GENERAL DESCRIPTION

OPNCAM8508 is a series of 3D ToF cameras based on OPNOUS Dolphin platform. This platform consists of ToF image sensor, VCSEL driver, ToF ISP developed by OPNOUS.

High integration, low power consumption, high precision and easy use are the key features of OPNCAM8508, which makes it ideal for 3D depth sensing applications.

OPNCAM8508 support either USB3.0 or MIPI as interface to host PC or application processor.

This camera comes with OPNOUS’s powerful SDK, contains APIs, example code and depth display tool -- OPN ToF Viewer, it’s a cross platform compatible software package.

TYPICAL APPLICATIONS

- Face recognition and face motion tracking
- 3D reconstruction
- AR/VR
- Hand and finger tracking for gesture control and interaction with virtual objects
- Visual support for robot grippers
- People counting and motion analysis
SYSTEM DIAGRAM

Figure 1. System Diagram of USB3.0 Output Camera

Figure 2. System Diagram of MIPI Output Camera
### KEY SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>OPN8008D, global shutter</td>
</tr>
<tr>
<td>Resolution</td>
<td>320 * 240</td>
</tr>
<tr>
<td>Pixel size</td>
<td>15um</td>
</tr>
<tr>
<td>Sensor size</td>
<td>1/3”</td>
</tr>
<tr>
<td>Dimensions (L<em>W</em>H)</td>
<td>79.50mm * 23.20mm * 20.00mm/100mm * 54mm * 24.33mm</td>
</tr>
<tr>
<td>Framerate</td>
<td>5 – 60 fps</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0.15 – 2.0m</td>
</tr>
<tr>
<td>FOV</td>
<td>71.8°(H) * 56.5°(V)</td>
</tr>
<tr>
<td>Distortion</td>
<td>&lt;2.5%</td>
</tr>
<tr>
<td>Illumination</td>
<td>940nm, 3W</td>
</tr>
<tr>
<td>Power consumption</td>
<td>340mW. Typ</td>
</tr>
<tr>
<td>Depth accuracy</td>
<td>&lt;=1% / &lt;=1cm</td>
</tr>
<tr>
<td>Interface</td>
<td>USB3.0/MIPI</td>
</tr>
</tbody>
</table>

1. Typical application, room temperature, 5fps, >85% reflection chart.
2. Dark room, >85% reflection chart.
# ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Resolution</th>
<th>Range</th>
<th>IR Filter</th>
<th>FoV</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPNCAM8508C/197-1MA-UA</td>
<td>320 x 240</td>
<td>1m</td>
<td>940nm</td>
<td>72 x 55</td>
<td>USB 3.0</td>
</tr>
<tr>
<td>OPNCAM8508C/297-1MA-UA</td>
<td>320 x 240</td>
<td>2m</td>
<td>940nm</td>
<td>72 x 55</td>
<td>USB 3.0</td>
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</tr>
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DIMENSIONS

Figure 3. Dimensions of USB3.0 Output Camera

Figure 4. Dimensions of MIPI Output Camera
## REVISION HISTORY

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Description</th>
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<tr>
<td>V1.0</td>
<td>2020/4/12</td>
<td>Initial revision.</td>
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