PixelCam™
OEM Multispectral Cameras

Snapshot Multispectral Imaging

PixelCam™ multispectral cameras provide live imaging of 3-9 spectral bands, off-the-shelf or custom, at video rates. Simultaneous multi-channel “snapshot” acquisition delivers rich, real-time data without scene change or pixel shift. Custom dichroic filter arrays are integrated into the focal plane array at wafer-level to create robust linear and area sensors that extract high-contrast spectral information at specific visible and infrared wavelengths. This breakthrough technology enables easy integration into handheld, mobile and aerial cameras – all with the same frame rate, size, weight and power consumption as monochrome cameras.

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### Summary

<table>
<thead>
<tr>
<th></th>
<th>VIS+NIR</th>
<th>NIR+SWIR</th>
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<tbody>
<tr>
<td>Spectral response</td>
<td>400-1000 nm</td>
<td>700-1700 nm</td>
</tr>
<tr>
<td>Resolution</td>
<td>2 MP: 1600 x 1200 px</td>
<td>640 x 512 px</td>
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<tr>
<td></td>
<td>4 MP: 2048 x 2048 px</td>
<td></td>
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<tr>
<td>Sensor</td>
<td>Si interline CCD 7.4 µm pixel pitch</td>
<td>InGaAs 25 µm pixel pitch</td>
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<tr>
<td>Spectral bands (examples)</td>
<td>*4-band: RGB + NIR (760 nm long-wave pass)</td>
<td>*4-band: 900/400 nm, 1200/100 nm, 1400/100 nm, 1650/100 nm</td>
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<tr>
<td></td>
<td>*6-band: RGB + 3xNIR (740/60 nm, 840/60 nm, 940/60 nm)</td>
<td>*3-band: 900/400 nm, 1350/200 nm, 1625/150 nm</td>
</tr>
<tr>
<td>Active area</td>
<td>4 MP: 15.15 mm (H) x 15.15 mm (V), 21.43 mm (diagonal)</td>
<td>16.0 mm (H) x 12.8 mm (V), 20.5 mm (diagonal)</td>
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<tr>
<td>Frame rate overclocked</td>
<td>4 MP: 15 fps at full resolution</td>
<td>30 fps</td>
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<tr>
<td>Optical interface</td>
<td>C mount</td>
<td>Ni-42</td>
</tr>
<tr>
<td>Digital output</td>
<td>GigE Vision®</td>
<td>Camera Link®, 14 bit</td>
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<tr>
<td>Dimensions (no lens or mount)</td>
<td>4 MP: 52.5 mm (H) x 52.5 mm (W) x 79.4 mm (D)</td>
<td>52.1 mm (H) x 52.1 mm (W) x 64.7 mm (D)</td>
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<tr>
<td></td>
<td>2.07” (H) x 2.07” (W) x 3.13” (D)</td>
<td>2.1” (H) x 2.1” (W) x 2.6” (D)</td>
</tr>
<tr>
<td>Weight</td>
<td>4 MP: 377 g (0.67 lb.)</td>
<td>235 g (0.52 lb.)</td>
</tr>
</tbody>
</table>

### Benefits
- Simultaneous multi-band imaging
- Custom VIS-NIR-SWIR spectral bands
- Portable size, weight and power consumption
- Robust, high reliability, scalable production

### OEM Customization
- Application customization
- Custom pixel-scale mosaic patterning
- Sensor, camera and housing options
- Mechanical and environmental requirements
- Proof-of-concept prototypes to high-volume production

### Applications
- Aerial mapping
- Biomedical imaging
- Machine vision
- Product screening
- Remote sensing
- Surveillance and authentication
- Unmanned systems

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**Dichroic Filter Array**

4-band VIS-NIR “Bayer” mosaic

6-band VIS-NIR “Bayer” mosaic

### Spectral Response

- PixelCam 4-Band - RGB + NIR
- PixelCam SWIR
- PixelCam 6-Band - RGB + 3xNIR

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