Snake SW is the new generation VGA InGaAs FPA sensor: a high-sensitivity and high-resolution FPA assembly designed for most demanding low flux imaging applications from 0.9 μm to 1.7 μm. Sofradir InGaAs technology exhibits outstanding performances in terms of dark current, uniformity and operability. Snake SW is well-adapted to a large range of applications such as night vision, surveillance, airborne gimbals and various industrial and scientific applications. This high-performance FPA assembly takes full advantage of Sofradir’s state of the art technologies.

### ARRAY FEATURES
- **Sensor type**  
  InGaAs PIN - Photodiode
- **Format**  
  640 × 512
- **Pixel pitch**  
  15 μm × 15 μm
- **Waveband**  
  0.9 μm to 1.7 μm (optional extended waveband = 0.4 μm to 1.7 μm)

### ROIC (READ-OUT INTEGRATED CIRCUIT)
- **Integration type**  
  Snapshot
- **Readout modes**  
  IWR, ITR, NDR
- **Integration time**  
  1 μs to full frame
- **Maximum full frame rate @ 9 MHz**  
  100Hz / 180 Hz / 300Hz [2, 4 or 8 outputs]
- **Maximum frame rate @ 9 MHz**  
  30 KHz (windowing mode)
- **Maximum pixel rate**  
  18 MHz per output
- **Full well**  
  $43 \times 10^3$ e- [Gain 0] / $120 \times 10^3$ e- [Gain 1] / $1.44 \times 10^4$ e- [Gain 2]
- **Output signal swing**  
  2.3 V
- **Input bias**  
  1.8 V to 3.6 V
- **Windowing**  
  Programmable [≥ 8 x 4 (2 output mode, 30 KFPS); ≥ 16 x 4 (4 output mode, 30 KFPS); ≥ 32 x 4 (8 output mode, 30 KFPS)]
- **Temperature sensor output**  
  Yes
**TYPICAL**(*) **PERFORMANCES**

<table>
<thead>
<tr>
<th>Performance</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantum efficiency (QE)</td>
<td>&gt; 70% from 1 μm to 1.6 μm (***)</td>
</tr>
<tr>
<td>Noise with ROIC</td>
<td>30 e- (Gain 0)</td>
</tr>
<tr>
<td>Dark current</td>
<td>30 fA @ 0.2 V detector bias</td>
</tr>
<tr>
<td>Operability</td>
<td>99.7% (***)</td>
</tr>
<tr>
<td>Non uniformity without correction</td>
<td>4 %</td>
</tr>
</tbody>
</table>

**PACKAGING**

- **Dimension (W x H x D)**: 42 mm x 30 mm x 9 mm
- **Windows**: Sapphire
- **Number of pins**: 28
- **Cooler**: Single stage TE Cooler (8.4W)
- **Packaging characteristics**: Hermetically sealed
- **Operation temperature**: From -40°C to 71°C
- **Storage temperature**: From -40°C to 71°C

(*) Typical = Expected production mean value.
(***) The fraction of pixels with responsivity deviation less than +/- 30% from the mean.

**APPLICATIONS**

- **Technical characteristics described in this data sheet are for information only.**
  They are not contractual and may change without prior notice.

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