The AP61100Q is a 1A, synchronous buck converter with a wide input voltage range of 2.3V to 5.5V and is AEC-Q100 grade 1 compliant. The device fully integrates a 110mΩ high-side power MOSFET and an 80mΩ low-side power MOSFET to provide high-efficiency step-down DC-DC conversion.

The AP61100Q implements Pulse Frequency Modulation (PFM) with up to 89% efficiency at 5mA light load. The EN is a multi-functional pin that features a programmable MODE. This allows the device to operate in forced PWM where the frequency is constant across all loads.

The AP61100Q device is easily used by minimizing the external component count due to its adoption of Constant On-Time (COT) control to achieve fast transient response, easy loop stabilization, and low output voltage ripple.

The device is available in a SOT563 package.

### The Diodes Advantage

**The AP61100Q provides a high efficiency DC-DC solution for automotive applications.**

- **High Efficiency at Light Loads**
  - 1µA Shutdown Current
  - Low 15µA Quiescent Current in PFM Operation

- **High Design Flexibility**
  - Wide Input Range from 2.3V – 5.5V
  - Wide Output Voltage range: 0.6V to 3.6V
  - Able to select between PFM and PWM to reduce output ripple in PWM only setting

- **High Robustness**
  - Designed for best-in-class EMI performance
  - Utilizes both high side and low side Current Sense Protection

- **Compact Solution**
  - High Switching Frequency that allows the use of small size passive components
  - COT control to minimize the external component count

### Applications

- 5V Automotive Distributed Power Bus Supplies
- Automotive Infotainment
- Automotive Clusters
- Automotive Telematics
- Advanced Driver Assistance Systems
New Product Announcement

AP61100Q

Typical Application Circuit

High Efficiency

5V DC-DC Buck Converter Portfolio

<table>
<thead>
<tr>
<th>Part Number</th>
<th>VIN Range (V)</th>
<th>VOUT Range (V)</th>
<th>Output Current (A)</th>
<th>R_DS(ON) (mΩ)</th>
<th>Mode Prog</th>
<th>Switching Frequency (MHz)</th>
<th>I_Q (µA)</th>
<th>Ambient Temperature (°C)</th>
<th>AEC-Q100 Qualified</th>
<th>Package</th>
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<tbody>
<tr>
<td>AP61100Q</td>
<td>2.3 – 5.5</td>
<td>0.6 – 3.6</td>
<td>1</td>
<td>110 / 80</td>
<td>Yes</td>
<td>2.2</td>
<td>15</td>
<td>-40 to +125</td>
<td>Yes</td>
<td>SOT563</td>
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</table>

To find out more information: [https://www.diodes.com/part/AP61100Q](https://www.diodes.com/part/AP61100Q)

Ordering Information

<table>
<thead>
<tr>
<th>Orderable Device</th>
<th>Package Code</th>
<th>Package</th>
<th>Identification Code</th>
<th>Reel Size</th>
<th>Tape Width</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>AP61100QZ6-7</td>
<td>Z6</td>
<td>SOT563</td>
<td>HJQ</td>
<td>7 inch</td>
<td>8 millimeter</td>
<td>3000</td>
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