

VL53LOX time-of-flight distance sensor breakout

Adafruit · MPN 3317 · category: distance-sensor

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ELECTRICAL

Operating voltage (bare IC): **2.6–3.5 V** · datasheet p.3
HW standby current, typ (µA): **5** · datasheet p.7
SW standby current 2V8, typ (µA): **6** · datasheet p.20
Active ranging avg current, typ (mA): **19** · datasheet p.20
Peak current (incl. VCSEL): **40 mA** · datasheet p.20
Sensor native supply (nominal): **2.8 V** · vendor page
Regulator + level shifting on board: **Yes** · vendor page

PERFORMANCE

Sensing cone: **35 degrees** · vendor page
Range (default mode): **30mm to 1.2 meter** · vendor page
Ranging accuracy: **3 to 12%** · vendor page
SPAD detection array: **Yes** · datasheet p.1
Boot time (tBOOT), max: **1.2 ms** · datasheet p.13
Typical ranging timing budget: **33 ms** · datasheet p.11
Minimum range measurement period: **8 ms** · datasheet p.11
Minimum detection rate: **94 %** · datasheet p.23
Max ranging, white target indoor (typ): **200 cm+** · datasheet p.23
High-accuracy profile timing budget: **200 ms** · datasheet p.24
High-speed profile timing budget: **20 ms** · datasheet p.24
Long-range mode reach (white surface): **1.5–2 meters** · vendor page

INTERFACE

I2C address: **0x52** · datasheet p.3
I2C bus speed (max): **400 kHz** · datasheet p.3
Recommended XSHUT/GPIO1 pull-ups: **10 kOhms** · datasheet p.5
Programmable I2C address: **Yes** · datasheet p.1
Two STEMMA QT / Qwiic connectors: **Yes** · vendor page

MECHANICAL

Board dimensions: **21.0mm x 18.0mm x 2.8mm** · vendor page
Weight: **1.3 g** · vendor page
Sensor package: **Optical LGA12** · datasheet p.3
Sensor module size (bare module): **4.4 x 2.4 x 1.0 mm** · datasheet p.1

ENVIRONMENT

Operating temperature: **-20–70 °C** · datasheet p.3
Moisture sensitivity level: **level 3** · datasheet p.32

COMPLIANCE

Laser safety class: **Class 1** · datasheet p.1
Laser safety standard: **IEC 60825-1:2014** · datasheet p.1

GENERAL

Range: **up to 2m** · datasheet p.1

Emitter: **940 nm** · datasheet p.1
Breakout supply: **3–5 V** · vendor page

INDICATIVE PRICES

Adafruit: \$14.95 USD · as of 2026-08-22 · <https://www.adafruit.com/product/3317>

Prices are indicative and dated, captured only from vendors' machine-stated markup. Availability is never claimed.

SOURCES — THE AUTHORITATIVE DOCUMENTS

ST VL53L0X datasheet: <https://www.st.com/resource/en/datasheet/vl53l0x.pdf>

sha-256 f0ae51414474d311bc24c60cd77bfff968ea5c2b3765b2fb2a390b3078dd49be

Adafruit product page: <https://www.adafruit.com/product/3317>

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