



VCSEL-BASED PROXIMITY SENSORS

KEY BENEFITS

- Compact packages: reduce board space requirements and allow for single window designs
- Low profile designs: down to 0.35 mm
- Design flexibility: single-hole window design
- Proximity noise (sunlight) cancellation: up to 140 klx
- Low power mode: reduces overall power consumption
- Low sensor supply voltage: 1.8 V
- Operating range: up to 200 mm

VCNL36829UM

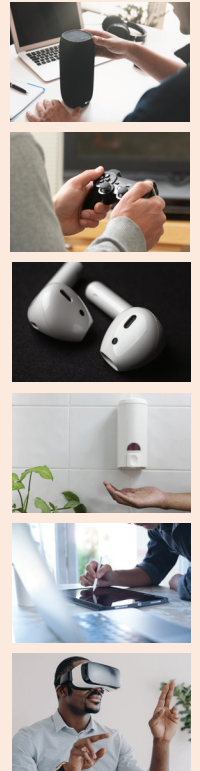
VCNL36826M

VCNL36825T

VCNL36828P

CONSUMER APPLICATIONS

- Single and multibutton applications
 - Soundbars
 - IoT devices
 - Home automation displays
- Presence detection
 - AR / VR / AI glasses
 - Smart glasses
 - Earpods (true wireless audio)
 - Touchless dispensers



PROXIMITY SENSOR COMPARISON

Package Size	100 %	24 %	19 %	11 %
	VCNL36826M	VCNL36825T	VCNL36828P ⁽²⁾	VCNL36829UM ⁽²⁾
Dimensions (L x W x H in mm)	2.55 x 2.05 x 1.0	2.0 x 1.25 x 0.5	2.0 x 1.0 x 0.5	1.6 x 1.0 x 0.35
Smallest Window Diameter	1.8 mm	1.6 mm	1.6 mm	1.6 mm
VCSEL Voltage Range	2.74 V to 3.6 V	2.64 V to 3.6 V	2.62 V to 3.6 V	2.8 V to 3.6 V
Low Power Mode	Yes	Yes	Yes	Yes
Lowest Possible Power Consumption ⁽¹⁾	5.94 μ A	6.09 μ A	5.85 μ A	5.3 μ A

Note: ⁽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

TOUCHLESS SWITCHING APPLICATION

Transform touchless displays with multiple narrow-angle, VCSEL-based proximity sensors under an IR transmissive surface, creating an interactive IoT interface

