The DigiPile™ is a Thermopile Detector with digital output. It combines a time-proven MEMS-based sensing element with a fully integrated low noise amplifier, A/D converter and integrated ambient temperature sensor. An internal clock and control unit enable the DigiPile to open a dialogue with any outside microprocessor without the need for costly additional components.

Along with the DigiPile’s more reliable digital design functionality, the move from analog to digital provides OEM designers with a number of distinct advantages including reduced PCB space requirements, improved EMI resistance, and need for fewer additional components like low noise amplifier and associated filters.

The DigiPile is specifically designed for a range of OEM applications including thermometry, pyrometry, and non-contact temperature sensing. The DigiPile will be offered in a range of housings and sensing areas with the first models from Excelitas covering the popular TO-46 and TO-5 metal housings. We are also offering a DigiPile model with a built-in lens, ideally suited to applications like forehead thermometry where a focusing system is desirable.

Key Features
- More reliable digital design functionality than with analog – all “Digi” models include Thermopile infrared Detector and proprietary digitizing circuit (ADC)
- Reduced PCB space requirements – by up to 20%
- Integrated design - no need for costly additional components like low noise amplifier and associated filters
- High signal to noise ratio based on our new thermopile chip with increased signal strength
- Improved EMI resistance
- Low operating voltage, down to 2.4V
- Low current consumption
- Range of housings and sensing areas to be offered
- Option of model with integrated lens, where a focusing system is particularly useful
- RoHS-compliant

Applications
- Thermometry
- Pyrometry
- Non-contact, high-precision temperature sensing

www.excelitas.com
The electrical parameters may vary from specified values accordance with their temperature dependence.

With standard filter (LWP, cut-on 5.5 µm)

Uncoated lens
Physical Configuration

TPiS 1T 1252

TPS 1T 1254

TPS 1T 1256
TPiS 1T 1252

Filter Identifier

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Cut-on wavelength (CWL)</td>
<td>5.5 µm</td>
</tr>
<tr>
<td>Cut-on tolerance range</td>
<td>± 0.3 µm</td>
</tr>
<tr>
<td>Average Transmittance from 7.5µm to 13.5µm</td>
<td>&gt; 70 %</td>
</tr>
<tr>
<td>Average Transmittance from visual to 5µm</td>
<td>&lt; 0.5 %</td>
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<tr>
<td>Substrate material</td>
<td>Silicon</td>
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TP 1T 1254

Filter Identifier

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TPiS 1T 1256

Filter Identifier

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<tbody>
<tr>
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<td>Silicon, uncoated</td>
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