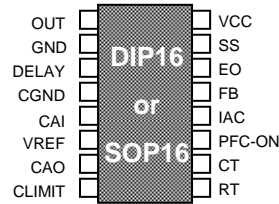


## Features

1. Continuous conduction mode is suitable for the system with large and high frequency variation of current.
2. Easy design by separate current terminal.
3. Hold function countermeasure to AC temporary blackout. It is possible to set no soft start time by chip capacitor.
4. Feed back loop detector.
5. Soft start period become short by quick soft start function.
6. Improve the load regulation by gm Amp at feed back Amp.



### 1. Continuous conduction mode suitable for the system

Input voltage	Advantages	Weaknesses
<p>Continuous conduction mode</p>	<ul style="list-style-type: none"> <li>• Small radiation noise</li> <li>• Small peak current</li> <li>• Non-influenced of current change.</li> </ul>	<ul style="list-style-type: none"> <li>• A little bit complex circuit.</li> </ul>
<p>Critical conduction mode (Discontinuous)</p>	<ul style="list-style-type: none"> <li>• Simple circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Large radiation noise</li> <li>• Large peak current</li> <li>• Large choke coil</li> </ul>

In case of continuous current mode, **not so much change peak current.**  
 In case of critical current mode, the peak current is so large.

Large current change

### 2. Easy design by separate current terminal

Possible to set no coil vibration at start up and current limit.

### 3. Hold function countermeasure to AC temporary blackout

IC operation does not stop for set period, therefore recovery is faster, available in the area where power supply is not stable.

### 4. Feed back loop detector

Built in over voltage protection. And feedback loop absence detection can stop output pulse and PG. Therefore bulk capacitor & FET is not broken by R2A20111.

In case of feed back loop down, bulk voltage rise up to abnormal voltage. And capacitor is broken.

The feed back loop disconnection is detected, and stop pulse!

Prevention from destruction of bulk capacitor and power MOSFET!

### 5. Soft start period become short by quick soft start function

$C_{ss}=4.7\mu F$   
 Improved time= $4.7\mu F \times 1V / 25\mu A = 188ms$ .

### 6. Improve load regulation by gm Amp at feed back Amp

In voltage feedback Amp case, feedback current flow influence to load regulation.

## Example of Application Circuit

### Small & high reliability systems

- Target power range is over 300W.
- Realize high reliability on PFC block by R2A20111 and coordinate next stage by P.G.
- Realize small transformer and high efficiency by using half bridge topology by HA16150.

