



4.0W Class-D Audio Amplifier with Integrated Boost Converter and Battery Tracking AGC

The PAM8945 is a high-efficiency Class-G audio power amplifier with integrated boost converter.

It can drive up to 4W (10% THD+N) into a 4Ω speaker with a power supply as low as 2.8V.

A built-in boost converter generates the voltage required for the output stage to provide a consistent output power regardless of the battery voltage.

A battery tracking AGC function adjusts the amplifier gain to limit battery current at lower battery voltage.

Combining battery tracking and high efficiency (typically 85%), PAM8945 delivers high-quality audio for extended periods of time compared to a standard Class D amplifier and a battery.

The PAM8945 features built-in DC input protection, and output-to-output short-circuit protection.

PAM8945 is available in the tiny TQFN2030-12 package.



The Diodes Advantage

The PAM8945 Provides an Audio Output of 4 watts from a Supply Voltage of only 2.8V

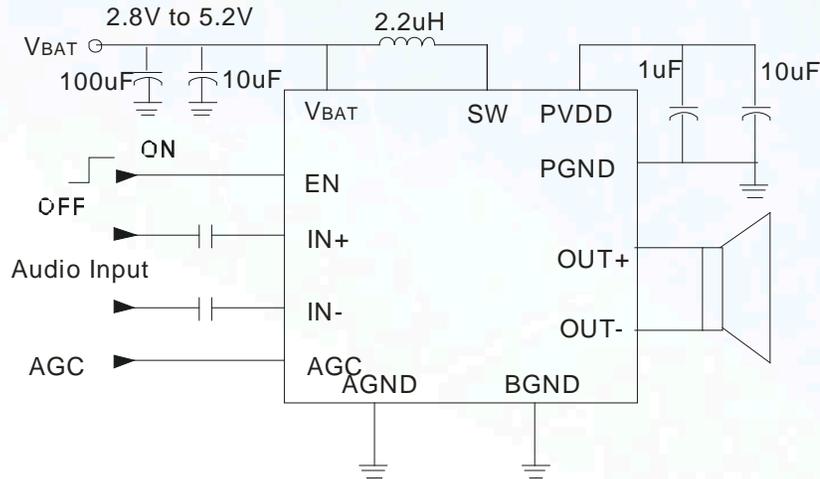
- **Integrated Boost Converter Enables Consistent Operation with an Input Supply Voltage of 2.8V to 5.5V**
 - Maximizes the amplifier output power at a low supply voltage
- **Fully Synchronous Topology for the Boost**
 - Lower external component count and higher efficiency.
- **Built in AGC Function**
 - Excellent sound reproduction regardless of supply
 - Extended battery life
- **Chip and System Protection**
 - Built-in DC input protection protects the speaker from damage when the input is biased at a high DC level
 - Full short-circuit protection with auto recovery, UVLO and over-temperature protection

Applications

- Smart Phones / Tablets
- Portable and Battery Powered Electronics
- Active and Wireless Speakers
- GPS



Typical Application:



Diodes Portable Power Class-D Audio Amplifier

Product	Description	VIN (V)	IQ (mA)	η	GAIN (dB)	SNR (dB)	PSRR (dB)	Packaging
PAM8301	1x1.5W with EN Control	2.5 - 5.5	4	88%	24	78	-50	SOT23-6
PAM8302L	1x2.5W Low VDD Class D Amplifier	2.0 - 5.5	4	88%	24	80	-50	DFN3*3-8 MSOP-8
PAM8303C	1x3W VDD Class D Amplifier with Differential Input	2.8 - 5.5	5	90%	300kΩ/Ri	80	-65	WCSP-9
PAM8303D								MSOP-8
PAM8304	1x3W VDD Class D Amplifier with Differential Input	2.8 - 6.0	5	90%	300kΩ/Ri	95	-70	DFN3*3-8 MSOP-8
PAM8407	2x3W Stereo Differential Input Class D Audio Amplifier with Up/Down Volume Control	2.5 - 6.0	8	87%	24	95	-70	SO-16
PAM8408	2x3W Stereo Differential Input Class D Audio Amplifier with Memory Up/Down Volume Control	2.5 - 6.0	8	87%	24	95	-70	SO-16
PAM8012	1x3W with PL & Anti-saturation	2.8-5.5	10	89%	18	90	-70	CSP12x12
PAM8905	1.9W Class-D Audio Amplifier with Integrated Boost Converter and Battery Tracking AGC	2.8-5.2	4	85%	20	95	-70	CSP15x20
PAM8945	4.0W Class-D Audio Amplifier with Integrated Boost Converter and Battery Tracking AGC	2.8-5.2	4	85%	20	95	-70	TQFN2030

Ordering Information

Device	Package	Part mark	Reel size	Tape width	Quantity
PAM8945PJR	TQFN2030	P8945	7"	8mm	3,000