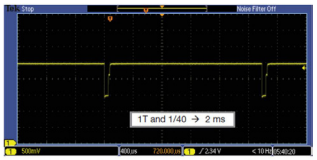
CAPABILITIES AND CUSTOM OPTIONS
PROXIMITY SENSORS

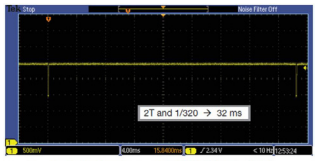
DESIGNED TO MAXIMIZE BATTERY LIFE

- Low sleep current in standby mode
- Power consumption can be adjusted via internal settings
  - Duty cycle: measure more or less often
  - IRED driving current: lower driving current
  - Proximity integration time: shorter IRED pulses for lower power consumption

Duty Cycle

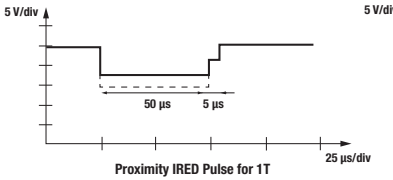


Proximity Measurements With PS_Duty = 1/40

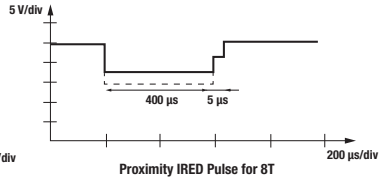


Proximity Measurements With PS_Duty = 1/320

Integration Timeline



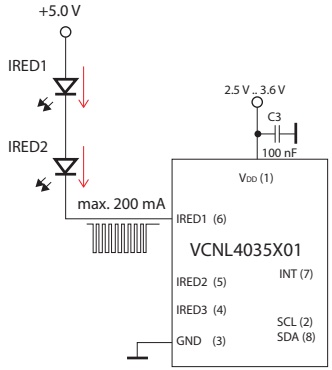
Proximity IRED Pulse for 1T



Proximity IRED Pulse for 8T

PRESENCE DETECTION

- Wide array of packages: with and without integrated lens on emitter/detector, for different proximity ranges
- Intelligent interrupt features: wake-up detection without the need for controller interaction as device can detect approaching and leaving objects
- Distance detection can be tuned via driving current, integration time, or adding an external emitter



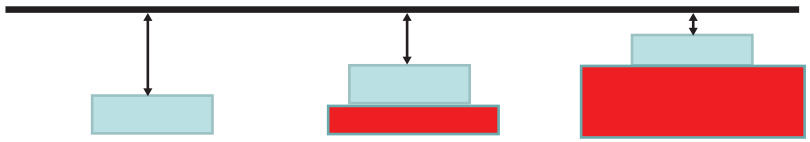
VCNL4020

VCNL4040

VCNL4200

CUSTOMIZABLE DISTANCE TO COVER GLASS

Interposer available in various heights to adjust distance from cover glass



Internal setting for crosstalk cancellation to allow for one-step calibration

Reflected Signal
- Offset
- Noise Floor
- Proximity Count

ENVIRONMENTALLY ROBUST SENSORS

- Sunlight cancellation algorithm integrated into every measurement cycle
  - Further sunlight robustness can be activated via the component settings
- Low noise: across different integration times, IRED currents, and measurement speeds, while maintaining high sensitivity
- AEC-Q101 qualified parts available

AUTOMOTIVE GRADE