The AC/DC PWM Control IC FA8A80/90 Series offers the best system for flyback circuits. With a rich variety of functions integrated in the small-sized package of SOP8 it makes excellent cost performance via a compact power supply design that leads to good energy saving at light loads.

- Equipped with the power-off mode for achieving low standby power
- High efficiency is attained by a switching frequency reduction adjustment
- Reduced acoustic noise generation by a burst operation starting point adjustment
- Available in both 65 kHz and 100 kHz

Applications (for flyback circuits)
Office automation equipment, AC adapters, Auxiliary power supplies, LCD TVs, etc.

Package: SOP8
1. Achieves low standby power (equipped with power-off mode)

It achieves low standby power with its power-off mode. It is also capable of clearing the energy-saving standards for external power supplies such as DoE\(^1\) and CoC\(^2\) even securing some margin.

- Secures a margin over the requirement of major environmental regulations.
- USA DoE\(^1\) regulations
- EU CoC\(^2\) regulations (Tier 2)

2. Switching frequency reduction adjustment is available

The frequency reduction starting point can be chosen from three patterns, which makes it possible to improve efficiency for the power supply capacity.

- Burst starting point can be linearly adjusted.
- FB terminal voltage and oscillation frequency
- Burst starting point can be chosen from 3 patterns

3. Burst starting point can be adjusted

The burst starting point can be continuously adjusted, which makes it easy to improve efficiency at light loads and implement measures for acoustic noise reduction.

4. Reduced size of the power supply (100 kHz type)

In addition to the 65 kHz type, a 100 kHz type is also available. The high frequency has made it possible to reduce the size of the power supply transformer.

Product Line-up

<table>
<thead>
<tr>
<th>Model</th>
<th>65kHz</th>
<th>FA8A80N</th>
<th>FA8A81N</th>
<th>FA8A82N</th>
<th>FA8A81N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overload protection (OLP)</td>
<td>Autorecovery</td>
<td>Latch</td>
<td>Autorecovery</td>
<td>Latch</td>
<td></td>
</tr>
<tr>
<td>Delay time</td>
<td>200ms</td>
<td>200ms</td>
<td>200ms</td>
<td>200ms</td>
<td></td>
</tr>
<tr>
<td>Line correction</td>
<td>Built-in</td>
<td>Built-in</td>
<td>Built-in</td>
<td>Built-in</td>
<td></td>
</tr>
<tr>
<td>Detection level</td>
<td>1 level</td>
<td>1 level</td>
<td>1 level</td>
<td>1 level</td>
<td></td>
</tr>
</tbody>
</table>

- X-Cap discharge function
- None
- Built-in

- Frequency reduction function
- Selectable (3 patterns)
- Burst operation point adjustment
- Linearly adjustable
- Power-off mode
- Built-in
- DSS (Dynamic self supply)
- Built-in
- Overvoltage protection
- 25.5V (latch)
- Overheating protection
- 140°C (latch)
- Start up circuit
- 650V

Pin assignment

<table>
<thead>
<tr>
<th>No.</th>
<th>Symbol</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LAT</td>
<td>- External latch signal input</td>
</tr>
<tr>
<td>2</td>
<td>FB</td>
<td>- Feedback control signal input</td>
</tr>
<tr>
<td>4</td>
<td>CS</td>
<td>- Current sense input</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
<td>- Ground</td>
</tr>
<tr>
<td>8</td>
<td>OUT</td>
<td>- Output</td>
</tr>
<tr>
<td>4</td>
<td>VCC</td>
<td>- Power supply pin</td>
</tr>
<tr>
<td>7</td>
<td>VIN</td>
<td>- Under voltage lock out</td>
</tr>
<tr>
<td>5</td>
<td>ST</td>
<td>- Overvoltage protection</td>
</tr>
<tr>
<td>3</td>
<td>(NC)</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>(NC)</td>
<td>- High-voltage input</td>
</tr>
<tr>
<td>1</td>
<td>(NC)</td>
<td>- AC input filter capacity (X-Cap) discharge*1</td>
</tr>
</tbody>
</table>

*1: Excluding FA8A80/81/84/85

- Burst starting point can be chosen from 3 patterns
- Burst starting point can be linearly adjusted.

### 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.


- Fuji Electric Hong Kong Co., Ltd.
  - Suite 1701-13, 19/F., Tower 6, The Gateway, Harbour City, Tsim Sha Tsui, Kowloon, Hong Kong
  - Tel: +852-2864-8699

- Fuji Electric Taiwan Co., Ltd.
  - 10F, No.168, Song Jiang Road, Taipei, Taiwan
  - Tel: +886-2-2515-1850

- Fuji Electric Asia Pacific Pte. Ltd.
  - 151 Lorong Chuan, #02-01A, New Tech Park, SINGAPORE 556741
  - Tel: +65-6333-0014

- Fuji Electric Corp. of America
  - 50 Northfield Avenue Edison, N.J. 08837, USA
  - Tel: +1-732-560-9410

- Fuji Electric Europe GmbH
  - Gruenling 59, 63067 Offenbach, am Main, F.R. GERMANY
  - Tel: +49-69-6690290