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 pmdtechnologies 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
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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.

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 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

Product Variants

<table>
<thead>
<tr>
<th>Sales Name</th>
<th>Resolution</th>
<th>Package</th>
<th>Ordering Code</th>
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</thead>
<tbody>
<tr>
<td>IRS1010C</td>
<td>QQVGA (160 x 120 pixel)</td>
<td>Bare die</td>
<td>SP001115718</td>
</tr>
<tr>
<td>IRS1020C</td>
<td>CIF (352 x 288 pixel)</td>
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INFORMATION
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