UV – Photodiode with integrated amplifier

**JIC 119-22**

**JIC 119-22L**

**characteristics:**
- spectral range 210...390 nm
- active area 0.055 mm²
- optional version with lense cap (version –L)
- very high UV-responsivity
- integrated amplifier
- single supply voltage
- sensor assembly isolated to ground
- full hermetically sealed glass/metall package
- replacement for obsolete components UV10.T2E.10F and UV10.T2E.10L (PerkinElmer) (not pincompatible !)
- components are in conformity with RoHS and WEEE

**applications:**
- flamedetection and –control in burners
- UV-measurement
- measurement of very low UV-levels

**absolute maximum ratings:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Condition</th>
<th>JIC 119-22</th>
<th>JIC 119-22L</th>
</tr>
</thead>
<tbody>
<tr>
<td>supply voltage</td>
<td>+5.5 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>working temperature range</td>
<td>-25 °C ... +85 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>storage temperature range</td>
<td>-40 °C ... +100 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>welding temperature (5s)</td>
<td>300 °C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**technical data:**

common test conditions, as not otherwise specified:  

$T_A = 25 \, ^\circ C$, $V_S = +5 \, V$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Condition</th>
<th>Parameter</th>
<th>Condition</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>feedback resistor</td>
<td></td>
<td>JIC 119-22</td>
<td>JIC 119-22L</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>dark offset voltage</td>
<td>$E = 0 , lx$</td>
<td>JIC 119-22</td>
<td>JIC 119-22L</td>
<td>±0.5 (±2)</td>
<td>±0.5 (±2)</td>
</tr>
<tr>
<td>noise voltage</td>
<td>$B = 10 , Hz$</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
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<tr>
<td>max. spectral responsivity</td>
<td>$\lambda = 280 , nm$</td>
<td></td>
<td></td>
<td>0.1</td>
<td>6</td>
</tr>
<tr>
<td>risetime</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>10</td>
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<tr>
<td>bandwidth</td>
<td>- 3 dB</td>
<td></td>
<td></td>
<td>25</td>
<td>25</td>
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<tr>
<td>saturation voltage</td>
<td>$R_S = 2 , k\Omega$</td>
<td></td>
<td></td>
<td>+4.95 (+4.8)</td>
<td>+4.95 (+4.8)</td>
</tr>
<tr>
<td>short current</td>
<td></td>
<td></td>
<td></td>
<td>± 50</td>
<td>± 50</td>
</tr>
<tr>
<td>operating voltage</td>
<td></td>
<td></td>
<td></td>
<td>2.5...5.0</td>
<td>2.5...5.0</td>
</tr>
<tr>
<td>current consumption</td>
<td></td>
<td></td>
<td></td>
<td>± 55 (0.90)</td>
<td>± 55 (0.90)</td>
</tr>
</tbody>
</table>
relative spectral responsivity

Wellenlänge in nm

S_{rel}

0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

200 250 300 350 400 450

internal circuit

package dimension (bottom view)

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1 GND
2 Out
3 V_{in}
4 GND
5 Case

application hints:
- please make sure that length of connectors is as short as possible to reduce noise and capacitive interference.