

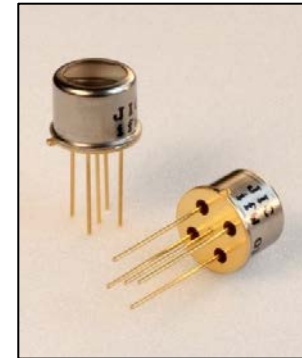
## SiC-Photodiode with Integrated Amplifier and Spectral Filter

### JIC26xC JIC26xBC JIC26xB

--- preliminary datasheet ---

#### Characteristics :

- ◆ integrated spectral filter for UV-C-, UV-B- und UV-BC-range
- ◆ custom filter characteristics on request
- ◆ active area: 1 mm<sup>2</sup>
- ◆ decadic staggered sensitivity:  
transimpedance-code: x=7: 10 MΩ / x=8: 100 MΩ / x=9: 1000 MΩ
- ◆ extra sensor pin for external adjustment of gain and bandwidth
- ◆ single supply voltage
- ◆ sensor assembly isolated from case
- ◆ hermetically welded TO5-metal/glass package
- ◆ RoHS und WEE conform



#### Applications :

- ◆ selective measurement of the UV region with spectral restriction
- ◆ control of UV-lamps
- ◆ flame detection
- ◆ solar UV-index measurements

#### Absolute Maximum Ratings :

- ◆ supply voltage  $U_s$  5,5 V
- ◆ working temperature - 25 °C ... 85 °C
- ◆ storage temperature - 40 °C ... 100 °C
- ◆ soldering temperature (5s) 300 °C

#### Technical Specifications :

Parameter	Test conditions	JIC267f <sup>1)</sup>	JIC268f	JIC269f	Unit
Transimpedance		10	100	1000	MΩ
dark offset voltage	$E = 0 \text{ lx}$	$\pm 1$	$\pm 2$	$\pm 3$	mV
noise voltage	$B = 1 \text{ kHz}$	1			mV <sub>rms</sub>
max. spectral responsivity $S_{\text{max}}$	$\lambda = \lambda_p$ <sup>2)</sup>	0,1	1	10	multiplier <sup>2)</sup>
rise time		30	200	1100	μs
bandwidth	- 3 dB	10	1,5	0,3	kHz
saturation voltage	$R_L = 2 \text{ k}\Omega$ $U_s = 5 \text{ V}$	+ 4,95 (+ 4,8)			V
short circuit current		$\pm 50$			mA
supply voltage $U_s$		+ 2,7 ... + 5,25			V
current consumption		750 (1100)			μA

common test conditions, if not specified otherwise:  $T_A = 25 \text{ }^\circ\text{C}$ ,  $V_s = +5 \text{ V}$   
typical values, maximum values in brackets

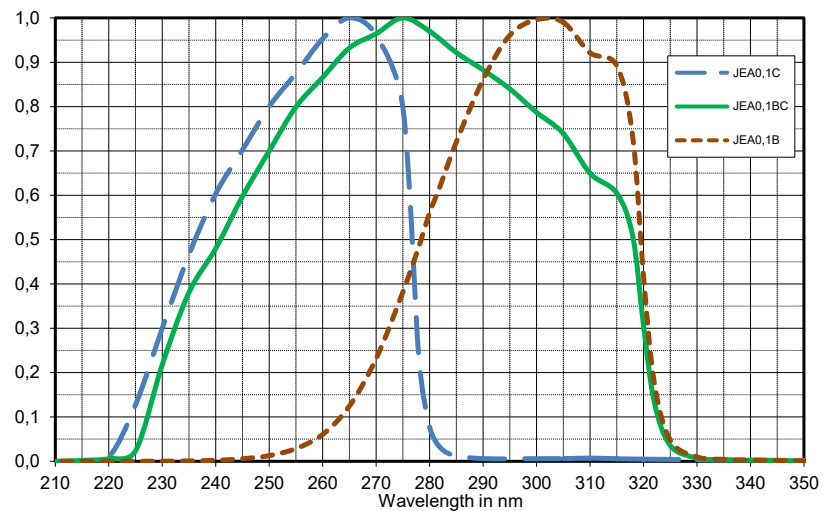
<sup>1)</sup>: f: filter variant UV-C, UV-BC or UV-B

<sup>2)</sup>: see  $S_{\text{max}}$  in table „spectral specifications“

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Relative Spectral Sensitivity



Spectral Specifications :

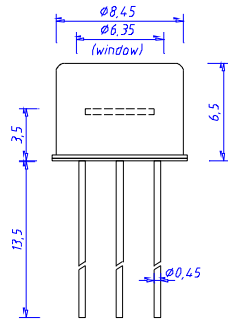
Parameter	Test conditions	JIC268C	JIC268BC	JIC268B	Unit
spectral range	$\lambda_{low}$	225	228	265	nm
	$\lambda_{high}$	280	322	322	nm
wavelength of max. sensitivity $\lambda_p$	$S = S_{max}$	265	275	305	nm
max. spectral sensitivity $S_{max}^{1)}$	$\lambda = \lambda_p$	13	15	10	mV/nW
Sensitivity for Hg-LP-lamps	$\lambda = 254 \text{ nm}$	9	8	< 0,3	mV/nW
field of view	$S = 0,5 * S_{max}$	±45			degrees

common test conditions, if not specified otherwise:  $T_A = 25 \text{ }^\circ\text{C}$ , typical values

<sup>1)</sup> other gain-settings: see  $S_{max}$  in table "Technical Specifications"

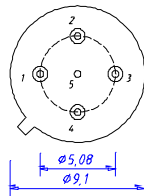
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**Case Dimensions**



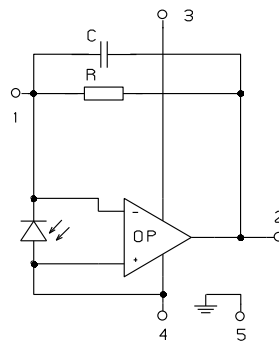
pin configuration:

- 1  $R_F$
- 2 Out
- 3  $V_S$
- 4 GND
- 5 Case



bottom view

**Application Example**



If an external resistor for gain reduction between pin "1" and "2" is used, it is good practice to keep the connector-length as short as possible to reduce noise in coupling and capacitive interference.

If the internally adjusted gain is used only, it is good practice to cut pin "1".