With its remarkably high resolution of 1024 x 768 pixels, the U8000 thermal imaging detector offers outstanding image quality in a ruggedized and lightweight package. This uncooled sensor, using innovative vanadium-oxide technology and 17 micron pixel pitch imaging, weighs less than 18 grams and measures just 3.8 x 3.3 x 0.52 cm.

DRS’ U8000 long-wave infrared detection capabilities are incorporated into a ruggedized, environmentally sealed, ceramic package. On-chip temperature feedback technology enables the U8000 to operate without the need for a thermoelectric cooler. With innovative infrared imaging technology and superior resolution in a compact package, the U8000 is ideal for applications in which high resolution is required for successful missions, including manned and unmanned vehicles, border security and homeland defense.

- 1024 x 768 pixel resolution, with 17 micron pixel pitch focal plane array
- Ruggedized ceramic, sealed packaging
- Measures 3.8 x 3.3 x 0.52 cm and weighs less than 18 grams
- Applicable for border security, homeland defense, unmanned and manned vehicles, where a higher resolution is a requirement
### SYSTEM FEATURES

#### FOCAL PLANE ARRAY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector Type</td>
<td>Uncooled VOx Microbolometer</td>
</tr>
<tr>
<td>Array Size</td>
<td>1024 x 768</td>
</tr>
<tr>
<td>Detector Pitch</td>
<td>17 μm</td>
</tr>
<tr>
<td>Spectral Response</td>
<td>LWIR 8 - 14 μm</td>
</tr>
</tbody>
</table>

#### VIDEO

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Rate</td>
<td>30 Hz</td>
</tr>
<tr>
<td>Nominal Data Rate</td>
<td>12.5 MHz (Input) 6.25 MHz (Output)</td>
</tr>
<tr>
<td>Format</td>
<td>XGA Compatible</td>
</tr>
</tbody>
</table>

#### ELECTRICAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>≤ 450 mW Nominal</td>
</tr>
</tbody>
</table>

#### PART NUMBER

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>5016400-001</td>
</tr>
</tbody>
</table>

#### PERFORMANCE

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity (NETD)</td>
<td>&lt;40 mK @ F/1</td>
</tr>
<tr>
<td>Multiplexer</td>
<td>CMOS Ripple Integration</td>
</tr>
<tr>
<td>Area Fill Factor</td>
<td>90%</td>
</tr>
<tr>
<td>Typical Operability</td>
<td>&gt;99%</td>
</tr>
<tr>
<td>Number of Analog Outputs</td>
<td>4</td>
</tr>
<tr>
<td>Output Voltage Range</td>
<td>1.3 - 4.5 v</td>
</tr>
<tr>
<td>Time Constant</td>
<td>≤ 14 msec</td>
</tr>
<tr>
<td>Temperature Stabilization</td>
<td>No TEC required</td>
</tr>
<tr>
<td>On-chip Non Uniformity Correction (NUC)</td>
<td>7 bits parallel</td>
</tr>
</tbody>
</table>

#### MECHANICAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (L x W x H)</td>
<td>3.80 x 3.30 x 0.52 cm (1.53 x 1.32 x 0.205 inches)</td>
</tr>
<tr>
<td>Weight</td>
<td>≤ 18 g</td>
</tr>
</tbody>
</table>

#### ENVIRONMENTAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +71°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-46°C to +85°C</td>
</tr>
</tbody>
</table>

* Specifications subject to change without notice.

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