

Arnaud DELEULE

Application Lab Manager

Imaging Division - STMicroelectronics



Industry's smallest Time-of-Flight VL53L0X

life.augmented

New Time-of-Flight Ranging Sensor from STMicroelectronics Boards Danad and Conned in Industry's Constant England New Time-or-Filght Kanging Sensor from STMICroelectronics Boosts Range and Speed, in Industry's Smallest Footprint

> nget. Its fest-acting Elightactac technology, Hocus teabured in several smarth

The WEBLOX extends the JOR measurement range to two meters, and is accurate to where a set in the size fracture measurements and elements in under some and highly The VLS3LOX extends the VSE measurement range to two meters, and is accur WOR 235. It is also tasker, measuring the distance in under some and water and preserve and the some union only some is a rever remained and a some distance of WWW.43%. It is also faster, measuring the distance in under 30ms, and highly such the encyverticities, consuming only 20mW is active ranging mode and drawing in the market electric Active to the market electric to 2 Among V 4 Among V 4 mong a lie also the encyled electric Active to the market electric to 2 Among V 4 Among V 4 mong also also also and electric to 2 Min and a second v 4 mong be also the encyled electric to 2 energy-enscient, consuming only 20mW in active ranging mode and drawing SUA in standby. At 2.4mm x 4.4mm x 1mm, it is also the smallest such device in the market.

Benevs, June 6, 2018 – STMICroelectronics has further enhanced its k Time-of-Fight (200) ranging sensors with the second generation of its (n me-ore-name Walk ramana sensors with the second sentenation bechnology, now svallable in the new VLE3LOX (seer-ranging sent





nous incluence in activity amonghistics from the second of New Time-of-Flight (ToF) Ranging Sensor from STMicroelectronics Boosts Range and Speed, in Industry's Smallest Footprint

mance in scenes with high amble capabilities of the VLS3LDX can supp. tine sensing capabilities of the VLSSLUX can support a Including desture sensing or proximity detection for new Well detection, clitt detection and collision available for loboric app VBCUUM Cleaners, as well as hands free actuation of home application devices which are detinated and determined freed devices and devices VICUUM Cleaners, as well as hands-free actuation of home appliances or weat devices such as fauces, and dispersers, hand dryers, and flushers. Over another the interview reaction for language or measurement of the second secon devices such as faucets, soap dispensers, hand dryers, and hushers. Other applications include user-presence detection for laptops or monitors for pomer-onic control ennage and internet-of-twinner (int) devices spoilations include user-presence detection for appli-control, dranes, and internet-of-Things (333) devices.

Instance proventions and there are a second se

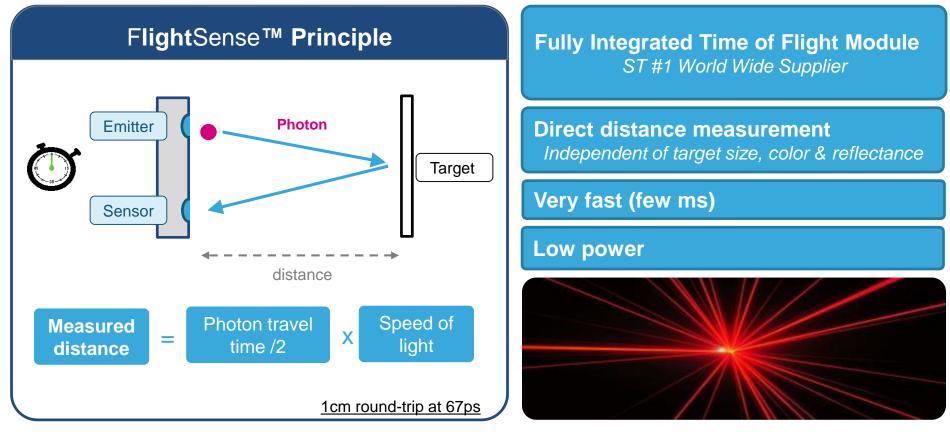
its leadership in FlightSensen



FlightSense[™] Breakthrough Technology ∎

3

Measurement at the speed of light !



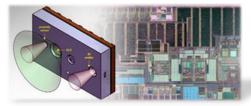


FlightSense[™] Technology advantages ∎









Fully integrated











FlightSense[™] unlocks endless new applications...



