



New Product Announcement

AP64100
AP64200/AP64202

40V Synchronous Buck Converters Deliver High Efficiency Across All Loads

The AP64100 (1A), AP64200 (2A), and AP64202 (2A) are 40V, high-efficiency, synchronous DC-DC buck converters with an enhanced feature-set.

Their special gate-drive/bootstrap design enables them to operate in LDO mode, with near 100% duty cycle, maintaining regulation even when the input dips.

As the load current approaches zero, these devices enter Pulse Frequency Modulation (PFM), enhancing light load efficiency.

To reduce EMI, the AP64xxx uses frequency spread spectrum (FSS), preventing any emitted energy to stay at any one particular frequency for a significant period of time.

The AP64100, AP64200, and AP64202 all have adjustable switching frequency, up to 2.2MHz, that can also be synchronized to an external clock.

The AP64202 has an adjustable soft-start that reduces inrush currents, while the AP64100 and AP64200 have external compensation to optimize the loop response.

All devices are available in the SO-8EP package.



The Diodes Advantage

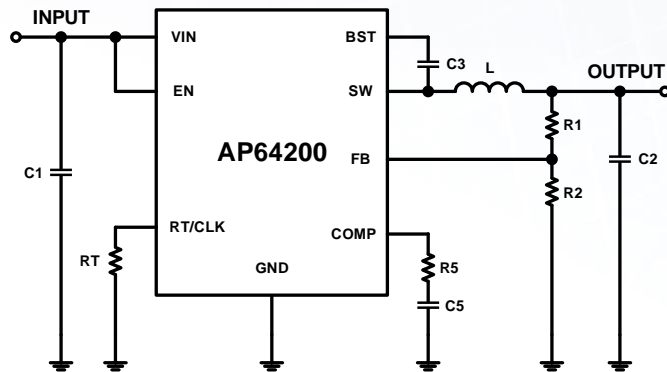
The AP64100/AP64200/AP64202 provide a high-efficiency buck converter solution for general POL applications

- **V_{IN}: 3.8V to 40V**
Works across full supply rails for commercial/industrial applications
- **Wide Output Voltage Range: Up to near 100% of V_{IN} (LDO Mode)**
Maintains regulation even as V_{IN} approaches V_{OUT}
- **Low (25µA) Quiescent Current (I_Q) and 1µA Shutdown Current**
Enable the system to meet application standby requirements
- **Adjustable and Synchronizable f_{sw}**
Low frequency from 100kHz – high-efficiency solution
High frequency up to 2.2MHz – small form-factor solution
- **External Compensation (AP64100/AP64200)**
Enables optimization of loop response
- **Adjustable Soft-Start Time (AP64202)**
Reduces inrush current at power-up or enable of device

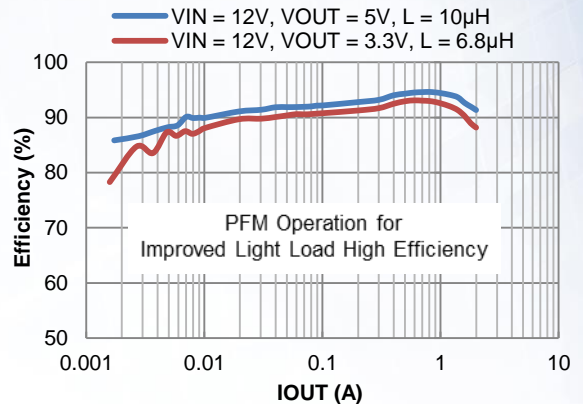
Applications

- Distributed Power Bus Supplies
- White Goods and Small Home Appliances
- Home Audio and Network Systems
- Cordless Power Tools

Typical Application Circuit



Efficiency Chart (2A)



40V DC-DC Buck Converter Portfolio

Part Number	VIN Range (V)	VOUT Range (V)	Output Current (A)	HS/LS RDS(ON) (mΩ)	Switching Frequency (kHz)	IQ (µA)	Key Features					Ambient Temperature (°C)	Package
							Adj. fSW	Ext. Sync	Ext. Comp	Adj. SS	LLHE		
AP64100	3.8 – 40	0.8 – VIN	1.0	150/80	100 – 2200	25	Y	Y	Y	–	Y	-40 to +85	SO-8EP
AP64200	3.8 – 40	0.8 – VIN	2.0	150/80	100 – 2200	25	Y	Y	Y	–	Y	-40 to +85	SO-8EP
AP64202							Y	Y	–	Y	Y		
AP64350	3.8 – 40	0.8 – VIN	3.5	75/45	100 – 2200	22	Y	Y	Y	–	Y	-40 to +85	SO-8EP
AP64351					570		–	–	Y	Y	Y		
AP64352					100 – 2200		Y	Y	–	Y	Y		
AP64500	3.8 – 40	0.8 – VIN	5.0	45/20	100 – 2200	25	Y	Y	Y	–	Y	-40 to +85	SO-8EP
AP64501					570		–	–	Y	Y	Y		

Ordering Information

Orderable Device	Package Code	Package	Reel Size	Tape Width	Quantity
AP64100SP-13	SP	SO-8EP	13 inches	12 millimeters	4000
AP64200SP-13	SP	SO-8EP	13 inches	12 millimeters	4000
AP64202SP-13	SP	SO-8EP	13 inches	12 millimeters	4000