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 x 0,25</td>
<td></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>λₘₐₓ = 275 nm</td>
<td>0,13</td>
<td></td>
<td>A/W</td>
</tr>
<tr>
<td>absolute spectral responsivity</td>
<td></td>
<td>λ  = 254 nm</td>
<td>0,11</td>
<td></td>
<td>A/W</td>
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<tr>
<td>dark current Iₚ</td>
<td>Vᵣ = 1 V</td>
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<td></td>
<td>fA</td>
</tr>
<tr>
<td>capacitance</td>
<td></td>
<td>21</td>
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<td></td>
<td>pF</td>
</tr>
</tbody>
</table>

rev. 3 (03/2009)
relative spectral responsivity

![Graph showing relative spectral responsivity.](image)

package dimensions

![Package dimensions diagram.](image)

application example

![Application example diagram.](image)

JEC 0,1SHT  h = 5,2 mm  
JEC 0,1SSHT  h = 3,7 mm

The application example shows a typical circuit. R_\text{f} \text{ is responsible for the gain of the circuit.} C_\text{f} \text{ compensates the reverse junction capacitance of the photodiode and input capacitance of the OPV. The exact value of } C_\text{f} \text{ depends on } R_\text{f}, \text{ used OPV and capacitance of the circuit. A typical value is } 1 \text{ pF.}

The diagram shows dependence of amplitude of the application circuit with OPA 111, R_\text{f} = 50 \text{ M}\Omega \text{ and } C_\text{f} = 0.5 \text{ pF.}