



New Product Announcement

PAM8906

36V_{PP} Piezo Sounder Driver With Built-In Inductive Boost and Self-Excitation Mode for Extended Battery Life Applications

The DIODES PAM8906 is a piezoelectric sounder-driver with a built-in boost converter capable of driving outputs up to 36V_{PP} and provides an optimized solution for a wide range of battery-powered applications.

With its integrated boost converter, the PAM8906 switches at a fixed 1.8MHz frequency, using a small 0.47µH inductor, and provides a higher sound pressure level (SPL) with three different output voltages. It has a low quiescent current plus an auto turn-on/off feature, which helps extend battery runtimes.

The PAM8906 is available in three output voltage options (10V, 12V, and 18V), with all three able to operate with either an external PWM input or in self-excitation mode (10V and 12V only) for various piezo sounder applications.

All variants have multiple protection features including overtemperature, overcurrent, overvoltage and undervoltage lockout (UVLO) to ensure safe system operation.

The PAM8906's high-voltage drive capability coupled with its low quiescent current provides clear benefits for battery-operated piezoelectric horns or alarm-related applications.

It is available in the MSOP-10 package for smaller PCB space.



The DIODES Advantage

Self-excitation driver with inductive boost for various piezo-sounder applications to extend operating run times.

- **Wide Input Supply Voltage Range From 2.1V to 5.5V**
Covers various power supply requirements
- **Integrated Boost Converter**
Provides stable Piezo sounder output even as the battery discharges
- **Three Output Voltage Versions 10/12/18V in Same Pin Out**
Simplifies optimization for signal power requirements of different applications
- **Supports PWM Input and also Self-Excitation Modes with Automatic Shutdown and Wake-Up Control**
Increases versatility to support different piezo sounders and allows for easy power-saving control
- **Supports Battery and 12V Adapter Operation**
Enhances versatility and extends battery runtime
- **Small MSOP-10 Package with even Smaller 0.47µH Inductor**
Reduces footprint solution

Applications

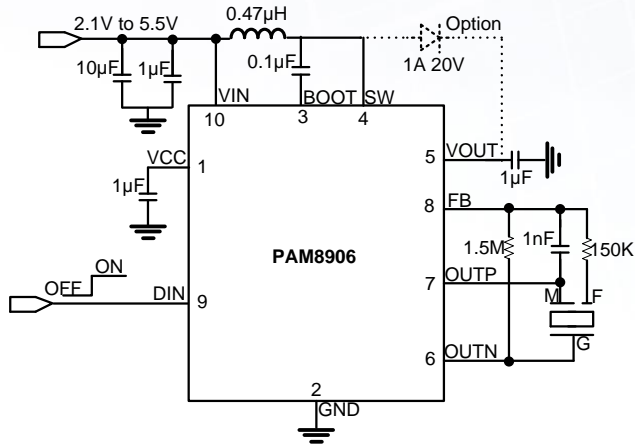
- Smoke/gas/water alarms
- Air humidifiers
- Handheld GPS devices
- Industrial security alarms
- Home appliances
- Medical devices

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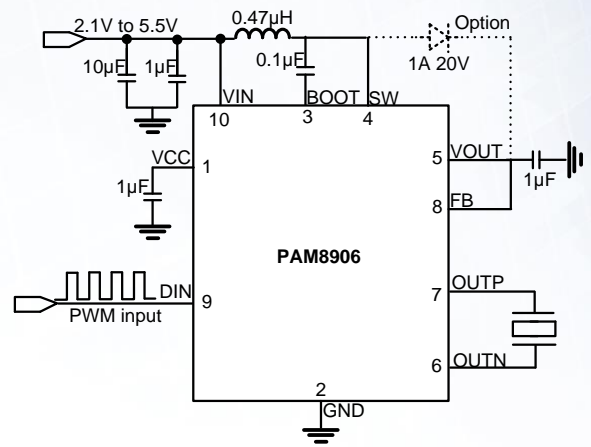
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Typical Applications



Self-Excitation Mode



External PWM Excitation Mode

Note: The Schottky diode is optional; and if added, power consumption could be reduced by 20%.

Product Portfolio

Product	Description	V_{IN}	I_{SD}	V_{OUT}	V_{PP} Output	Package
		V	µA	V	V_{PP}	
PAM8906	36V _{PP} Output Inductive Boost with Self-Excitation	2.1 - 5.5	<1	10 12 18	20 24 36	MSOP-10
PAM8904E	27V _{PP} Output Charge Pump	1.5 - 5.5	<1	X1/X2/X3 Charge Pump	27	
PAM8907	22/31V _{PP} Output Inductive Boost	1.8 - 5.5	<1	11/ 15.6	22 31	U-QFN3030-16 U-QFN3030-12 W-QFN2020-12

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Output Voltage	Identification Code	Moisture Sensitivity	Packing	
						Quantity	Carrier
PAM8906M1010-13	Standard	MSOP-10	10V	8906-10	MSL-3	2,500	13" Tape & Reel
PAM8906M1012-13	Standard	MSOP-10	12V	8906-12	MSL-3	2,500	13" Tape & Reel
PAM8906M1018-13	Standard	MSOP-10	18V	8906-18	MSL-3	2,500	13" Tape & Reel