



New Product Announcement

AP72200

Compact High Efficiency Synchronous Buck-Boost Converter for High-Power Density Portable Applications

The AP72200 is a high current synchronous buck-boost converter providing high efficiency, excellent transient response, and high output voltage accuracy. It's ideal for battery powered applications like smartphones, tablets, and other handheld devices.

The AP72200 uses an I²C, two-wire interface to dynamically program the output voltage along with other device configuration options. Its I²C interface supports bit rates up to 3.4Mbit/s (High-speed mode).

The AP72200 utilizes a low resistance, 4-switch H-Bridge configuration to support buck and boost operations with at least 2A output current. It also has outstanding line and load transient responses and a seamless transition between buck and boost modes.

Its current-mode control scheme handles wide input/output voltage ratios and has 3 modes of operation:

- PFM (support LLHE)
- PWM (lower ripple)
- Ultrasonic – no audible noise

The AP72200 also features UVLO, OTP, and OCP to protect the chip.

The AP72200 is available in the small 2.125mm x 1.750mm, 20-ball WLCSP package.



The Diodes Advantage

High Efficiency Synchronous DC-DC Buck-Boost Converter

- **V_{IN} 2.3V to 5.5V**
Works across the full voltage range of a single-cell Li-Ion battery
- **Output Voltage range: 2.6V to 5.14V**
- **2A Output Current for V_{OUT}=3.4V and V_{IN}>2.9V and Efficiency up to 97%**
Longer battery life
- **Dynamically Program AP72200 through I²C Interface**
Supports standard-mode, fast-mode, fast-mode plus, and high-speed mode
Controls output voltage setting, output voltage ramp up/down slew rates
Controls output OVP threshold, OCP threshold, and other device configurations
- **PFM/PWM/USM Operation**
PFM Mode for high light load efficiency through MODE Pin or I²C programming
PWM Mode for low output ripple through MODE Pin or I²C programming
Ultrasonic mode for avoiding audible range through I²C programming

Applications

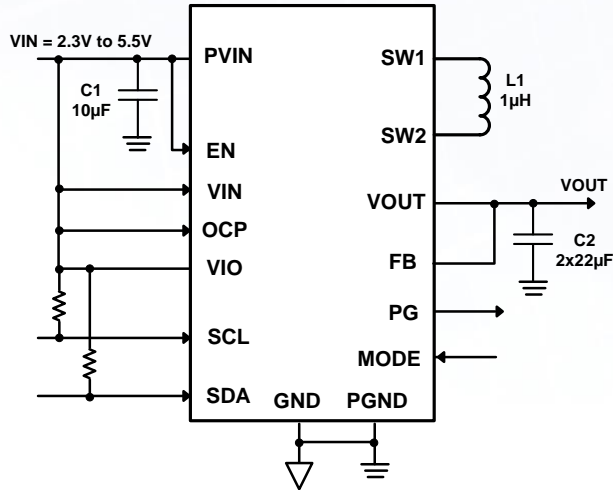
- Smartphones
- Tablets
- Portable Consumer Devices



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Typical Application Schematic



Product Portfolio

Part #	VIN Range (V)	VOUT Range (V)	Switches Current (A)	Switching frequency (MHz)	Iq (µA)	Ambient Temperature (°C)	Programmable I ² C	Modes	Package
AP72200	2.3 to 5.5	2.6 to 5.14	4.3	2.5	20	-30 to 85	Up to 3.4MHz	PFM USM PWM	WLCSP

Ordering Information

Part Number	Package Code	Package	Identification Code	Reel Size	Quantity
AP72200CT20-7	W-WLB2118-20	WLCSP-20	D7	7 Inch	3000