



## New Vishay Intertechnology Silicon PIN Photodiode Improves Sensitivity in Biomedical Applications

August 14, 2024

**Key Features Include Larger Sensitive Area of 6.0 mm<sup>2</sup>, Increased Reverse Light Current, and Small Form Factor of 4.8 mm by 2.5 mm by 0.5 mm**

MALVERN, Pa., Aug. 14, 2024 (GLOBE NEWSWIRE) -- Vishay Intertechnology, Inc. (NYSE: VSH) today released a new silicon PIN photodiode that brings a higher level of sensitivity in the visible / near infrared wavelength to biomedical applications such as heart rate and blood oxygen monitoring. The new [VEMD8082](#) features increased reverse light current, decreased diode capacitance, and faster rise and fall times compared to previous-generation solutions. Additionally, its small form factor of 4.8 mm by 2.5 mm by 0.5 mm makes it suitable for integration into low profile devices such as smart watches.

The high sensitivity provided by the VEMD8082 is particularly important in biomedical applications such as photoplethysmography (PPG), where the photodiode is used to detect changes in blood volume and flow by measuring the amount of light absorbed or reflected by blood vessels. In such applications, precise measurements are crucial for diagnosing and monitoring conditions such as cardiovascular disease.

Specifications for the new device contributing to its high sensitivity compared to previous-generation devices include a radiant sensitive area of 6.0 mm<sup>2</sup> and an increase in reverse light current of 18 % to 20 %, depending on wavelength. Decreased diode capacitance from 50 pF to 46 pF, as well as faster rise times of 40 ns vs. 110 ns, allow for higher sampling rates.

Samples and production quantities of the VEMD8082 are available now.

Vishay manufactures one of the world's largest portfolios of discrete semiconductors and passive electronic components that are essential to innovative designs in the automotive, industrial, computing, consumer, telecommunications, military, aerospace, and medical markets. Serving customers worldwide, Vishay is **The DNA of tech.**® Vishay Intertechnology, Inc. is a Fortune 1,000 Company listed on the NYSE (VSH). More on Vishay at [www.Vishay.com](http://www.Vishay.com).

**The DNA of tech**® is a registered trademark of Vishay Intertechnology, Inc.

**Vishay on Facebook:** <http://www.facebook.com/VishayIntertechnology>

**Vishay Twitter feed:** <http://twitter.com/vishayindust>

**Link to product datasheet:**

<http://www.vishay.com/ppg?80381> (VEMD8082)

**Link to product photo:**

<https://www.flickr.com/photos/vishay/albums/72177720319419405>

**For more information please contact:**

Vishay Intertechnology  
Peter Henrici, +1 408 567-8400  
[peter.henrici@vishay.com](mailto:peter.henrici@vishay.com)

or

Redpines  
Bob Decker, +1 415 409-0233  
[bob.decker@redpinesgroup.com](mailto:bob.decker@redpinesgroup.com)