UV - Photodetector with integrated amplifier

<table>
<thead>
<tr>
<th></th>
<th>JIC 157</th>
<th>JIC 158</th>
<th>JIC 159</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

characteristics:

- spectral range: 210 ... 390 nm
- active area: 0,965 mm²
- responsivity, decadic staggering: 1,2/12/120 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:

- operating voltage: +5,5 V
- operating temperature range: -25 °C ... +85 °C
- storage temperature range: -40 °C ... +100 °C
- soldering temperature (5s): 300 °C

technical data:

common test conditions, as not otherwise specified: T_A = 25 °C, V_S = +5 V

typ. values, maximum values in brackets

<table>
<thead>
<tr>
<th>parameters</th>
<th>test condition</th>
<th>JIC 157</th>
<th>JIC 158</th>
<th>JIC 159</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>MΩ</td>
</tr>
<tr>
<td>dark offset voltage</td>
<td>E = 0 lx</td>
<td>± 1</td>
<td>± 2</td>
<td>± 3</td>
<td>mV</td>
</tr>
<tr>
<td>noise voltage</td>
<td>B = 10 kHz</td>
<td>0,5</td>
<td>1</td>
<td>2</td>
<td>mV_rms</td>
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<tr>
<td>max. of spectral responsivity</td>
<td>λ = 280 nm</td>
<td>1,2</td>
<td>12</td>
<td>120</td>
<td>mV/nW</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>- 3 dB</td>
<td>10</td>
<td>2</td>
<td>0,5</td>
<td>kHz</td>
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<tr>
<td>saturation voltage</td>
<td>R_S = 2 kΩ</td>
<td>+ 4,95 (+ 4,8)</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>shortcurrent</td>
<td></td>
<td>± 50</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>operation voltage</td>
<td></td>
<td>+ 2,7...+ 5</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>current consumption</td>
<td></td>
<td>750 (1100)</td>
<td></td>
<td>μA</td>
<td></td>
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</tbody>
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relative spectral responsivity

![Graph showing relative spectral responsivity against wavelength in nm.](image)

**pin configuration**

1. R<sub>i</sub>
2. Out
3. V<sub>S</sub>
4. GND
5. Case

**package dimensions**

![Diagram showing package dimensions.](image)

**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 capacitative interference.

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