# Qwiic Mini ToF Imager - VL53L5CX

SEN-19013

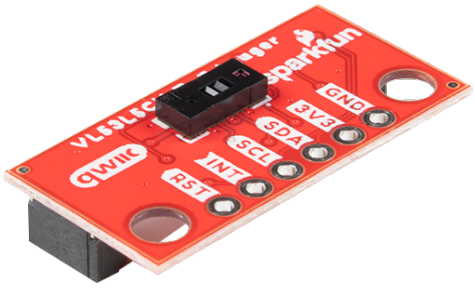
## Product Overview

09/28/2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

## Description

SparkFun Qwiic Mini ToF Imager is a state-of-the-art, 64-pixel Time-of-Flight (ToF) four-meter ranging sensor built around the VL53L5CX. This ToF imager features the Qwiic connectors on the back of the board in a vertical orientation. This allows the VL53L5CX sensor to face outward from the enclosure or chassis and keeps the Qwiic cables cleanly tucked away. The VL53L5CX chip integrates a SPAD array, physical infrared filters, and diffractive optical elements (DOE) to achieve impressive ranging performance in various ambient lighting conditions with a range of cover glass materials. No soldering is required to connect the Qwiic system to the rest of your system.




The Qwiic Mini ToF Imager offers multi-zone distance measurements up to 4000mm across all 64 zones with a wide 63° diagonal field-of-view which can be read up to 15Hz. This ToF imager is ideal for 3D room mapping, obstacle detection for robotics, gesture recognition, IoT, laser-assisted autofocus, and AR/VR enhancement.

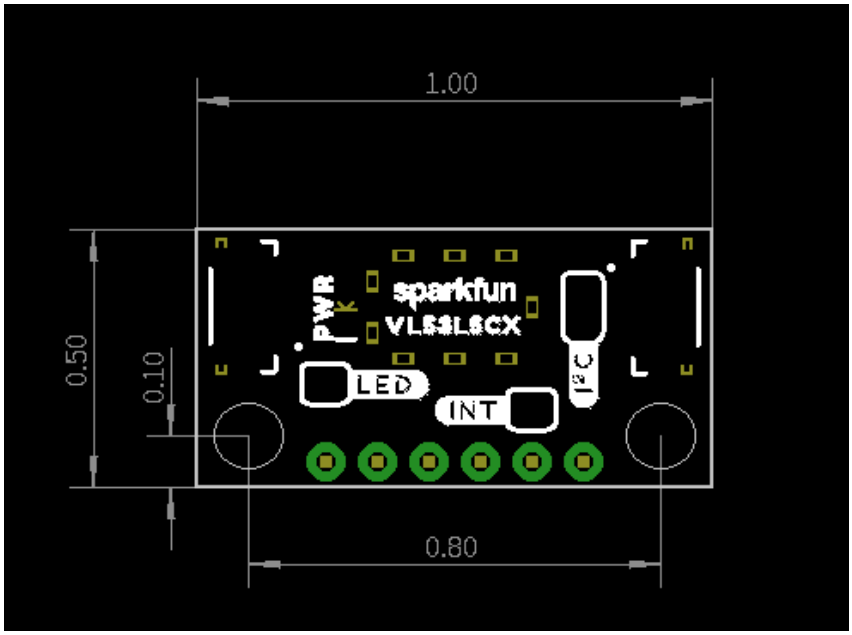
## Features

- Multizone ranging output with either 4x4 or 8x8 separate zones
- Autonomous low-power mode with interrupt programmable threshold to wake up the host
- Up to 400cm ranging
- 60Hz frame rate capability
- 940nm invisible light Vertical-Cavity Surface-Emitting Laser (VCSEL)
- Integrated analog driver emitter
- 63° diagonal square FoV using Diffractive Optical Elements (DOE) on both transmitter and receiver
- 3.3V operating voltage
- 0x52 I2C address
- 2x vertical Qwiic Connectors
- 0.5-inch x 1-inch dimensions

## Applications

- Gesture recognition
- Liquid level control
- Keystone correction for video projectors
- Wide FoV and multizone scanning allows content management (load in trucks, tanks, waste bins)
- Scene understanding
- Multizone and multi-object distance detection enable 3D room mapping
- Obstacle detection for robotics applications.
- Laser Assisted Autofocus (LAF)
- Enhances the camera AF system speed and robustness (especially in difficult low light or low contrast scenes)
- Augmented reality/virtual reality (AR/VR) enhancement
- Dual camera stereoscopy
- 3D depth assistance (multizone distance measurement)
- Smart buildings and smart lighting (user detection to wake up devices)
- IoT (user and object detection)
- 60Hz video focus tracking (allows optimization of continuous focus algorithm)

## Board Dimensions




## Mouser Part Number

View Part

To learn more, visit https://www.mouser.com/new/sparkfun/sparkfun-vl53l5cx-qwiic-mini-tof-imager/