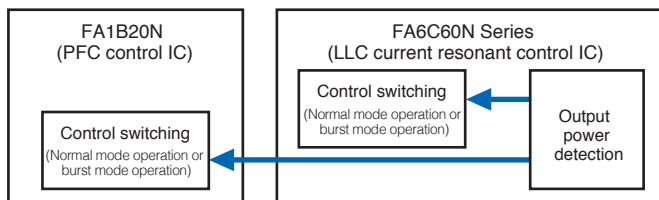
## 4. Reduce components in power supply

Reduce the number of components in power supply by built-in an X-CAP discharge function, auto burst mode control function, and FET drive power supply.



## 5. Auto burst mode function

The LLC IC detects output power. When PFC IC is FA1B20N, both PFC IC and LLC IC switch from normal mode operation to burst mode operation at light load. (ON/OFF control is used for PFC control ICs other than FA1B20N.)



\*The switchable output power is adjustable.

Representative example

## FA6C60N/61N/62N/63N Table of Common Functions

Item	FA6C60N/61N/62N/63N
Auto burst mode function	Built-in
X-CAP discharge function	Built-in
Startup circuit (VH pin)	Built-in, 600 V
High side driver	Built-in, 780 V
Gate driver power supply	Built-in
Automatically adjusted dead time	Built-in
Capacitive mode prevention function	Built-in
Brownout protection	Built-in
ESD (HBM)	All pins $\pm 2$ kV
Operating junction temperature	-40°C to +150°C
Package	SOP16 (3.9mm×10.0mm)

### List of functions by type

Item	Overload protection (CA and FB pins)	Overcurrent protection (IS pin)	VCC pin overvoltage protection (VCC pin)	Protection by external signals (CA pin)	VCC voltage drop protection (VCC pin)	Soft-start function during burst mode
FA6C60N	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	Yes
FA6C61N	Latch stop	Latch stop	Latch stop	Latch stop	Latch stop	Yes
FA6C62N	Auto restart	Auto restart	Auto restart	Auto restart	Auto restart	No
FA6C63N	Latch stop	Latch stop	Latch stop	Latch stop	Latch stop	No

## ⚠ Safety Precautions

- \* Before using this product, read the "Instruction Manual" and "Specifications" carefully, and consult with the retailer from which you purchased this product as necessary to use this product correctly.
- \* The product must be handled by a technician with the appropriate skills.

## Fuji Electric Co., Ltd.

URL [www.fujielectric.com/products/semiconductor/](http://www.fujielectric.com/products/semiconductor/)  
Gate City Ohsaki, East Tower, 1-11-2, Ohsaki, Shinagawa-ku, Tokyo 141-0032, Japan Tel:+81-3-5435-7156

- Fuji Electric Hong Kong Co., Ltd.
- Fuji Electric Taiwan Co., Ltd.
- Fuji Electric Asia Pacific Pte. Ltd.
- Fuji Electric India Private Ltd.
- Fuji Electric Corp. of America
- Fuji Electric Europe GmbH

Unit 1601-03 & 05, 16/F., Tower II, Grand Century Place, No. 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong Tel: +852-2664-8699  
5F., No.168, Song Jiang Road, Taipei, Taiwan Tel: +886-2-2515-1820  
151 Lorong Chuan, #03-01/01A, New Tech Park, SINGAPORE 556741 Tel: +65-6533-0014  
119(Part), 120, 120A, Electrical and Electronics Industrial Estate, Perungudi, Chennai - 600096, Tamil Nadu, India Tel: +91-44-40004200  
50 Northfield Avenue Edison, NJ 08837, USA Tel: +1-732-560-9410  
Goethering 58, 63067 Offenbach am Main, F.R. GERMANY Tel: +49-69-6690290

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