



Enhanced Output Piezo Sounder Driver with Automatic Shutdown

The PAM8904E is a piezo sounder driver with an integrated charge-pump boost converter.

The device is capable of driving a ceramic/piezo sounder with $27V_{PP}$ from a 4.5V power supply. It features a charge-pump which boosts in either 1X, 2X, or 3X modes.

The charge-pump boost converter operates at a fixed frequency of 100kHz and provides a 9V output with a minimal number of external components. The PAM8904E can drive up to 47nF loading. Its unique drive technology ensures small inrush current, low EMI, and high efficiency.

The built-in automatic shutdown and wake-up features guarantee longer battery life.

The PAM8904E features thermal shutdown, overcurrent protection, overvoltage protection, and undervoltage lockout.

It is available in a W-QFN2020-12, U-QFN3030-12 or U-QFN3030-16 package.



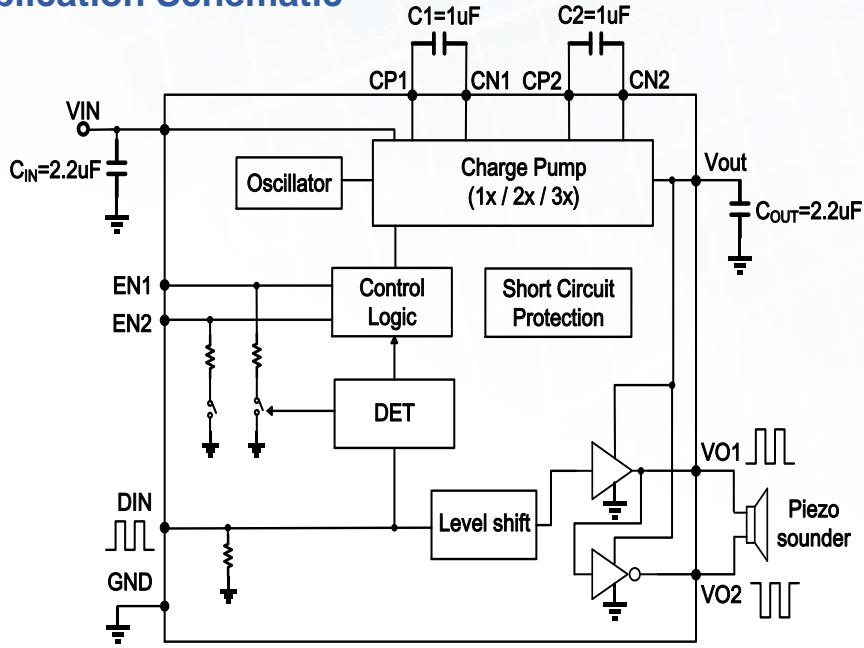
The Diodes Advantage

- **Up to $27V_{PP}$ Output with 4.5V Supply**
Higher sound pressure level (SPL) sound output
- **Wide Supply Voltage Range from 1.5V to 5.5V**
High flexibility to serve broad applications
- **Automatic Shutdown and Wake-Up Control**
Extends operating life
- **Wide Input Signal Range from 20Hz to 300kHz**
Fits various applications from entire audio ranges to ultrasonic frequencies
- **Tiny QFN2020-12 & QFN3030-12/16 Packages**
Small PCB footprint solution—QFN2020-12 further optimizes PCB area

Applications

- Healthcare System
- Alarm Clock
- IoT-Bluetooth Tracker
- Security Devices
- Home Appliances
- Smoke Alarm

Typical Application Schematic



Product Portfolio

| Product | Description | Vin (V) | IQ (mA) | Gain (dB) | Package |
|----------|--|-----------|---------|-----------|--|
| PAM8904 | 18V _{PP} Ceramic/Piezo Sounder Driver | 2.3 – 5.5 | <0.001 | X1/X2/X3 | U-QFN3030-16 U-QFN3030-12 |
| PAM8904E | 27V _{PP} Ceramic/Piezo Sounder Driver | 1.5 – 5.5 | <0.001 | X1/X2/X3 | U-QFN3030-16 U-QFN3030-12 W-QFN2020-12 |

Ordering Information

| Device | Packaging | Part Mark | Reel size | Tape Width | Quantity |
|-------------|--------------|-----------------|-----------|------------|----------|
| PAM8904EGPR | W-QFN2020-12 | BM XXW | 7" | 8mm | 3000 |
| PAM8904EJPR | U-QFN3030-12 | P8904E XXXYW | 7" | 8mm | 3000 |
| PAM8904EJER | U-QFN3030-16 | P8904E XXXYW | 7" | 8mm | 3000 |