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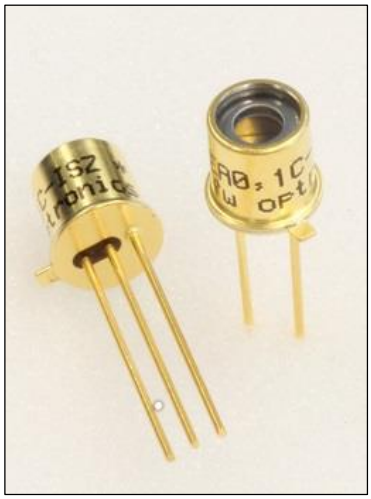
ifw optronics

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



charakteristis :

- 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 :

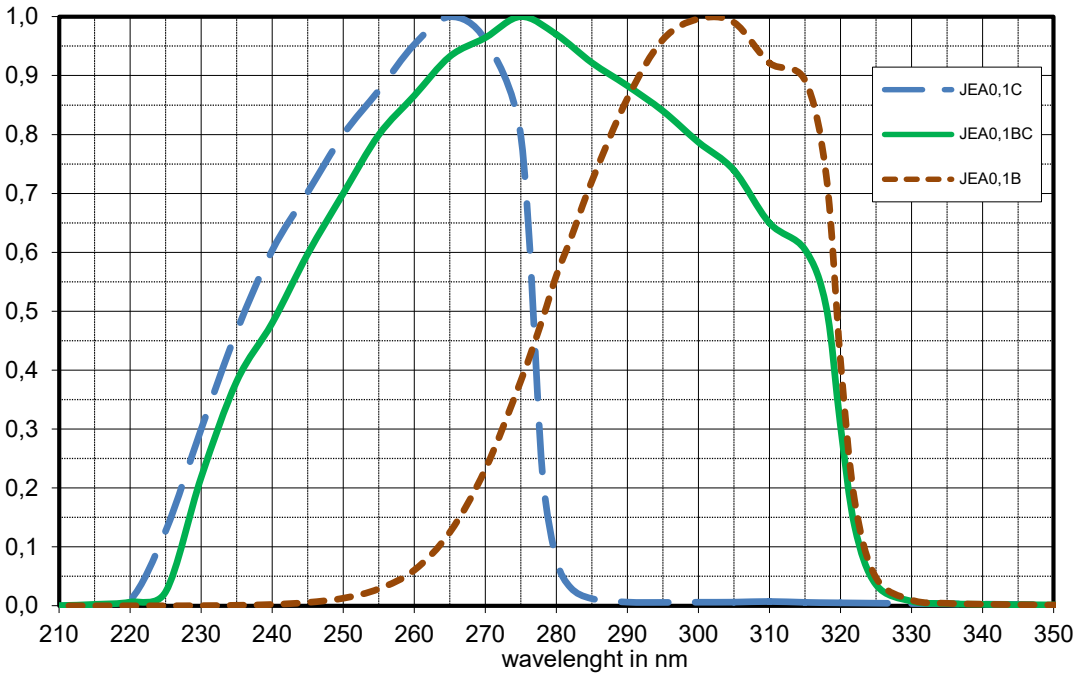
- reverse voltage 10 V
- operating temperature range - 40 °C ... 125 °C
- storage temperature range - 40 °C ... 125 °C
- soldering temperature (3s) 260 °C

technical data :

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

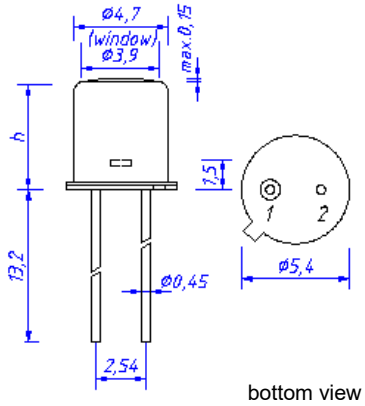
parameter	test condition	JEA0,1C-S	JEA0,1BC-S	JEA0,1B-S	unit
active area		0,365x0,365			mm²
spectral range λ_{min} λ_{max}	S = 0,1 * S_{max}	 225 280	 228 322	 265 322	 nm nm
wavelenght of peak response		265	275	300	nm
peak response S_{max}	S = S_{max}	0,18	0,19	0,12	A/W
dark current I_R	V_R = 1 V	10			fA
junction capacity C	f = 10 kHz	30			pF
field of view (FOV)		±25	±25	±25	Grad
weight		0,4	0,4	0,4	Gramm

relative spektral responsivity



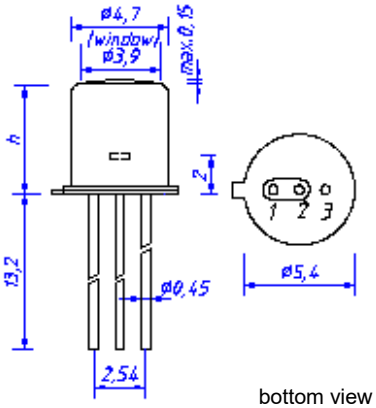
Package dimension (h=5,2 mm)

direct assembly (model –S)



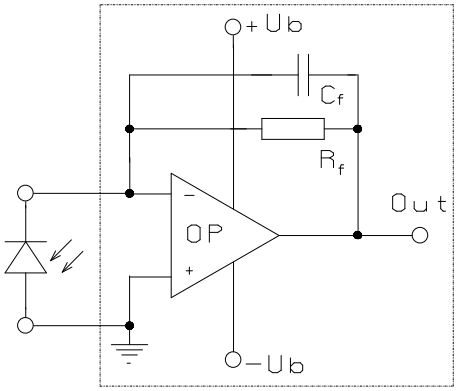
1 Anode
2 Cathode+Case

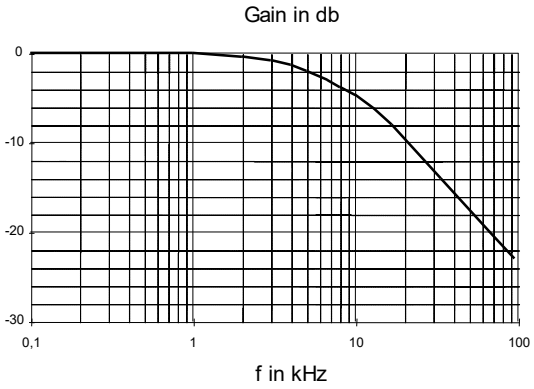
isolated assembly (model –ISZ)



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 MΩ and C_f = 1pF

The application example shows a typical circuit R_f is responsible for the gain of the circuit. Cf 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_f, used OP-amp and capacitance of the circuit. A typical value is 1pF.
The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, R_f = 10 MΩ and C_f = 1pF