Simple Cost Effective Solution for 10W LED Lamps

The AP1685 is a high Power Factor Corrector (PFC) off-line buck converter, capable of driving 10W Non-Isolated Non-Dimmable LED lamps.

The AP1685 uses Constant On Time (COT) technology to regulate accurate output current while achieving high PF and low THD.

The device works in the Boundary Conduction Mode (BCM) to achieve high efficiency and low EMI. Built-in 2A, 500V MOSFET in SO-7 package reduces BOM size and cost.

The AP1685 provides complete protection including: Under-voltage lock out, output-open protection, output-short protection and over-temperature protection.

The AP1685 is suitable to drive <10W LED Bulb, PAR, and BR lamps.

The Diodes Advantage

- **Unique Constant On Time (COT) Control**
  Accurate output current while achieving high power factor

- **Supports both Buck and Floating-Buck topology**
  Flexible solution using single winding or Auxiliary winding dependent on application

- **Boundary Conduction Mode (BCM) Operation**
  Achieves higher convert efficiency and reduced EMI issues with fewer components

- **Built-in 2A, 500V MOSFET in SO-7 package**
  Supports <10W LED lamps with Low BOM cost and small PCB size

- **Complete Protection design**
  A robust system

Applications

- **Non-Isolated Non-Dimmable LED Lamps:**
  <10W Bulb, Par, BR lamps

www.diodes.com
Diodes Off-line LED Driver

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Topology</th>
<th>Power Factor</th>
<th>Traic dimmable</th>
<th>Power device</th>
<th>power range</th>
<th>current accuracy</th>
<th>Efficiency</th>
<th>Temp.</th>
<th>package</th>
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<tbody>
<tr>
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<td>flyback</td>
<td>&gt;0.5</td>
<td>N</td>
<td>External MOS</td>
<td>&lt;5W</td>
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<td>85</td>
<td>-40 ~ 105</td>
<td>SO-8</td>
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<td>&gt;0.9</td>
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<td>-40 ~ 105</td>
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To find out more information:
Datasheet [http://www.diodes.com/datasheets/AP1685.pdf](http://www.diodes.com/datasheets/AP1685.pdf)

Ordering Information

<table>
<thead>
<tr>
<th>Device</th>
<th>Packaging</th>
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<tbody>
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<td>SO-7</td>
<td>1685M-G1</td>
<td>13”</td>
<td>12mm</td>
<td>4000</td>
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"G1" suffix in the part number, are RoHS compliant and green.