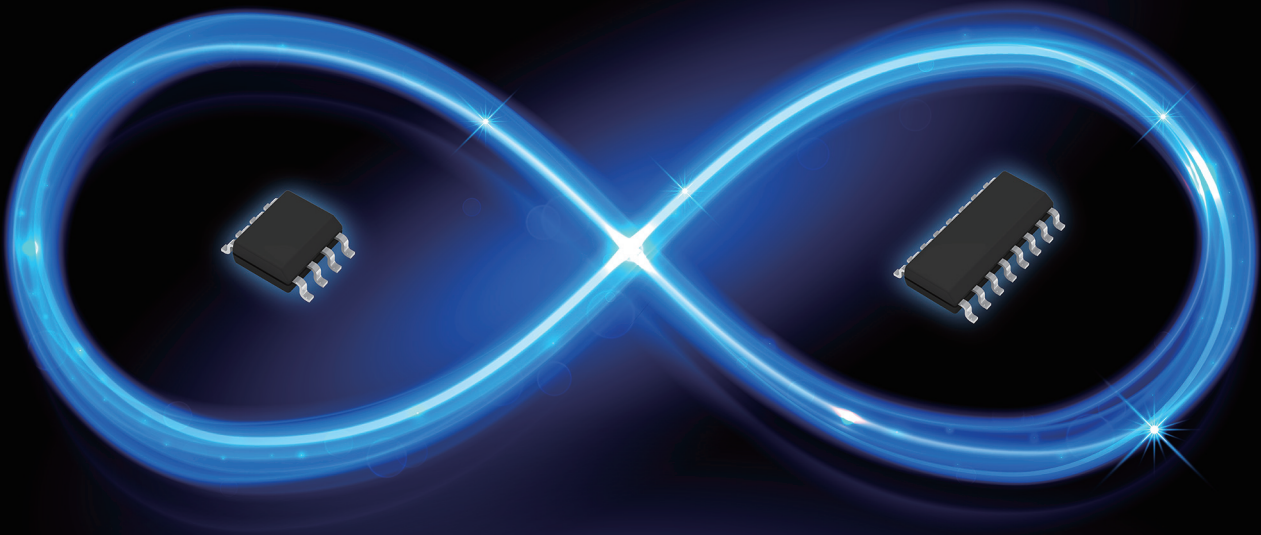


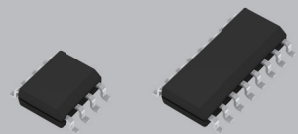
## Enhanced efficiency with dual IC\*<sup>1</sup>



Critical conduction mode (CRM) PFC control IC "FA1A60N" and LLC current resonant control IC "FA6B20N" offer an optimal system for LLC converters with output power higher than 75 W.

Equipped auto standby function makes it possible to apply not only to embedded power supply but also to adapters without external standby signal.

- Improved efficiency at light load:  
Efficiency of 75% is achieved at 230 V AC and 3% load
- Low standby power:  
Pin < 260 mW is achieved at 230 V AC and Po = 125 mW
- Auto standby function:  
Can switch to burst operation automatically at light load conditions
- Reduced power supply components:  
Auxiliary power unit unnecessary; standby signal unnecessary
- High quality:  
ESD withstand voltage  $\pm 2$  kV (HBM),  
Ta = -50°C available, Prevention of capacitive-mode



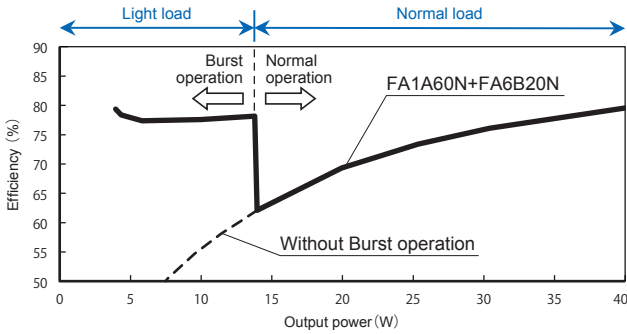
FA1A60N Package : SOP8

FA6B20N Package : SOP16

Example applications: LCD TVs, high power adapters,  
OA appliances, communication power supply,  
and industrial power supply.

