

## Expanded Family of 18V Synchronous DC-DC Buck Converters for Consumer and Industrial Applications

The AP62xxx family of high-efficiency synchronous step-down DC-DC converters now includes the AP62150 (1.5A), AP62200 (2A), AP62201 (2A), and AP62200T (2A). The devices operate from a 4.2V to 18V input voltage range supporting 5V to 12V power rails.

All members of the family have an adjustable output voltage range of  $V_{REF}$  to 7V, where  $V_{REF}$  is 0.763V for the AP62200T and 0.8V for the other parts. The AP62150 has a higher 1.3MHz operating switching frequency whereas all others have switching frequencies at 750kHz.

The AP62201 operates only in PWM mode regardless of load. The other members of this family operate in PFM at light loads to increase efficiency.

These buck converters include a full protection feature set that make the system more robust. This includes overcurrent protection, undervoltage lockout, and thermal shutdown.

The AP62200T is available only in the TSOT26 package. All other devices are pin compatible with each other and are available in both the SOT563 and TSOT26 packages.



### The Diodes Advantage

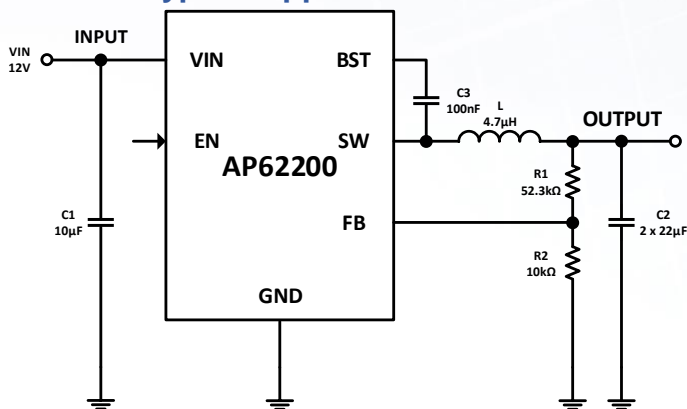
**A broad portfolio of high efficiency DC-DC converters that provide high design flexibility for 5V to 12V supply rails**

- **Automatic switching from PWM to PFM mode (AP62150/200/200T)**  
 Maintains high efficiency, even during light loads (AP62201 maintains PWM operation at light loads)
- **Built-in Current Source on EN Pin**  
 Supports automatic start-up, UVLO threshold adjust, and sequencing
- **Internal 2.5ms Soft-start Time**  
 Reduces start-up inrush currents
- **Constant On-Time (COT) Control**  
 Provides fast transient response and eases loop stabilization
- **Pin compatibility among 1.5A, 2A, 2.5A, and 3A versions in SOT63 & TSOT26 packages**  
 A simple PCB layout with design flexibility

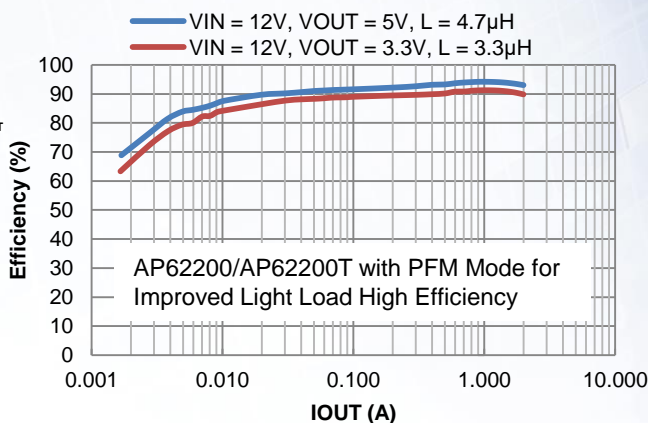
### Applications

- 5V and 12V Distributed Power Bus Supplies
- Flat screen TV sets and monitors
- Set-top boxes and gaming consoles
- Home appliances and audio systems
- Servers, cloud computing, and storage
- Network systems

#### Typical Application Circuit



#### Efficiency vs. Output Current



### 18V Synchronous Buck Converter Portfolio in SOT563/TSOT26 Package

Part Number	VIN Range (V)	VOUT Range (V)	Output Current (A)	R <sub>DS(ON)</sub> (mΩ) HS / LS	Switching Frequency (kHz)	Mode	I <sub>Q</sub> (µA)	Ambient Temperature (°C)	Package(s)
AP62150	4.2 – 18	0.8 – 7	1.5	90 / 65	1300	PFM/PWM	135	-40 to +85	SOT563/TSOT26
AP62200	4.2 – 18	0.8 – 7	2	90 / 65	750	PFM/PWM	135	-40 to +85	SOT563/TSOT26
AP62201	4.2 – 18	0.8 – 7	2	90 / 65	750	PWM Only	270	-40 to +85	SOT563/TSOT26
AP62200T	4.2 – 18	0.763 – 7	2	90 / 65	750	PFM/PWM	135	-40 to +85	TSOT26
AP62250	4.2 – 18	0.8 – 7	2.5	75 / 45	1300	PFM/PWM	155	-40 to +85	SOT563/TSOT26
AP62300	4.2 – 18	0.8 – 7	3	75 / 45	750	PFM/PWM	155	-40 to +85	SOT563/TSOT26
AP62301	4.2 – 18	0.8 – 7	3	75 / 45	750	PWM Only	155	-40 to +85	SOT563/TSOT26
AP62300T	4.2 – 18	0.763 – 7	3	75 / 45	750	PFM/PWM	275	-40 to +85	TSOT26

To find out more information:

<https://www.diodes.com/part/view/AP62150>

<https://www.diodes.com/part/view/AP62200>

<https://www.diodes.com/part/view/AP62201>

<https://www.diodes.com/part/view/AP62200T>

### Ordering Information

Orderable Device	Package Code	Package	Identification Code	Reel Size	Tape Width	Quantity
AP62150Z6-7	Z6	SOT563	HC	7 inches	8 millimeters	3000
AP62200Z6-7	Z6	SOT563	HA	7 inches	8 millimeters	3000
AP62201Z6-7	Z6	SOT563	HS	7 inches	8 millimeters	3000
AP62150WU-7	WU	TSOT26	HD	7 inches	8 millimeters	3000
AP62200WU-7	WU	TSOT26	HB	7 inches	8 millimeters	3000
AP62201WU-7	WU	TSOT26	HT	7 inches	8 millimeters	3000
AP62200TWU-7	WU	TSOT26	TN	7 inches	8 millimeters	3000