PVMI-4TE Series

8 – 11 μm IR PHOTOVOLTAIC MULTIPLE JUNCTION DETECTORS THERMOELECTRICALLY COOLED OPTICALLY IMMERSED

Example of D* vs Wavelength λ for PVMI-4TE Series HgCdTe Detectors. Spectral Characteristics of individual detectors may vary from those shown on the chart.

Features
- High performance in the long wavelengths range without LN cooling
- Fast response
- No flicker noise
- Convenient to use
- Wide dynamic range
- Compact, rugged and reliable
- Low cost
- Prompt delivery
- Custom design upon request

Description
The PVMI-4TE-λ opt photodetectors series (λ opt - optimal wavelength in micrometers) feature IR multiple junction optically immersed photovoltaic detectors on four-stage thermoelectrical cooler.

The devices are optimized for the maximum performance at λ opt. Highest performance and stability are achieved by application of variable gap HgCdTe semiconductor, optimized doping and sophisticated surface processing. Custom devices with quadrant cells, multielement arrays, different windows, lenses and optical filters are available upon request.

Standard detectors are available in TO8 packages with ZnSeAR windows. Other packages, windows and connectors are also available.

IR Detector Specification @20°C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Unit</th>
<th>PVMI-4TE-8</th>
<th>PVMI-4TE-10.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimal Wavelength *)</td>
<td>λ opt</td>
<td>μm</td>
<td>8</td>
<td>10.6</td>
</tr>
<tr>
<td>Detectivity *)</td>
<td>D*</td>
<td>cm Hz-W</td>
<td>≥8.0×10⁹</td>
<td>≥6.0×10⁹</td>
</tr>
<tr>
<td>Current Responsivity - Width</td>
<td>R w</td>
<td>A mm W</td>
<td>≥0.20</td>
<td>≥0.15</td>
</tr>
<tr>
<td>Product @λ opt 1×1 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Constant</td>
<td>T</td>
<td>ns</td>
<td>54</td>
<td>53</td>
</tr>
<tr>
<td>Resistance</td>
<td>R</td>
<td>Ω</td>
<td>500 to 1200</td>
<td>150 to 500</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>T</td>
<td>K</td>
<td>-195</td>
<td>-125</td>
</tr>
<tr>
<td>Acceptance Angle, F/ #</td>
<td>Φ</td>
<td>deg.</td>
<td>36, 1.62</td>
<td></td>
</tr>
</tbody>
</table>

*) Other Optimal Wavelengths available upon request.
**) Data Sheet states minimum guaranteed D* values for each detector model. Higher performance detectors can be provided upon request.

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