SiC - photodiode JEC 0,1SHT/ JEC 0,1SSHT

characteristics :
- spectral range: 210 ... 380 nm
- active area: 0.055 mm²
- high UV-responsivity: 0.13 A/W
- TO 18-package
- suitable for operating temperatures up to 150 °C
- components are in conformity with RoHS and WEEE

applications :
- UV-measurements only
- UV-source control
- flame detection

maximum ratings:
- reverse voltage: 20 V
- operating temperature range: -25 °C ... +150 °C
- storage temperature range: -40 °C ... +150 °C
- soldering temperature (3s): 260 °C

technical data :

<table>
<thead>
<tr>
<th>parameter</th>
<th>test condition</th>
<th>min.</th>
<th>typ.</th>
<th>max.</th>
<th>unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>active area</td>
<td></td>
<td>0,25</td>
<td>0,25</td>
<td></td>
<td>mm²</td>
</tr>
<tr>
<td>spectral range</td>
<td></td>
<td>210</td>
<td>380</td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>maximum of spectral responsivity</td>
<td></td>
<td></td>
<td>0,13</td>
<td></td>
<td>A/W</td>
</tr>
<tr>
<td>absolute spectral responsivity</td>
<td></td>
<td></td>
<td>0,11</td>
<td></td>
<td>A/W</td>
</tr>
<tr>
<td>dark current I_r</td>
<td>V_R = 1 V</td>
<td>1</td>
<td></td>
<td></td>
<td>fA</td>
</tr>
<tr>
<td>capacitance</td>
<td></td>
<td>21</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
</tbody>
</table>

test conditions, as not otherwise specified: \( \gamma_a = 25 \, ^\circ\text{C}, \, V_R = 0 \, \text{V} \)

rev. 3 (03/2009)
The application example shows a typical circuit. R_f is responsible for the gain of the circuit. C_f compensates the reverse junction capacitance of the photodiode and input capacitance of the OPV. The exact value of C_f depends on R_f, used OPV and capacitance of the circuit. A typical value is 1 pF.

The diagram shows dependence of amplitude of the application circuit with OPA 111, R_f = 50 MΩ and C_f = 0.5 pF.