SiC-Photodiode with integrated filter
JEAO,1C-S; JEA0,1BC-S; JEA0,1B-S

characteristics:

- small area SiC-photodiode
- active area: 0.1 mm²
- filter option for UVC-, UVB- and UVBC-range
- more options on request
- option for isolated assembly (-ISZ)
- hermetically sealed TO18-package
- RoHS, REACH und WEEE conform

applications:

- optical measurement in UV-range
  With limited spectral range
- control of sterilization lamps
- flame control
- sun light measurement

Absolute maximum ratings:

- reverse voltage 10 V
- operating temperature range -40 °C ... 125 °C
- storage temperature range -40 °C ... 125 °C
- soldering temperature (3s) 260 °C

technical data:

<table>
<thead>
<tr>
<th>parameter</th>
<th>test condition</th>
<th>JEA0,1C-S</th>
<th>JEA0,1BC-S</th>
<th>JEA0,1B-S</th>
<th>unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>active area</td>
<td></td>
<td>0,365x0,365</td>
<td>mm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>spectral range</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \lambda_{\text{min}} )</td>
<td>S = 0,1 * S_{\text{max}}</td>
<td>225</td>
<td>228</td>
<td>265</td>
<td>nm</td>
</tr>
<tr>
<td>( \lambda_{\text{max}} )</td>
<td>280</td>
<td>322</td>
<td>322</td>
<td></td>
<td>nm</td>
</tr>
<tr>
<td>wavelength of peak response</td>
<td></td>
<td>265</td>
<td>275</td>
<td>300</td>
<td>nm</td>
</tr>
<tr>
<td>peak response ( S_{\text{max}} )</td>
<td>S = S_{\text{max}}</td>
<td>0,18</td>
<td>0,19</td>
<td>0,12</td>
<td>A/W</td>
</tr>
<tr>
<td>dark current ( I_{R} )</td>
<td>( V_{R} = 1 ) V</td>
<td>10</td>
<td>fA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>junction capacity ( C )</td>
<td>f = 10 kHz</td>
<td>30</td>
<td>pF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>field of view (FOV)</td>
<td>±25</td>
<td>±25</td>
<td>±25</td>
<td>Grad</td>
<td></td>
</tr>
<tr>
<td>weight</td>
<td>0,4</td>
<td>0,4</td>
<td>0,4</td>
<td>Gramm</td>
<td></td>
</tr>
</tbody>
</table>

Rev. 1 (03/2016)
SiC-Photodiode with integrated filter
JEAn,1C-S; JEA0,1BC-S; JEA0,1B-S

relative spectral responsivity

![Graph showing relative spectral responsivity for JEA0,1C, JEA0,1BC, and JEA0,1B photodiodes.]

Package dimension (h=5.2 mm)

direct assembly (model –S)

isolated assembly (model –ISZ)

![Diagram showing package dimensions and pinout for direct and isolated assemblies.]

1 Anode
2 Cathode+Case

1 Anode
2 Kathode
3 Case
application example

The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, $R_f = 10 \, \text{M}\Omega$ and $C_f = 1\, \text{pF}$.

The application example shows a typical circuit $R_i$ is responsible for the gain of the circuit. $C_f$ compensates the reverse junction capacitance of the photodiode and the input capacitance of the OP-amp. The exact value of $C_f$ depends on $R_i$, used OP-amp and capacitance of the circuit. A typical value is $1\, \text{pF}$.

The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, $R_f = 10 \, \text{M}\Omega$ and $C_f = 1\, \text{pF}$.