

ifw optronics

SiC-Photodiode

JEA0,1X · JEA0,1X-S · JEA0,1X-SS

- preliminary datasheet -

Characteristics :

- ◆ SiC-photodiode with extended wavelength range
- ◆ active area: 0,1 mm²
- ◆ spectral range: 210 ... 390 nm
- ◆ high UV-responsivity: 0,18 A/W
- ◆ hermetically sealed TO-package
- ◆ option for isolated assembly of photodiode
- ◆ HT-option for extended operating temperature range 150°C
- ◆ RoHS, REACH and WEEE conform


Applications :

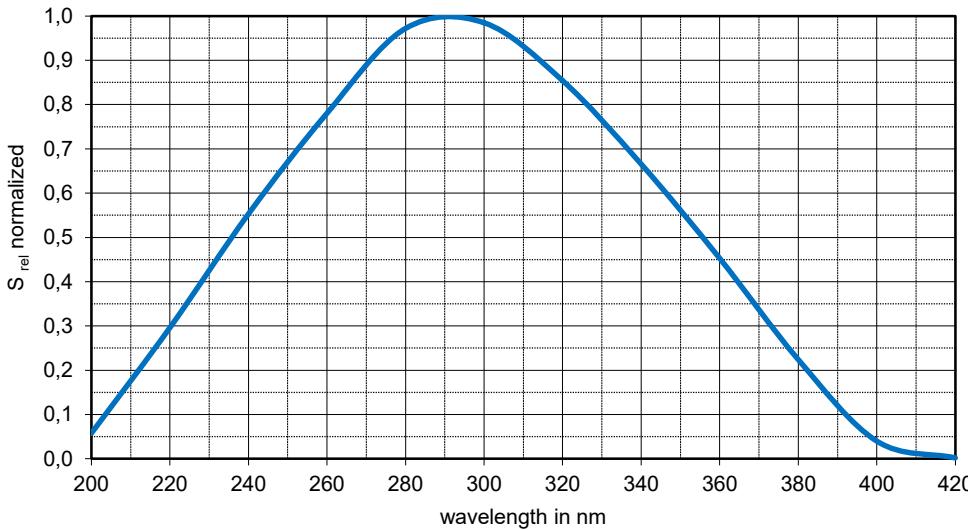
- ◆ optical measurements in UV-range
- ◆ control of sterilization lamps
- ◆ flame control

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 |

Versions:

Package	Isolated Pin: Anode	Isolated Pin: Cathode	Anode, Kathode: isolated Extra Ground Pin	Operating Temperature up to 150 °C
TO5	JEA0,1X	JEAC0,1X	JEA0,1XI	*-HT
TO18	JEA0,1X-S	JEAC0,1X-S	JEA0,1XISZ	
TO52	JEA0,1X-SS	JEAC0,1X-SS	JEA0,1XISSZ	

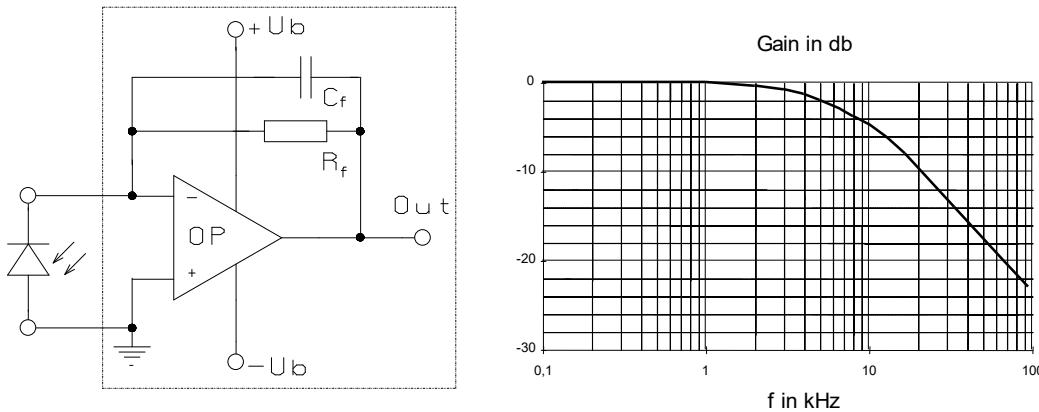
Relativ Spectral Responsivity:


Technical Data :

Parameter	Test condition	TO5	TO18	TO52	Unit
active area		0,365 x 0,365			mm ²
spectral range λ _{max} λ _{min}	S = 0,1 x S _{max}	210 390			nm nm
wavelenght of peak response		290			nm
peak response S _{max}	λ = 290 nm	0,18			A/W
spectral response S _{254nm}	λ = 254 nm	0,12			A/W
dark current I _R	V _R = 1 V	10			fA
junction capacitance C _j	f = 10 kHz	30			pF
field of view (FOV)	Anode isolated Cathode isolated Both isolated	±48 ±51 ±52	±26 ±27 ±29	±40 ±43 ±46	degree
weight		0,8	0,3	0,3	gram
package drawing	Anode isolated Cathode isolated Both isolated	TO5 TO5 TO5 iso.	TO18 TO18 TO18 iso.	TO52 TO52 TO52 iso.	

