The lithium tantalate pyroelectric detector provides good spectral response in the mid-IR.

If you need a single point detector to measure signals in the mid-IR spectral region, the solid state InSb detector HORIBA Scientific is an excellent choice. With high sensitivity ($D^*$) and thermoelectric cooling, responsivity extends from 1000 nm to 5500 nm. This is one of a number of single point detectors available from HORIBA Scientific. Contact us for further information.

Used in conjunction with optically optimized housings, these detectors integrate seamlessly with HORIBA’s extensive selection of monochromators. In addition, the SpectrAcq2 acquisition module allows for software integration with LabSpec, SynerJY, or LabVIEW. With all of the additional optical adapters available from HORIBA, a user can easily go from individual components to a complete spectroscopy solution.

Features and Benefits

- Wide spectral responsivity from 2 µm to 16 µm
- High sensitivity ($D^* \approx 10^9$)
- Compact ambient detector housing

Accessories

Various accessories are available for powering the detectors, optically coupling detectors to HORIBA monochromators, and data acquisition.

- Power supply for ambient detectors, DSS-15VP
- Mirror-based housing, 1427C
- BNC cable, J30646
- SpectrAcq2 data acquisition module
- SMA fiber adapter, DSS-SMA
- Dual 1427C housing adapter, J23078370
- Dual detector housing, J23079050
- BNC switchbox for dual detectors, SWB-AB
Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part number</td>
<td>DSS-LT020A</td>
</tr>
<tr>
<td>Detector type</td>
<td>2.0 mm diameter lithium tantalite pyroelectric</td>
</tr>
<tr>
<td>Operating temperature (°C)</td>
<td>22°C ambient</td>
</tr>
<tr>
<td>Operating wavelength (µm)</td>
<td>2.0 – 16 µm</td>
</tr>
<tr>
<td>Responsivity (V/W @ peak)</td>
<td>10² / 10³</td>
</tr>
<tr>
<td>Noise (V/Hz½)</td>
<td>100 x 10⁻⁶ / 10⁻⁷</td>
</tr>
<tr>
<td>NEP pk, (W/Hz½)</td>
<td>&lt; 1 x 10⁻⁹</td>
</tr>
<tr>
<td>Detectivity (D*)</td>
<td>1.77 x 10³</td>
</tr>
<tr>
<td>Bandwidth (-3dB – Hz, typical)</td>
<td>1 – 100 Hz</td>
</tr>
<tr>
<td>Power requirements</td>
<td>± 9 VDC to ± 15 VDC</td>
</tr>
<tr>
<td>Connections</td>
<td>BNC signal output. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC-1 Low Noise Power Supply / Controller.</td>
</tr>
</tbody>
</table>

Mechanical Dimensions

(All measurements are in inches)

Electrical Diagram

DB-9 Pin Out Diagram

1. No connect
2. No connect
3. No connect
4. No connect
5. No connect
6. +V
7. -V
8. GND
9. Case GND