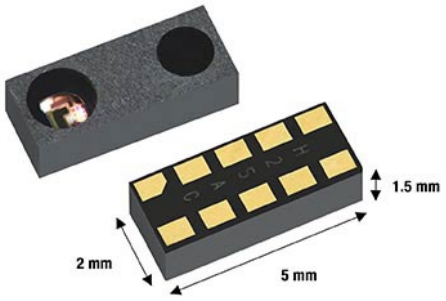
High Sensitivity Proximity Sensor Offers Medium Distance Detection Up to 600 mm in Compact Package; Space-Saving Device Delivers Low Power Consumption and Robust Background Light Cancellation for Smart Home, Industrial, and Office Applications

Product Benefits:

- Integrates an IR emitter, photodiode, amplifiers, and 12-bit ADC
- Compact 5.0 mm x 2.0 mm x 1.5 mm 10-pin molded package
- Proximity detection up to 600 mm
- Programmable IR emitter current sink
- Intelligent background light cancellation ensures reliable proximity detection in the presence of ambient light sources
- High sensitivity supports dark lens designs
- Programmable interrupt function
- 12-bit proximity sensor uses intelligent cancellation to eliminate crosstalk
- A smart, adjustable persistence scheme prevents false triggers to ensure accurate sensing and faster response time
- Emitter wavelength peaks at 940 nm and has no visible “red-tail”
- Excellent temperature compensation from −40 °C to +85 °C
- RoHS-compliant, halogen-free, and Vishay Green



Market Applications:

- Presence detection for display activation in printers, copiers, tablets, and home appliances
- Collision avoidance in toys and robots
- Proximity sensing and lighting control in offices, corridors, and public buildings
- Lavatory appliance activation
- Parking space availability in lots and garages

The News:

The Optoelectronics group of Vishay Intertechnology introduces a new high sensitivity proximity sensor in a compact 5.0 mm x 2.0 mm x 1.5 mm surface-mount package. Combining an IR emitter, photodiode, amplifiers, and 12-bit ADC in one device, the Vishay Semiconductors VCNL36758 delivers low power consumption and medium distance proximity detection up to 600 mm for smart home, industrial, and office applications.

- Compared to previous-generation solutions, the proximity sensor offers a volume reduction of 65 %
- The device’s small package supports space-limited designs that require longer detection distances than typical short distance sensors, while enhancing design flexibility
- The VCNL36758’s integrated IR emitter is driven by a built-in current sink with an internal selectable register, allowing engineers to optimize detection range and power consumption

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- The device's programmable interrupt function allows designers to specify high and low thresholds, reducing continuous communication with the microcontroller and lowering system power consumption. Additional power-saving capabilities are provided through an active force mode that enables one-time measurements triggered by a single command

The Key Specifications:

Part number	VCNL36758
Package size (mm)	5.0 x 2.0 x 1.5
Operating voltage (V)	1.7 to 3.6
I²C bus voltage (V)	1.7 to 3.6
LED pulse current (mA)	240
Operating range (mm)	600
ADC proximity resolution	12 bit

Availability:
Samples and production quantities of the VCNL36758 are available now, with lead times of 16 weeks.

To access the product datasheet on the Vishay Website, go to
http://www.vishay.com/ppg?805555 (VCNL36758)

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