FBX™ CMOS Imager for Hyperspectral Imaging

FBX-2K256 CMOS Imager
Mid-range, versatile imager for most spectroscopy applications

DESCRIPTION
Specifically designed for hyperspectral imaging, the FBX-2K256 CMOS imager sets the bar for high performance VNIR hyperspectral imaging. High broadband QE, high speed, and high sensitivity make this the ideal image sensor for remote sensing applications. The FBX 2k256 is the first in its class to offer digital output, significantly reducing camera size and complexity.

APPLICATIONS
- Satellite Remote Sensing
- Aerial Survey Cameras
- Life Sciences
- Machine Vision
- Lab spectrometers

ADVANTAGES
- Enhanced UV and NIR sensitivity
- High Speed
- Low Noise
- High Dynamic Range

Contact us for application-specific performance modeling and benchmarking.

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## SPECIFICATIONS

<table>
<thead>
<tr>
<th>OPTICS</th>
<th>SPECIFICATION</th>
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<tbody>
<tr>
<td><strong>Type</strong></td>
<td>Fully-depleted, back-illuminated, eXtreme performance (FBX™)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>2048 columns x 256 rows</td>
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<tr>
<td><strong>Pixel Size</strong></td>
<td>15 mm</td>
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</table>
| **Full Well Capacity** | Gain 0: 500,000 electrons  
                           Gain 1: 60,000 electrons  
                           Gain 2: 10,000 electrons       |
| **Read Noise**  | Gain 0: < 63 electrons  
                           Gain 1: < 42 electrons  
                           Gain 2: < 10 electrons            |
| **Maximum Frame Rate** | 500 Frames/second                                     |
| **Spectral Range** | > 50% @ 380 nm  
                           80% @ 400-900 nm  
                           > 30% @ 1000 nm            |
| **Exposure control:** | Snapshot, Integrate While Read (IWR),  
                           Non Destructive Read (NDR)  
                           High Dynamic Range (HDR)     |
| **Dark Current** | <0.5 nA/cm²                                         |
| **Binning**     | 1x2, 2x1, 2x2, 1x4                                    |
| **Output**      | 16-bit Digital Interface, 16 outputs                  |
| **Cooling**     | Single Stage Thermo-Electric Cooler (TEC)            |
| **Power**       | 2 Watts for image sensing  
                           5 Watts for camera with TEC       |
| **Customization** | Call for modifications to Quantum Efficiency, Windowing, and frame rates |

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