

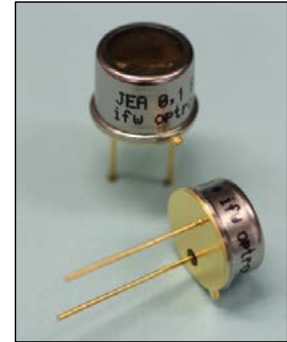
## SiC-Photodiode with integrated UV-filter JEA2A · JEA2B · JEA2C

### Characteristics :

- ◆ large active area SiC-photodiode
- ◆ active area: 2 mm<sup>2</sup>
- ◆ UV-filters for UVA-, UVB- and UVC-range
- ◆ more filter options on request
- ◆ hermetically sealed TO-package
- ◆ RoHS, REACH and WEEE conform

### Applications :

- ◆ optical measurement in UV-range with selected spectral range
- ◆ control of sterilization lamps
- ◆ flame control
- ◆ sun light measurement



### 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

### Versions:

Filter	Anode: isolated Cathode: case-pin	Cathode: isolated Anode: case-pin	Anode, Cathode: isolated Additional case-pin	Operating Temperature: 150 °C
UV-A	JEA2A	JEAC2A	JEA2A-I	*-HT
UV-B	JEA2B	JEAC2B	JEA2B-I	
UV-C	JEA2C	JEAC2C	JEA2C-I	

### Further available optical filters:

Filter	Spectral-range	Part
UV-AB	280-360 nm	JEA2AB
UV-BC	228-322 nm	JEA2BC
UV-DVGW	240-290 nm	JEA2DVGW
Erythema	CIE 87	JEA2E

### Further available active areas:

Active Area
0,1 mm <sup>2</sup>
0,25 mm <sup>2</sup>
1 mm <sup>2</sup>
5 mm <sup>2</sup>

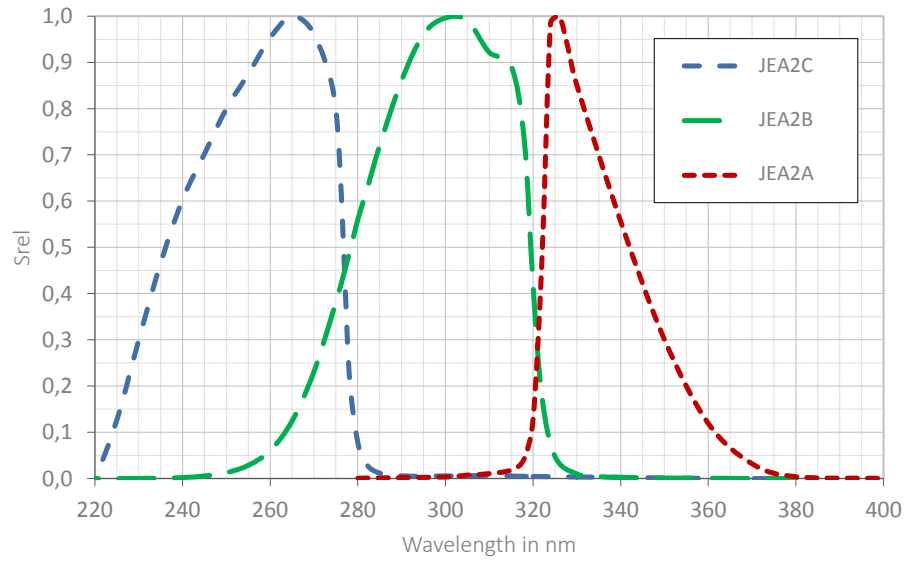
### Further available packages:

Package	Parts	Datasheet
TO18	JEA2A/B/C-S	on request

Rev. 3 (02/2019)

### SiC-Photodiode with integrated UV-filter JEA2A · JEA2B · JEA2C

Relative Spectral Responsivity  $S_{rel}$ :



