

Tiny 5.5V, 1A, Synchronous COT Buck Converter

The AP61100/AP61102 is a 1A, synchronous buck converter with a wide input voltage range of 2.3V to 5.5V. 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 AP61100/AP61102 can be set to operate in either Pulse Width Modulation (PWM) regardless of load or Pulse Frequency Modulation (PFM) with up to 89% efficiency at 5mA light load.

The AP61100/AP61102 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

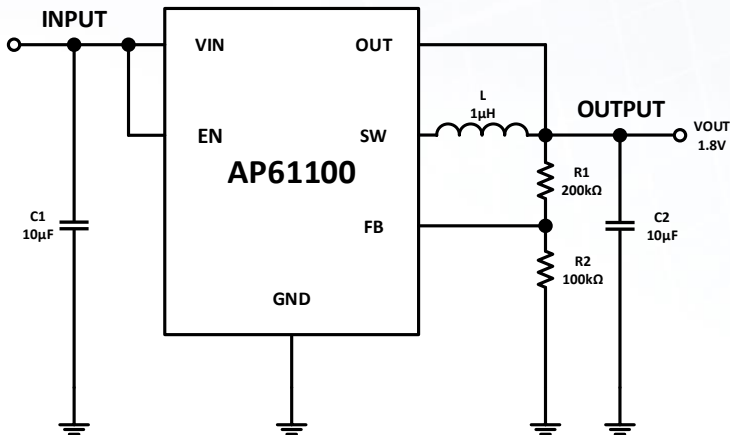
The AP61100/AP61102 provides a high efficiency DC-DC solution for general POL applications.

- **High Efficiency @ Light Loads**
0.1μA 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
Multifunctional EN Pin to Control PFM and PWM Operation Modes
Built-in PG with Internal Pull-Up Resistor (AP61102)
- **High Robustness**
Utilizes both High-side and Low-side Current Sense Protection
- **Ease of Layout Design**
2.2MHz Switching Frequency Allows the Use of Small Passive
COT Control Minimizes External Component Count

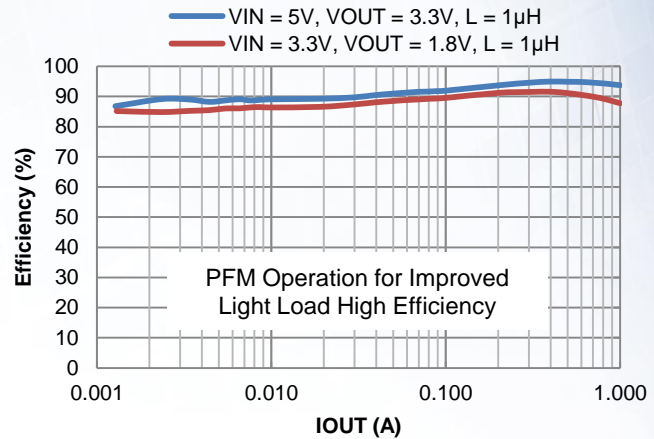
Applications

- 5V Distributed Power Bus Supplies
- White Goods and Small Home Appliances
- FPGA, DSP, and ASIC Supplies
- Network Video Cameras
- Wireless Routers
- Consumer Electronics

Typical Application Circuit



Efficiency vs. Output Current



5V DC-DC Buck Converter Portfolio

Part Number	VIN Range (V)	VOUT Range (V)	Output Current (A)	$R_{DS(ON)}$ (mΩ) HS / LS	Mode Prog.	Switching Frequency (MHz)	I_a (µA)	Ambient Temperature (°C)	PG	Package
AP61100	2.3 – 5.5	0.6 – 3.6	1	110 / 80	Yes	2.2	15	-40 to +85	No	SOT563
AP61102	2.3 – 5.5	0.6 – 3.6	1	110 / 80	Yes	2.2	15	-40 to +85	Yes	SOT563

To find out more information:

<https://www.diodes.com/part/AP61100>

<https://www.diodes.com/part/AP61102>

Ordering Information

Orderable Device	Package Code	Package	Identification Code	Reel Size	Tape Width	Quantity
AP61100Z6-7	Z6	SOT563	HJ	7 inches	8 millimeters	3000
AP61102Z6-7	Z6	SOT563	HK	7 inches	8 millimeters	3000