



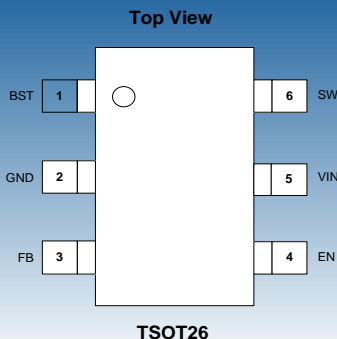
2A Adaptive COT Synchronous DC/DC Buck Converter

The AP65251 is an adaptive constant on-time (aCOT) mode synchronous buck converter providing high efficiency and excellent transient response. The AP65251 incorporates a control algorithm that improve efficiency at light loads.

The aCOT control scheme handles wide input to output voltage ratios and requires minimal external component count. The AP65251 could seamlessly transition between continuous conduction mode, CCM, at high loading and discontinuous conduction mode, DCM, when the inductor current is less than 0A for high efficiency.

The AP65251 switching frequency is fixed at 500kHz and also features UVLO, OTP and OCP to protect the circuit.

The AP65251 is available in TSOT26 package providing a high power density leaded solution.



The Diodes Advantage

High efficiency synchronous DC-DC Buck converter across all output powers in TSOT26 covering wide range of POL applications

- **500kHz Fixed frequency aCOT converter with HLLC**
Improves transient response with increased efficiency in light-load conditions
- **Multiple Protection Levels**
 - **Overcurrent Protection**
 - **Overvoltage Protection**
 - **Thermal Shutdown**
 - **UVLO**Improves robustness of circuit and prevents pre-mature failure
- **Small footprint leaded TSOT26 Package**
Saves PCB spacing and cost in an industry Standard pin-out

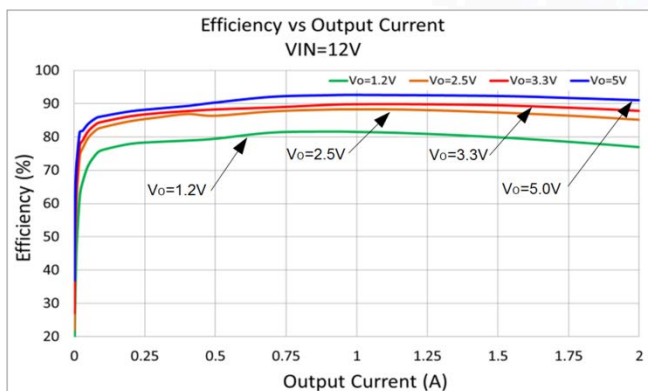
Applications

- Game Consoles
- TV and Monitors
- Set-top Box
- Network Systems
- Distributed Power Systems
- Home Audio
- Consumer Electronics
- Green Electronics



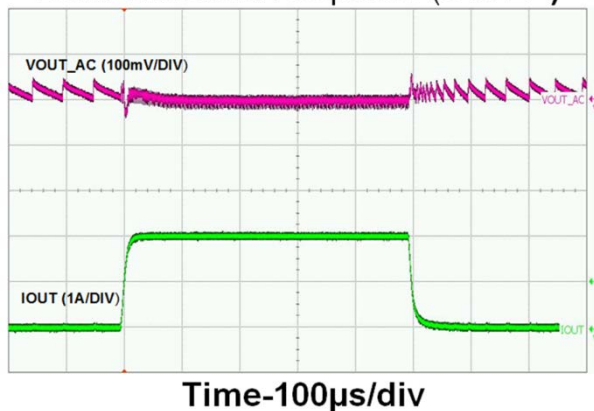
2A Adaptive COT Synchronous DC/DC Buck Converter

Efficiency



Transient Response

Load Transient Response (0 to 2A)



Ordering information

Device	Packaging	Reel Size	Quantity
AP65251WU-7	TSOT-26	7"	3,000

Product Portfolio

Part #	Min. Input Voltage (V)	Max. Input Voltage (V)	Output Voltage (V)	Output Current (A)	Frequency (kHz) typ	Internal Vref (V)	Efficiency (%)	Control Architecture	Quiescent Current (mA)	Operating Ambient Temp Range (°C)	Features							Available Packages
											Enable Pin	Current Limit Protection	Thermal Shutdown	Adjustable Output Voltage	Undervoltage Lockout	Programmable Soft start	Power Good	
AP65111A	4.5	18	0.8~12	1.5	500	0.800	97	CM	0.83	-40 to +85	Y	Y	Y	Y	Y	No	No	TSOT-26
AP65211A	4.5	18	0.8~12	2	500	0.800	97	CM	0.83	-40 to +85	Y	Y	Y	Y	Y	No	No	TSOT-26
AP65251	4.5	16	0.6~6	2	500	0.600	94	ACOT	0.8	-40 to +85	Y	Y	Y	Y	Y	No	No	TSOT-26
AP3503E	4.5	18	0.93~12	3	340	0.925	93	CM	1.2	-40 to +85	Y	Y	Y	Y	Y	Y	No	SO-8EP
AP3513E	4.5	18	0.93~12	3	500	0.925	93	CM	1.2	-40 to +85	Y	Y	Y	Y	Y	Y	No	SO-8EP
AP65353/5	4.5	18	0.76~6	3	650	0.765	92	ACOT	0.6	-40 to +85	Y	Y	Y	Y	Y	Y	Y	SO-8EP DFN3030-10
AP65450	4.5	18	0.76~6	4	650	0.765	92	ACOT	0.9	-40 to +85	Y	Y	Y	Y	Y	Y	Y	DFN3030-10
AP65550	4.5	18	0.76~6	5	650	0.765	92	ACOT	0.9	-40 to +85	Y	Y	Y	Y	Y	Y	No	SO-8EP DFN3030-10