UV - Photodetector with integrated amplifier

<table>
<thead>
<tr>
<th>JIC 167 B</th>
<th>JIC 168 B</th>
<th>JIC 169 B</th>
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</thead>
</table>

characteristics:
- integrated UV-B filter
- spectral range: 280 ... 325 nm
- active area: 0,965 mm²
- responsivity, decadic staggering: 0,4/4/40 mV/nW
- extra sensor pin for external adjustment of gain and bandwidth
- single supply voltage
- sensor assembly isolated to ground
- hermetically welded TO5-metal/glass package
- components are in conformity with RoHS and WEEE

applications:
- selective UV-measurement
- control of sterilization lamps
- flamedetection and flamecontrol
- control of irradiancy in varnish and adhesive hardening

absolute maximum ratings:
- supply voltage: +5,5 V
- working temperature range: -25 °C ... +85 °C
- storage temperature range: -40 °C ... +100 °C
- welding temperature (5s): 300 °C

technical data:

common test conditions, as not otherwise specified: \( T_a = 25 \, ^\circ C \), \( V_s = +5 \, V \)
typ. values, maximum values in brackets

<table>
<thead>
<tr>
<th>parameter</th>
<th>test condition</th>
<th>JIC167B</th>
<th>JIC168B</th>
<th>JIC169B</th>
<th>unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>feedback resistor</td>
<td></td>
<td>10</td>
<td>100</td>
<td>1.000</td>
<td>Ω</td>
</tr>
<tr>
<td>dark offset voltage</td>
<td></td>
<td>( E = 0 , lx )</td>
<td>( \pm 1 )</td>
<td>( \pm 2 )</td>
<td>( \pm 3 )</td>
</tr>
<tr>
<td>noise voltage</td>
<td></td>
<td>B = 1 kHz</td>
<td>( \pm 1 )</td>
<td>( \pm 2 )</td>
<td>( \pm 3 )</td>
</tr>
<tr>
<td>max. spectral responsivity</td>
<td></td>
<td>( \lambda = 315 , nm )</td>
<td>0,4</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>risetime</td>
<td></td>
<td>30</td>
<td>150</td>
<td>600</td>
<td>μs</td>
</tr>
<tr>
<td>bandwidth</td>
<td>10</td>
<td>2</td>
<td>0,5</td>
<td>kHz</td>
<td></td>
</tr>
<tr>
<td>saturation voltage</td>
<td>( R_l = 2 , kΩ )</td>
<td>( + 4,95 )</td>
<td>( + 4,8 )</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>short current</td>
<td>( \pm 50 )</td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>supply voltage</td>
<td></td>
<td>+ 2,7...+ 5</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>current consumption</td>
<td>750 (1100)</td>
<td></td>
<td></td>
<td>μA</td>
<td></td>
</tr>
</tbody>
</table>
relative spectral responsivity

![Graph showing relative spectral responsivity with wavelength in nm on the x-axis and S_rel on the y-axis.]

pin configuration

![Circuit diagram showing pin configuration with labels 1 R, 2 Out, 3 V_S, 4 GND, 5 Case.]

package dimension

![Diagram showing package dimensions with labels.]  

application hints:

- If an external resistor for reduction of gain is used, please make sure that length of connectors is as short as possible to reduce noise and capacitive interference.

- If internally adjusted gain is used only, please cut pin "1".