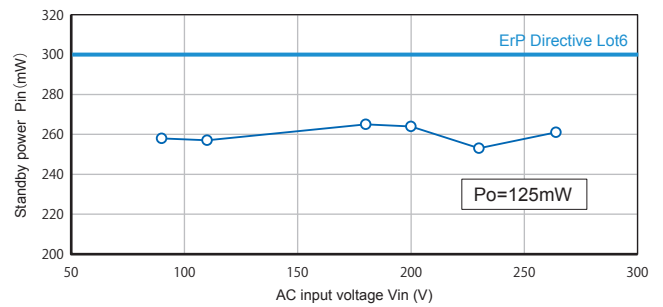
## 1. Improved efficiency at light load

Efficiency above 75% is achieved at 3% of rated power by providing burst control for both PFC control IC and LLC control IC at light load.



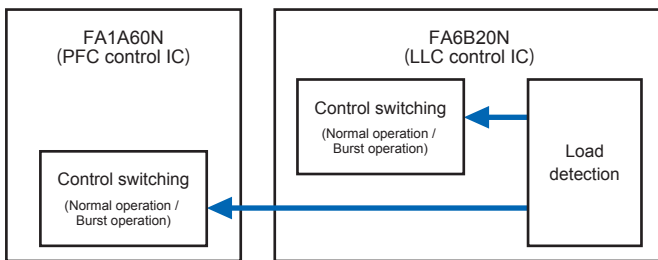
## 2. Low standby power

Standby power below 260 mW is achieved without standby power supply when input is 230 V AC and output power is 125 mW. (ErP Directive Lot6\*2: 0.3 W or lower)



## 3. Auto standby function

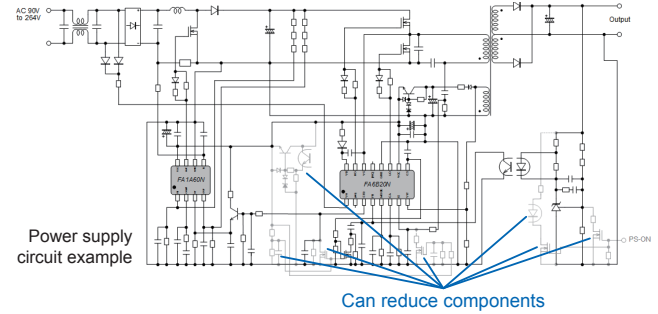
Output power is detected by LLC control IC, and at light load condition, both PFC control IC and LLC control IC are switched from normal operation to burst operation.



\*1 The critical mode PFC control IC FA1A60 N and the LLC current resonance control IC FA6B20N can be used alone or in combination with other ICs.  
\*2 The ErP Directive is also called the Eco Design Directive, the EU regulation that obligates environmentally conscious design.

## 4. Reduced power supply components

Because the auto standby function is integrated, an external standby signal is unnecessary. This makes it possible to reduce the number of components by seven, including the photo coupler.



## PFC control IC "FA1A60N" function table

Item	FA1A60N
Function to improve efficiency at light load	Built-in
Auto standby function	Built-in
VCC consumption current (in standby)	0.25mA
Zero current detection auxiliary winding	Unnecessary
Over-current protection function	Built-in
Duplicated over-voltage protection	Built-in
ESD withstand voltage (HBM)	Total pins $\pm 2$ kV
Operating ambient temperature	-50°C to +105°C
Package	SOP8 (3.9mm x 5.0mm)

## LLC control IC "FA6B20N" function table

Item	FA6B20N
Function to improve efficiency at light load	Built-in
Auto standby function	Built-in
VCC consumption current (in standby)	0.8mA
Maximum oscillation frequency	450kHz
Dead time automatic adjustment	Built-in
X-cap discharge function	Built-in
Capacitive-mode prevention function	Built-in
Brown-out protection function	Built-in
Over-current protection function	Built-in
Over-load protection function	Built-in
ESD withstand voltage (HBM)	All pins $\pm 2$ kV
Operating ambient temperature	-50°C to +105°C
Package	SOP16 (3.9mm x 10.0mm)

## ⚠ 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.

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