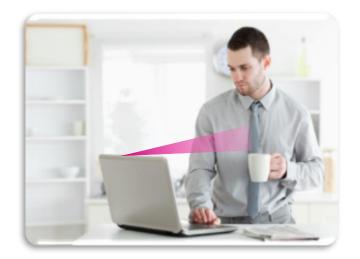


User detection and AF assist

Laptops & monitors

Presence detection for screen power on / off:

- Complies with EU Regulation 801/2013 (Lot 26): Networked standby losses of energy
- Fast detection (<30ms)
- Independent of target reflectance and color
- Robust to ambient light and backlight





AF Assist in case of AF camera:

- ToF can provide "instant focus"
- Works in the dark
- Not influenced by low contrast target

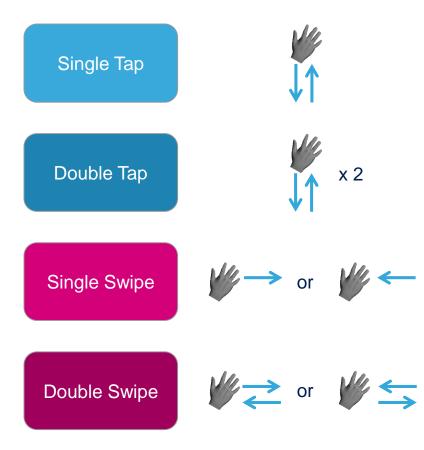




Gesture Recognition **7**



Multiple Gestures from a single FlightSense[™] sensor



Press a virtual 'button' on top of the sensor, once

Press a virtual 'button' on top of the sensor, twice

Slide hand left to right or from right to left over the sensor

Slide hand from left to right and back to left or from right to left and back to right over the sensor



VL6180X

Ambient Light Sensor (ALS) / Proximity Sensor

PRODUCTION





Small package

MASS

- OLGA 4.8 x 2.8 x 1mm
- Robust and accurate proximity detection
- Highly efficient ALS embedded

Fully integrated

- Near-IR (850nm) VCSEL emitter
- Filters
- Receiver
- Advanced µC
- Low power
- Field-of-View : 25°
- Laser Class1 device (eye safe)
- Independent of reflectance/color/texture

Complete API package and Android driver

Applications





Reliable Proximity detection

- User detection to safely power off touch screen or control white goods
- **Obstacle detection** for robotics

Ambient Light Sensing

Adjust the brightness of the display subject to the ambient light level detected



VL53L0X Ranging sensor

Highlights



- World's smallest ToF sensor
 - OLGA 4.4 x 2.4 x 1mm
- Range up to 2 meters in less than 30ms
- High accuracy (up to +/- 3%)
- Fast ranging time (up to 50Hz)
- Fully integrated

MASS

PRODUCTION

- Near-IR (940nm) VCSEL emitter
- Filters
- Receiver
- Advanced µC
- Low power
- Field-of-View : 25°
- Laser Class1 device (eye safe)
- Independent of reflectance/color/texture

Complete API package and Android driver

Applications

Laser AF

WW #1 supplier, with Focus in 1 frame





Drones

Take-off and landing phase assistance. Ceiling detection

User detection & Smart interaction

Power saving, zoom, user detection and counting, ...



VL53L0X NUCLEO expansion board

Arduino Connectors

4-digit display



PC GUI interface

VL53L0X Ranging sensor

2x VL53L0X satellites (plugged or hardwired)

Cover Glass sample (PMMA material. Low XTalk)

Cover Glass holder (Can hold Cover Glass and spacers)

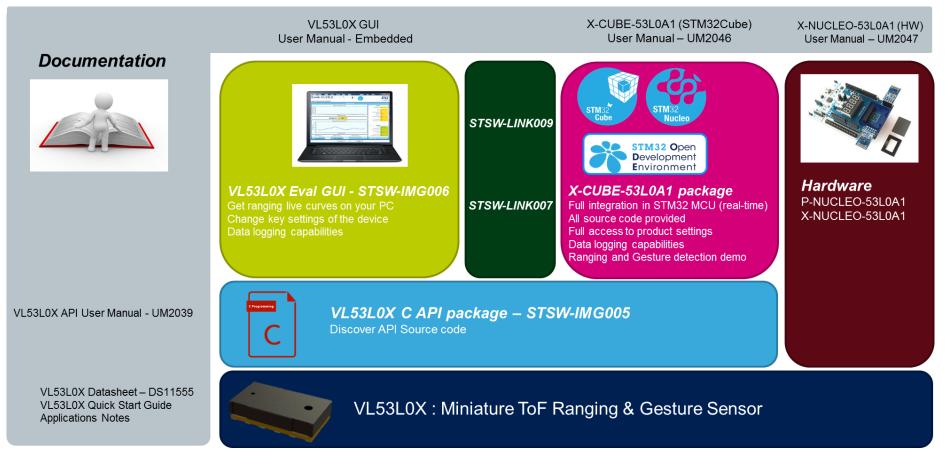
Spacers 3 spacers 0.25/0.5/1mm to create

various air gaps below CG

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VL53L0X Quick Start 11

A color code is used in the document for each component of the eco-system







Thank you 13



