Vishay Intertechnology’s New Proximity Sensor Offers Idle Current Down to 5 µA in Compact 2.0 mm x 1.0 mm x 0.5 mm SMD Package

January 25, 2024

Featuring a VCSEL and Smart Dual I²C Slave Address, Device Is Ideal for Battery-Powered Consumer Applications, Including TWS Earphones and VR / AR Headsets

MALVERN, Pa., Jan. 25, 2024 (GLOBE NEWSWIRE) -- The Optoelectronics group of Vishay Intertechnology, Inc. (NYSE: VSH) today introduced a new fully integrated proximity sensor designed to increase efficiency and performance in consumer applications. Featuring a vertical-cavity surface-emitting laser (VCSEL), the Vishay Semiconductors VCNL36828P combines a photodiode, application-specific integrated circuit (ASIC), 16-bit ADC, and smart dual I²C slave address in a compact 2.0 mm by 1.0 mm by 0.5 mm surface-mount package.

Compared to previous-generation solutions, the proximity sensor released today offers a 20 % smaller package, 20 % lower idle current of 5 µA, and 40 % higher sunlight cancellation up to 140 klx. With a range of 200 mm and a typical rated supply voltage of 1.8 V, the device is designed to deliver superior proximity detection while reducing power consumption to increase efficiency in space-constrained, battery-powered applications.

The proximity sensor will be used in smartphones and smart watches for automatic screen wake-up and turn-off functions, in addition to detecting if users are wearing or not wearing true wireless stereo (TWS) earphones, virtual reality / augmented reality (VR / AR) headsets, and smart glasses. To lower costs in these applications, the VCNL36828P's smart dual I²C slave address allows for the connection of two proximity sensors without the need for a multiplexer.

The device offers a programmable interrupt function that allows designers to specify high and low thresholds to reduce continuous communication with the microcontroller. The VCNL36828P uses intelligent cancellation to reduce cross-talk, while a smart persistence scheme ensures accurate sensing and a faster response time. The VCSEL wavelength peaks at 940 nm and has no visible "red-tail." The sensor is RoHS-compliant, halogen-free, and Vishay Green.

Device Specification Table:

Part number	VCNL36828P
Function	PS + VCSEL
Package size (mm)	2.0 x 1.0 x 0.5
Supply voltage (V)	1.65 to 2.0
I²C bus voltage (V)	1.2 to 3.6
Max. VCSEL driving current (mA)	20
Operating range (mm)	200
Supply current, idle state (µA)	5
Proximity resolution	16 bits

Samples and production quantities of the VCNL36828P are available now, with lead times of 14 weeks.

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.

Vishay on Facebook: http://www.facebook.com/VishayIntertechnology
Vishay Twitter feed: http://twitter.com/vishayindust

Links to product datasheet:
http://www.vishay.com/ppg?80306 (VCNL36828P)

Link to product photo:
https://www.flickr.com/photos/vishay/albums/72177720314168175

For more information please contact:
Vishay Intertechnology
Peter Henrici, +1 408 567-8400
peter.henrici@vishay.com
or
Redpines
Bob Decker, +1 415 409-0233
bob.decker@redpinesgroup.com

Source: Vishay Intertechnology, Inc.