# VISHAY

VCSEL-BASED PROXIMITY SENSORS

KEY BENEFITS

- Compact packages: reduce board space and allow for single window design

- Low profile designs: down to 0.5 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

VCNL36687S

VCNL36826S

VCNL36825T

VCNL36828P
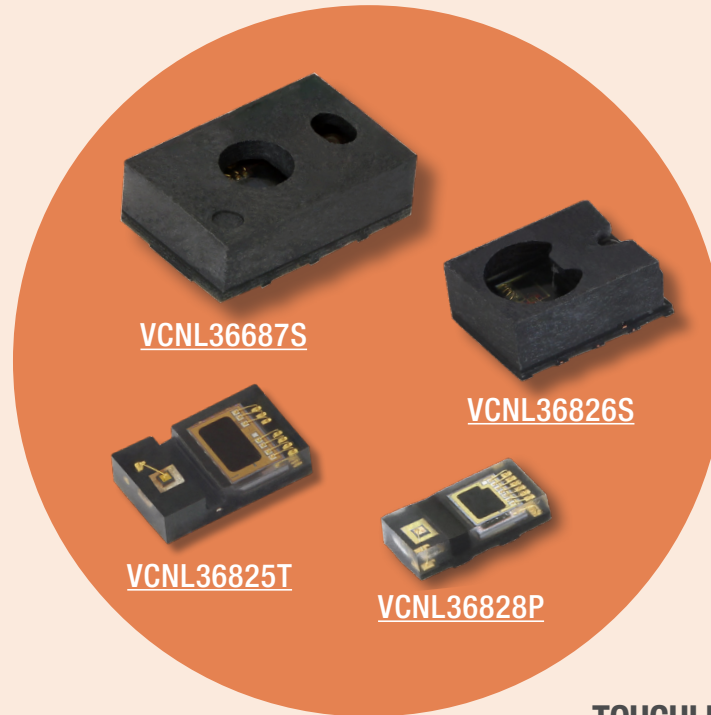
CONSUMER APPLICATIONS

- Single and multibutton applications
  - Sound bars
  - IoT devices
  - Home automation displays

- Presence detection
  - AR / VR -glasses
  - Smart glasses
  - Earpods (true wireless audio)
  - Touchless dispenser
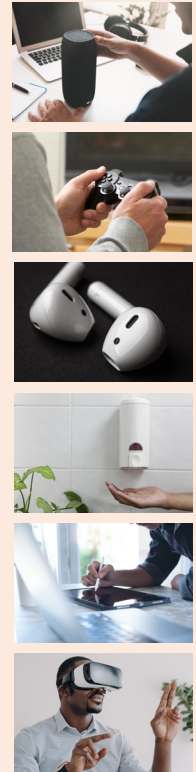
PROXIMITY SENSOR COMPARISON

Reduction in Package Size	100 %	86 %	20 %	16 %
	VCNL36687S	VCNL36826S	VCNL36825T	VCNL36828P [2]
Dimensions (L x W x H in mm)	3.05 x 2.0 x 1.0	2.55 x 2.05 x 1.0	2.0 x 1.25 x 0.5	2.0 x 1.0 x 0.5
Smallest Window Diameter	2 mm	2 mm	1.6 mm	1.6 mm
Supply Voltage	1.8 V compatible	2.6 V to 3.6 V	2.6 V to 3.6 V	1.8 V compatible
VCSEL Voltage Range	2.6 V to 4.8 V	2.6 V to 3.6 V	2.6 V to 3.6 V	2.68 V to 3.6 V
Low Power Mode	No	Yes	Yes	Yes
Lowest Possible Power Consumption [1]	165.5 µA	6.00 µA	6.63 µA	5.04 µA

Note: [1] Based on smalles VCSEL on / off period (PS_Period) and smallest VCSEL driving current
[2] Multiple slave addresses allow two sensors to be placed in the same 12C 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

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