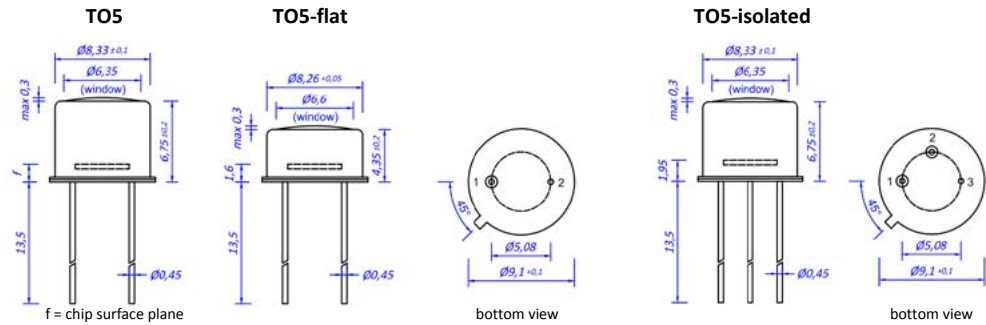
Technical Data:

Parameter	Test Conditions	UV-A	UV-B	UV-C	Einheit
active area		1,415 x 1,415			mm <sup>2</sup>
spectral range	$\lambda_{min}$	318	265	225	nm
	$\lambda_{max}$	360	322	280	nm
wavelength of maximum responsivity	$\lambda_{Smax}$	325	300	265	nm
maximum responsivity $S_{max}$	$S = S_{max}$	0,10	0,14	0,18	A/W
dark current $I_R$	$U_R = 1 V$	200			fA
junction capacitance $C_j$	$f = 10 kHz$	220			pF
field of view	Anode isolated	±30	±30	±45	degree
	Cathode isolated	±27			
	A. + C. isolated	±28			
weight		1,1			gram
package (see below for dimensions)	Anode isolated	TO5	TO5	TO5-flat	
	Cathode isolated	TO5			
	A. + C. isolated	TO5-isolated			

typical values; test conditions, as not otherwise specified:  $T_A = 25 ^\circ C$ ,  $U_R = 0 V$

### SiC-Photodiode with integrated UV-filter JEA2A · JEA2B · JEA2C

**Package Dimensions:**

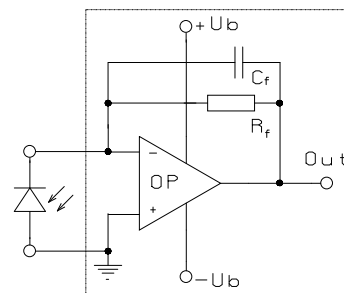


**Anode isolated:** Pin 1: Anode  
Pin 2: Cathode + Case  
f = 1,6 mm

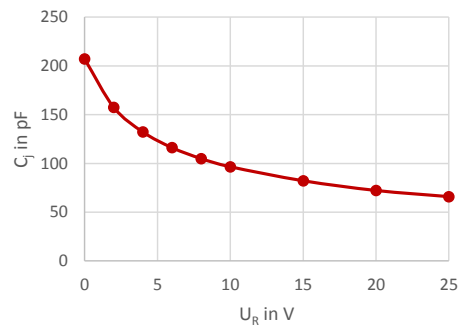
**Anode + Cathode isolated:** Pin 1: Anode  
Pin 2: Cathode  
Pin 3: Case

**Cathode isolated:** Pin 1: Cathode  
Pin 2: Anode + Case  
f = 1,85 mm

**Application Example:**



**Junction Capacitance  $C_j$  vs. Reverse Voltage  $U_R$ :**



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 the input capacitance of the opamp. The exact value of  $C_f$  depends on  $R_f$ , used opamp and capacitance of the circuit. A typical value is 1pF.

The chart shows the typical dependence of junction capacitance  $C_j$  vs. applied reverse voltage  $U_R$ . Lower intrinsic capacitance can be used to increase the bandwidth (lower the rise time) in electric circuits.