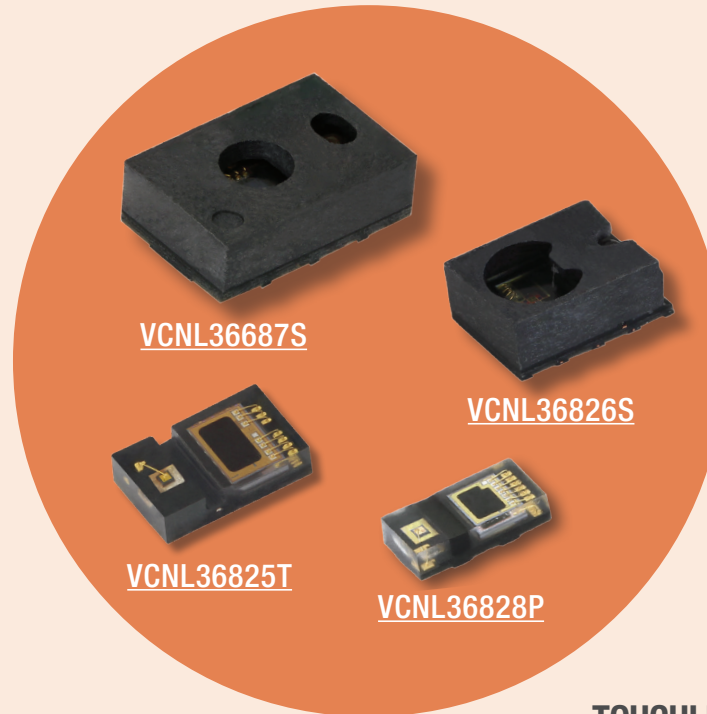




VCSEL-BASED PROXIMITY SENSORS

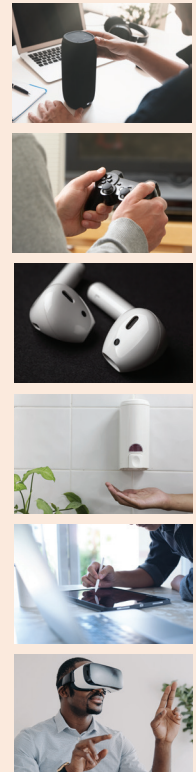
KEY BENEFITS

- 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



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 μ A	6.00 μ A	6.63 μ A	5.04 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

