

FlightSense™



Low-Power Detection

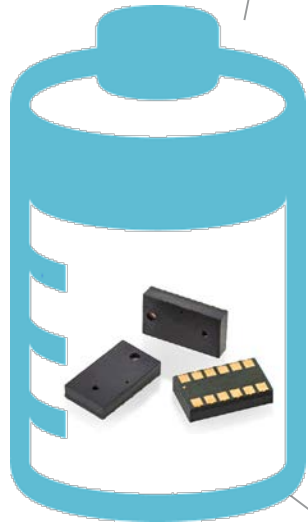


Ranging & Proximity



Applications

Low-Power Detection



- **FlightSense allows low-power detection**
 - All-in-one solution
 - Immune to color, texture, and material
 - Detection to distances of 120cm
 - Down to 175uW at 1Hz
- ➔ **Unlocking battery-operated, high-performance applications!**



Ranging & Proximity



Android 10 Pie ready

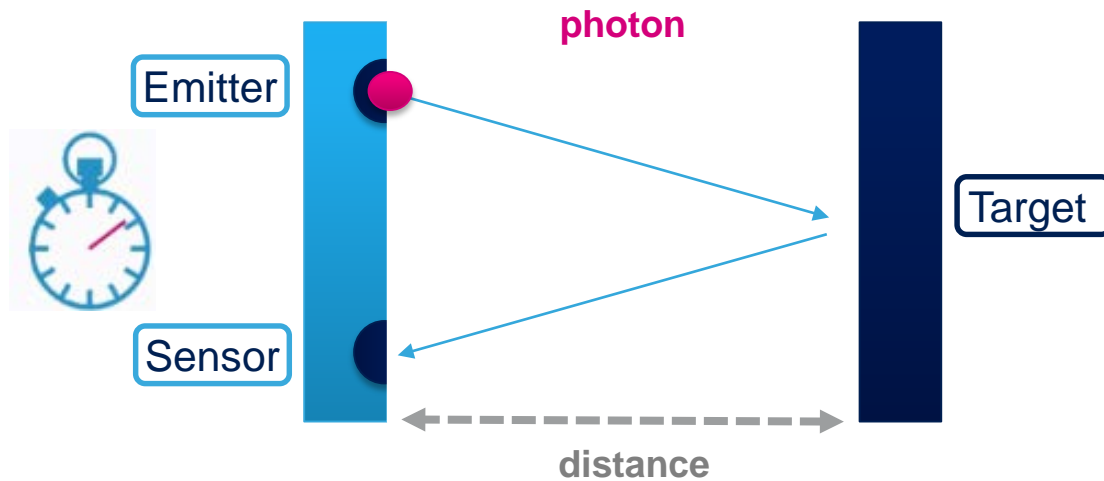
- **FlightSense enables outstanding performance**
 - Full range of products up to 400cm!
 - Works behind many types of cover-glass materials
 - Performance proven even for challenging industrial designs
- **Unlocking multiple applications & use-cases!**

Complete Product Range

- **VL6180X** 100fps, up to 40cm proximity & ALS
- **VL53L0X** 30fps, up to 200cm
- **VL53L1X** 60fps, up to 400cm

FlightSense Breakthrough Technology

FlightSense Principle



Measured distance

=

Photon travel time / 2

x

Speed of light

Fully Integrated Time of Flight Module

True distance measurement
Independent of target size, color & reflectance

Very fast (few ms)

Low power



Measurement at the speed of light! 1cm round-trip in 67ps



FlightSense Highlights

ST is World Wide #1 Time-of-Flight supplier



Over 5 years of proven track record in manufacturing
>> 450M products shipped
> 300% AAGR

FlightSense Laser AF camera assist in >85 phones
Endless applications on the market: Robots, Drones,
Smart-home sensors, Faucets, Toys...

New Generation Ready: Unique Direct ToF features
...and a complete roadmap under development



Key Target Applications



Presence: User Detection

Security
Power saving



Ranging & Proximity

True distance
Ranging up-to 4m



Camera AF Assist

Instant focus
Scene understanding



Robotics

Obstacle detection
Proximity



Camera AF Assist



Instant Focus
Over entire range

Region of Interest
Adjustable region

Flash-power
Adaptive Flash

Presence



Immediate detection of user
User friendly wake-up on approach



Security
Fast screen -lock / un-lock when user detected



Power saving
Very fast power-on / off

Robotics



Low Power Environment Sensor



Perfect for Object Detection



Multiple Sensors Floor/Wall detection