



Product news

Enhanced Sounder Driver from Diodes Incorporated Enables Audio UI in Smaller Smart Sensors and Wearables

Plano, Texas – December 3, 2019 Diodes Incorporated (Nasdaq: DIOD) today announced an enhanced version of its popular sounder driver for small and portable devices. The [PAM8904E](#) delivers higher performance at a lower voltage in a smaller package.

Miniature piezo and ceramic sounders are now used extensively in trackers, alarms, health monitors, security devices, and smart sensors as a form of audio user interface. The sounders' small size allows them to be fitted into portable and wearable devices, such as IoT-enabled trackers, as well as enabling miniature smart sensors that monitor the environment, including security detectors and water, smoke, and CO2 alarms. The PAM8904E sounder driver is designed to meet the requirements of the smallest application operating from extremely low voltages.

The PAM8904E can support both single-ended and differential output modes with minimal external components. The device features a wide-input voltage supply range between 1.5V and 5.5V and a shutdown current consumption within 1 μ A. The sounder also accepts an input signal between 20Hz to 300kHz. Despite its small size, the PAM8904E integrates a charge-pump boost converter that operates in 1x, 2x, and 3x modes. As such, the PAM8904E is able to generate an output voltage up to 18V peak-to-peak from a 3V supply voltage or 27Vpp from a 4.5V supply.

The enhanced option can now drive a sounder load up to 47nF, which is significantly higher than the drive capability of competing devices. Many competing devices can typically only drive a load of 15nF and require a higher supply voltage. The PAM8904E also features thermal shutdown, overcurrent protection, and short-circuit protection as well as an automatic shutdown and wake function that can help maximize the operational lifetime of battery-powered devices.

The PAM8904EGPR is available in the W-QFN2020-12 Type A package, which measures 2.00mm \times 2.00mm wide \times 0.80mm high. Other packaging options include U-QFN3030-12 Type A (PAM8904EJPR) and U-QFN3030-16 (PAM8904EJER).

Further information is available at www.diodes.com.

About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, is a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic, analog and mixed-signal semiconductor markets. Diodes serves the consumer electronics, computing, communications, industrial, and automotive markets. Diodes' products include diodes, rectifiers, transistors, MOSFETs, protection devices, function-specific arrays, single gate logic, amplifiers and comparators, Hall-effect and temperature sensors, power management devices, including LED drivers, AC-DC converters and controllers, DC-DC switching and linear voltage regulators, and voltage references along with special function devices, such as USB power switches, load switches, voltage supervisors, and motor controllers. Diodes also has timing, connectivity, switching, and signal integrity solutions for high-speed signals. Diodes' corporate headquarters and Americas' sales office are located in Plano, Texas and Milpitas, California. Design, marketing, and engineering centers are located in Plano; Milpitas; Taipei, Taiwan; Taoyuan City, Taiwan; Zhubei City, Taiwan; Manchester, England; and Neuhaus, Germany. Diodes' wafer fabrication facilities are located in Manchester and Greenock, UK, and Shanghai, China. Diodes has assembly and test facilities located in Shanghai, Jinan, Chengdu, and Yangzhou, China, as well as in Hong Kong, Neuhaus and Taipei. Additional engineering, sales, warehouse, and logistics offices are located in Taipei; Hong Kong; Manchester; Shanghai; Shenzhen, China; Seongnam-si, South Korea; and Munich, Germany, with support offices throughout the world.

Recent news releases, annual reports and SEC filings are available at the Company's website: <http://www.diodes.com>. Written requests may be sent directly to the Company, or they may be e-mailed to: diodes-fin@diodes.com.

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