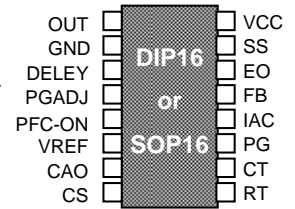


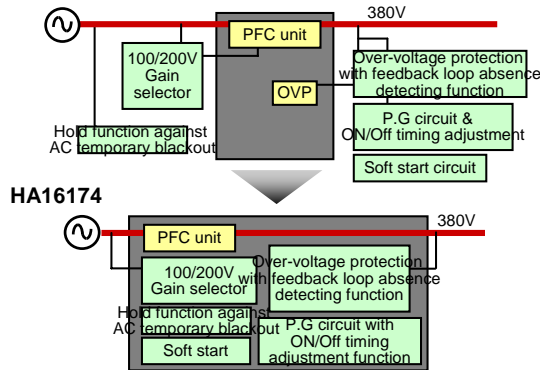
## Features

### High reliability by all required functions integrating

1. Continuous conduction mode suitable for the system with a large amount and frequency of a current change.
2. ON/OFF support of the main converter and the load by a PG signal and a hold function.
3. Hold function against an AC temporary blackout
4. Over-voltage protection with a feedback loop absence detecting function
5. Quick soft-start
6. Improvement of the load regulation by a Gm amplifier



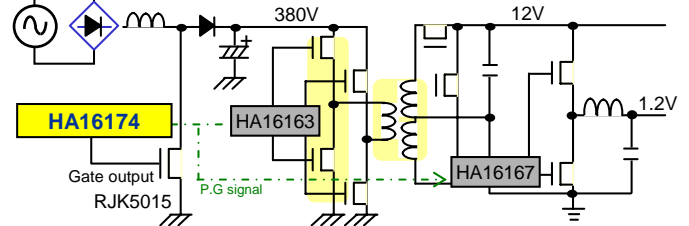
### Single-function PFC control IC



### Example of Application Circuit

#### Small and high reliability system

- The HA16174 stabilizes the over-current control of PFC unit and sets the S/S ineffective time by a hold function in time of an AC temporary blackout.
- The HA16163 makes up a full bridge and achieves small and high efficiency transces.



### 1. Continuous Conduction Mode

	Advantages	Weak points
(1) Continuous conduction	<ul style="list-style-type: none"> <li>• Small radiation noise</li> <li>• Small peak current</li> <li>• Strong to current change</li> </ul>	<ul style="list-style-type: none"> <li>• Some complicated circuit</li> </ul>
(2) Critical conduction	<ul style="list-style-type: none"> <li>• Relatively-simple circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Large choke coil at high current area.</li> <li>• Large peak current</li> <li>• Indefinite frequency</li> </ul>

In case of lout change

In case of continuous current mode, peak current not so much changing.

In case of critical current mode, the peak current changing so large.

**Large current change**

### 2. ON/OFF Support for Main Converter and Load

Ex.) Enable to start or stop the main converter in the normal sequence by using a PG signal.

### 3. Hold function against AC Temporary Blackout

### 4. Over-voltage Protection with a Feedback Loop Absence Detecting Function

Feedback loop absence detection can stop output pulse. Therefore Renesas PFC IC prevents the breakings of bulk capacitor and MOSFET.

### 5. Quick Soft Start Shortens S/S time

S/S: Soft start

### 6. Improvement of Load Regulation by gm Amp. in Feedback Loop

Current type of circuit suffers an affection of the feedback current flow because R1, R2 impedance is not ideal. In case of gmAMP, there is no affection of feedback current flow, and load regulation becomes good.