VCNL36828P

Vertical-Cavity Surface-Emitting Laser (VCSEL) Based Proximity Sensors

COMPETITIVE ADVANTAGE

Smart dual I²C secondary address **in a single package**

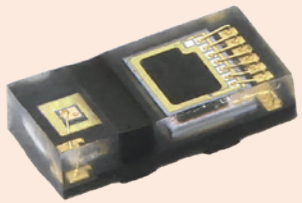
Sunlight cancellation up to 140 klx and 200 mm operating range

PRODUCT FEATURES

Incorporates vertical-cavity surface-emitting laser (VCSEL), photodiode, application-specific integrated circuit (ASIC), and I²C interface in a single package

Fast: 16-bit ADC

Small Surface-Mount Package



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2.0 mm x 1.0 mm x 0.5 mm

PRODUCT BENEFITS

- Immunity to red glow **(940 nm VCSEL)**
- **Narrow beam angle** of just ± 4.5° enables small window sizes and increases design flexibility
- **Low idle current of just 5 µA**, making it ideal for battery-powered applications

APPLICATIONS

- Automatic screen wake-up and turn-off in smartphones and smartwatches
- Smartphones and **true wireless stereo (TWS) earbuds**
- **VR / AR headsets** and smart glasses
- Touchless button / dispensing
- Smart home products and IoT devices

SENSORS ROBOTS TOUCHSCREENS

SMART HOME CONSOLES WEARABLES

PRIMARY CHARACTERISTICS	
Drive current selections	8 mA to 20 mA
Sensor V_{DD}	1.65 V to 2 V
Lowest possible power consumption(1)	5.04 µA
Operating temperature range	-40 °C to +85 °C
Proximity sensor output code	12/16 bit, I²C
VCSEL view angle	± 4.5°
Proximity sensor view angle	± 45° horizontal, ± 60° vertical
Slave address(2)	Two: 0x60, 0x51

Notes

(1) Based on smallest VCSEL on/off period (PS_PERIOD) and smallest VCSEL driving current

(2) Multiple slave addresses allow two sensors to be placed in the same I²C bus

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