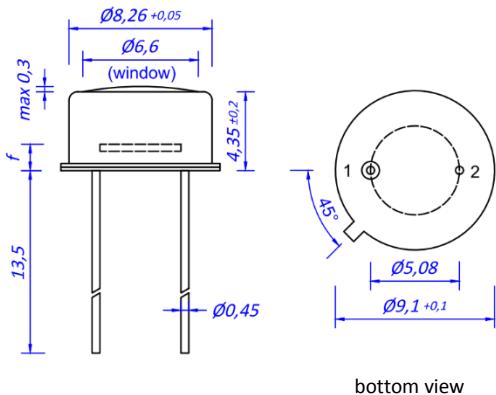
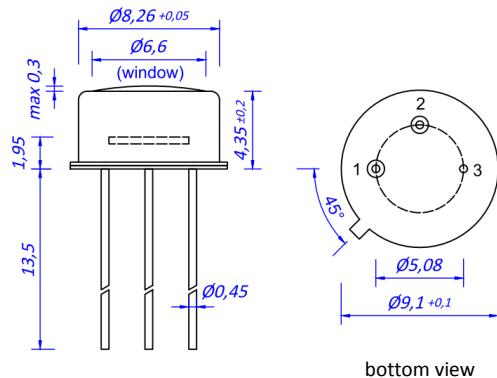
test conditions, as not otherwise specified: T_A = 25 °C , V_R = 0 V

Application Example



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.

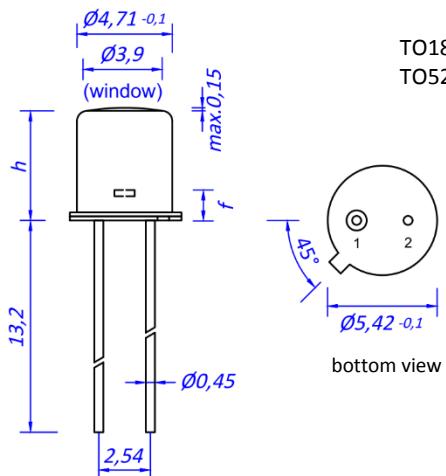
The chart shows dependence of amplitude of the application circuit with opamp = AD795, R_f = 10 MΩ and C_f = 1pF.

Case Dimensions:
TO5

TO5 isolated


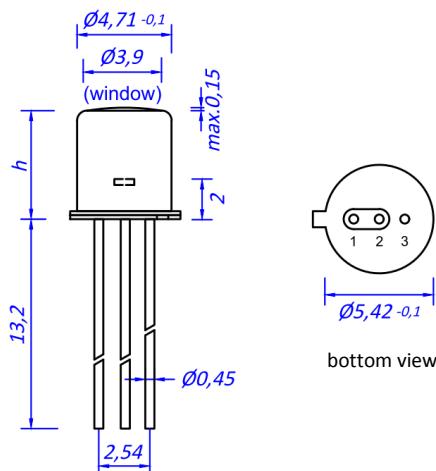
JEA0,1X: Pin 1: Anode
Pin 2: Cathode + Case
 $f = 1,6$ mm

JEA0,1XI: Pin 1: Anode
Pin 2: Cathode
Pin 3: Case

JEAC0,1X: Pin 1: Cathode
Pin 2: Anode + Case
 $f = 1,85$ mm

TO18 / TO52


TO18: $h = 5,2$ mm $\pm 0,1$ mm
TO52: $h = 3,7$ mm $\pm 0,1$ mm

TO18 / TO52 isolated


JEA0,1S/SS: Pin 1: Anode
Pin 2: Cathode + Case
 $f = 1,5$ mm

JEA0,1XISZ/ISSZ: Pin 1: Anode
Pin 2: Cathode
Pin 3: Case

JEAC0,1X-S/SS: Pin 1: Cathode
Pin 2: Anode + Case
 $f = 1,75$ mm