5A/4A Adaptive COT Synchronous DC-DC Buck Converter

The AP65552/AP65452/ AP65450 is an adaptive constant on-time mode synchronous buck converter providing high efficiency, excellent transient response and high DC output accuracy for low-voltage regulation in digital TV and monitors.

The constant-on-time control scheme handles wide input/output voltage ratios and provides low external component count. The AP65450 supports seamless transition between continuous conduction mode (CCM) at higher load conditions and discontinuous conduction mode (DCM) at lighter load conditions to maintain high efficiency at light load conditions.

The AP65452/AP65552 are at fixed 650KHz to achieve a good output stability. The AP65552/AP65452/ AP65450 also features programmable soft-start, UVLO, OTP and OCP to protect the circuit.

This IC is available in SO-8EP package.

The Diodes Advantage

- Synchronous DCDC Buck converter with continued load current of 5A (4A)
  Increases efficiency in light load condition (AP65450)
  Standard industry pinout

- Protection
  - Over Current Protection
  - Thermal Shutdown
  Improves robustness of circuit and prevents pre-mature failure

- Adaptive COT Mode
  Fast transient response
  No need external compensation

Applications

- Game Consoles
- TV and Monitors
- Set-top Box
- Network Systems
- Distributed Power Systems
- Home Audio
- Consumer Electronics
- Green Electronics
New Product Announcement
AP65552, AP65452, AP65450

5A/4A Adaptive COT Synchronous DC-DC Buck Converter

AP65552

AP65450

Product Portfolio

<table>
<thead>
<tr>
<th>Part No</th>
<th>Min. Input Voltage</th>
<th>Max. Input Voltage</th>
<th>Output Voltage</th>
<th>Output Current (A)</th>
<th>Frequency (kHz)</th>
<th>Internal Vref (V)</th>
<th>Efficiency (%)</th>
<th>Standby Current (mA)</th>
<th>Operating Temp Range (°C)</th>
<th>Enable Pin</th>
<th>Current Limit Protection</th>
<th>Adjustable Output Voltage</th>
<th>Prog Soft-start</th>
<th>LLHE</th>
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<td>650</td>
<td>0.765</td>
<td>89</td>
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Ordering Information

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