Product Brief

Infineon® 3D Image Sensor
IRS10x0C

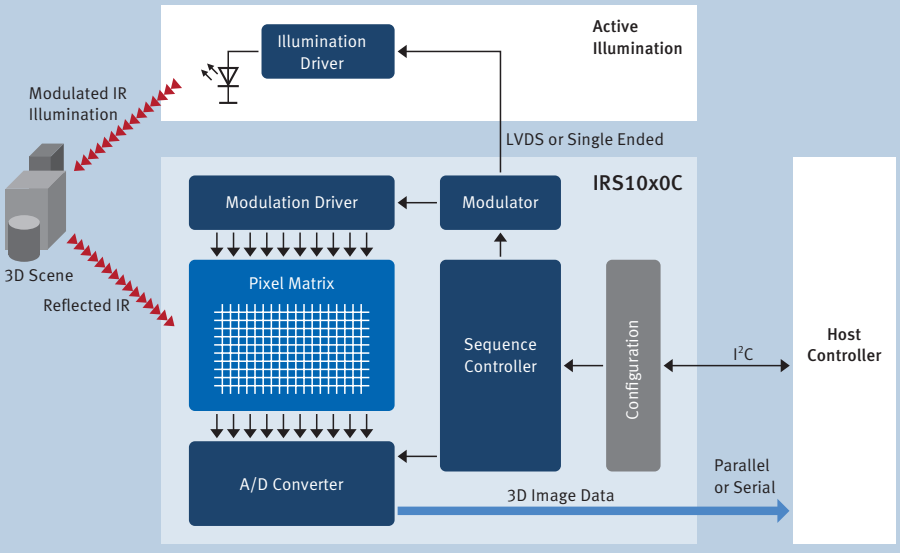
The **Infineon 3D Image Sensor IRS10x0C** is the most integrated and sophisticated Time-of-Flight (ToF) imager available on the market.

It embeds a high performance ToF pixel-matrix from **pmd**technologies and is manufactured in Infineon's volume-proven CMOS process which enables the integration of the photo-sensitive area together with mixed signal circuitry into a single chip.

The IRS10x0C brings together all ingredients to establish the Time-of-Flight technology in high volume consumer applications: smallest form-factor, low system cost, best sensitivity and contrast even in bright ambient light conditions.

Highest Integration
- On-chip ADCs for full digital readouts via high-speed interfaces
- Integrated control logic for autonomous depth-image acquisition

Highest Flexibility and Functionality
- Fast read-out time thus minimizing motion artifacts
- On-the-fly reconfiguration of the chip via I²C
- Fully configurable Region-of-Interest (ROI)
- On-chip digital binning of pixels



www.infineon.com/3d-imaging

Technology Features

- **pmd**technologies' ToF pixel architecture embedding patented Suppression of Background Illumination (SBI) for indoor and outdoor operation

pmd intelligence

- Infineon's high-volume proven CMOS process optimized towards infra-red photo-sensitivity and contrast

Halogen-Free

RoHS

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Touchless Natural User Interface

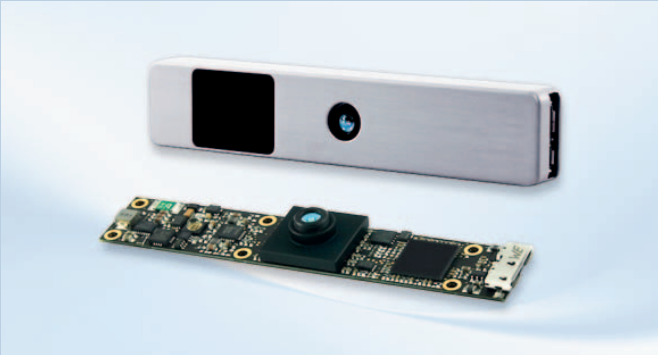
The IRS10x0C is the perfect 3D image sensor for depth cameras designed for air-gesture recognition. The low-noise depth data fundamentally simplifies the detection of objects, resulting in lowest latency and highest robustness, which are the key factors for the excellent user experience.

Applications

- Finger and hand tracking for air-gesture recognition in touchless user interfaces
  - All-in-One PCs
  - Laptops
  - Set-Top-Boxes
- Multiple person finger-, hand- and body-tracking for gaming applications
- Automotive in-car gesture control
- Industrial object tracking and surveillance applications

CamBoard pico

The CamBoard pico is the world's smallest 3D camera reference design available today. Designed around the IRS1010C, its extremely small form factor demonstrates the integration of ToF cameras into stylish All-in-One PCs and notebooks.



Product Features	CamBoard pico 70.19k
Lateral resolution	QQVGA (160 x 120 px)
Depth resolution	< 4mm @ 70cm (75% reflectivity)
Module dimensions	85 x 17 x 8 mm³
Interface	USB 2.0
Power consumption	Max. 2.5W (USB 2.0)
Measurement range	Max. 100 cm
Field of view	90° horizontal
Software	C/C++/Matlab SDK

Strong System Partner Network

The partnership between pmdtechnologies and Infineon is completed by a network of third party companies offering gesture detection middleware, optical components, LEDs and laser, USB bridges and more.

Product Variants

Sales Name	Resolution	Package	Ordering Code
IRS1010C	QQVGA (160 x 120 pixel)	Bare die	SP001115718
IRS1020C	CIF (352 x 288 pixel)	Bare die	SP001116098

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Visit us:
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