SiC - Photodiode JEC 0.1*

characteristics:
♦ SiC-Photodiode with integrated filter
♦ *-filter option for UV-C, UV-BC, UV-B and UV-A
♦ active area 0,055 mm²
♦ TO 5-package
♦ components are in conformity with RoHS and WEEE

applications:
♦ UV-measurement only
♦ control of sterilization lamps
♦ flame detection
♦ sun measurement

absolute maximum ratings:
- reverse voltage 20 V
- operating temperature range - 25 °C ... 70 °C
- storage temperature range -40 °C ... 100 °C
- welding temperature (3s) 260 °C

technical data:

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

<table>
<thead>
<tr>
<th>parameter</th>
<th>test-conditions</th>
<th>* - filter option</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>name of component</td>
<td>JEC 0.1C</td>
<td>JEC 0.1BC</td>
<td>JEC0.1BC2</td>
</tr>
<tr>
<td>active area</td>
<td>S=0.1 ( \bullet ) S( _{\text{max}} )</td>
<td>0,25 x 0,25</td>
<td>mm²</td>
</tr>
<tr>
<td>spectral range</td>
<td>( \lambda_{\text{min}} ) 220</td>
<td>230</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>( \lambda_{\text{max}} ) 275</td>
<td>305</td>
<td>320</td>
</tr>
<tr>
<td>maximum of spectral responsivity ( \lambda_p )</td>
<td>( S = S_{\text{max}} ) 265</td>
<td>285</td>
<td>280</td>
</tr>
<tr>
<td>absolute spectral responsivity ( \lambda = \lambda_p )</td>
<td>0,1</td>
<td>0,12</td>
<td>0,12</td>
</tr>
<tr>
<td>dark current ( I_D )</td>
<td>( V_R = 1 , \text{V} ) 1</td>
<td>FA</td>
<td></td>
</tr>
<tr>
<td>capacitance</td>
<td>21</td>
<td>pF</td>
<td></td>
</tr>
<tr>
<td>height of component ( H )</td>
<td>4,5</td>
<td>6,8</td>
<td>mm</td>
</tr>
</tbody>
</table>
relative spectral response

![Graph of relative spectral response for JEC0.1C, JEC0.1B, and JEC0.1A.

For more information:
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Phone: (707) 568-1642 | Fax: (707) 568-1652 | Email: info@eoc-inc.com]
The application example shows a typical circuit. $R_f$ is responsible for the gain of the circuit. $C_r$ compensates the reverse junction capacitance of the photodiode and input capacitance of the OPA. The exact value of $C_r$ depends on $R_f$, used OPA and capacitance of the circuit. A typical value is 1 pF.

1 Katode
2 Anode & Case