

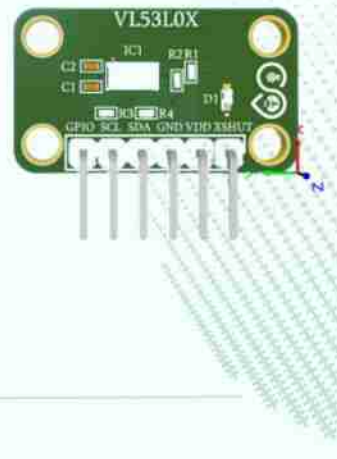
TOF VL53LOX

Overview

The VL53LOX is a compact Time-of-Flight (ToF) laser distance sensor by STMicroelectronics that measures distances up to 2 meters with millimeter accuracy via I²C. It's ideal for robotics, proximity sensing, and industrial automation due to its low power consumption and fast response.

Key Features

- Compact ToF Sensor: Provides precise distance measurement in a small form factor.
- High Accuracy: Millimeter-level resolution for reliable detection.
- Fast Response: Adjustable timing budget with measurement rates up to 50 Hz.
- Wide Applications: Suitable for robotics, smartphones, and industrial automation.
- Low Power Operation: Optimized for battery-powered and energy-sensitive devices.



Technical Specification

- Measurement Range: Up to 2 meters (with mm accuracy).
- Interface: I²C (standard and fast mode).
- Operating Voltage: 2.6V – 3.5V (typ. 3.3V).
- Field of View (FoV): ~25°.
- Measurement Frequency: Up to 50 Hz (configurable).

Application

- Obstacle Detection & Avoidance: Robotics, drones, and autonomous vehicles.
- Proximity Sensing: Smartphones, smart home devices, and touchless controls.
- Gesture Recognition: Smart interfaces, AR/VR, and gaming devices.
- Laser Autofocus: Enhances focus speed and accuracy in cameras.
- Industrial Automation: Precise distance measurement in factory equipment and safety systems.