ifw optronics

SiC-Photodiode
JEA0,1; JEA0,1S; JEA0,1SS

preliminary data sheet

characteristics :

- low cost SiC-photodiode
- active area: 0,1 mm²
- spectral range: 215 … 355 nm
- high UV-responsivity: 0,18 A/W
- hermetically sealed TO-package
- option for isolated assembly of photodiode
- HT-option for extended working temperature range 150°C
- RoHS and WEE conform

applications :

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

absolute maximum ratings :

- reverse voltage   20 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	JEA0,1 / JEA0,1I	JEA0,1S / JEA0,1ISZ	JEA0,1SS / JEA0,1ISSZ	unit
active area		0,365x0,365			mm^2
spectral range λ_{min} λ_{max}	S = 0,1 x S_{max}	205 355			nm nm
wavelenght of peak response		265			nm
peak response S_{max}	λ = 265 nm	0,18			A/W
spectral response S_{254nm}	λ = 254 nm	0,16			A/W
dark current I_R	V_R = 1 V	10			fA
junction capacitance C	f = 10 kHz	30			pF
field of view (FOV)		±45	±35	±40	grade
FOV for isolated assembly		±48	±38	±45	grade
weight		0,8	0,3	0,3	gram
package drawing for direct or isolated assembly		TO39 / TO39(i)	TO18 / TO18(i)	TO52 / TO52(i)	

relativ spectral responsivity

Wellenlänge in nm

package dimension TO39

bottom view

1 anode
2 cathode+case

TO39(i)

bottom view

1 anode
2 kathode
3 case
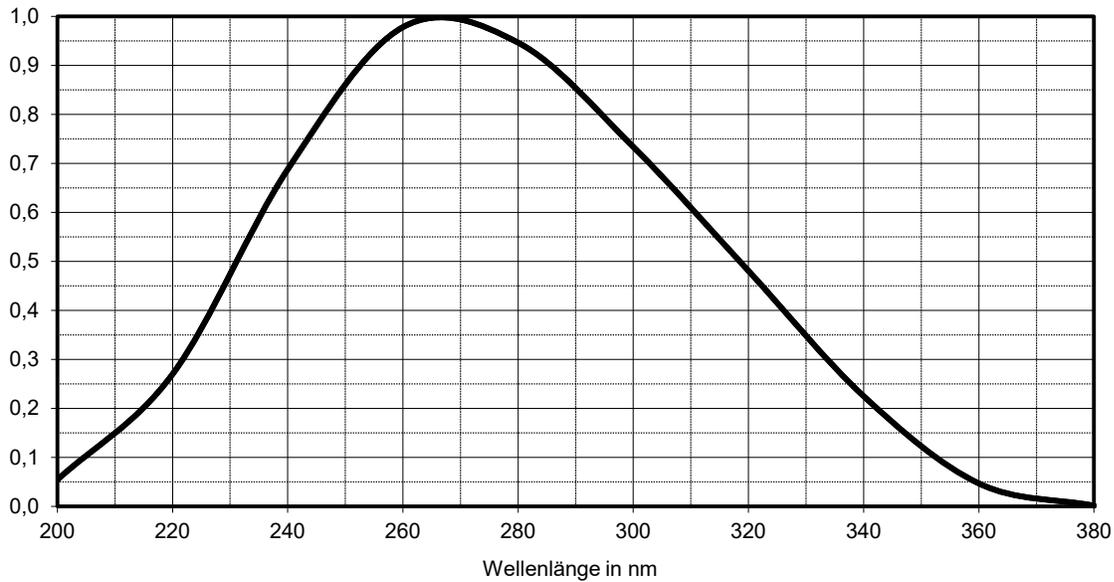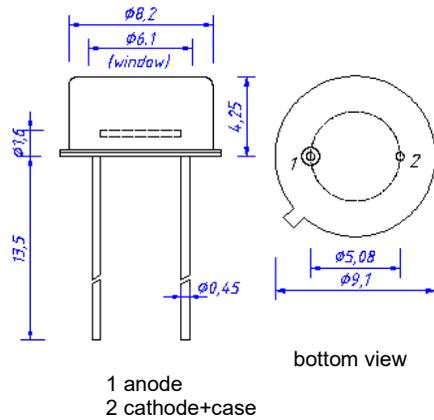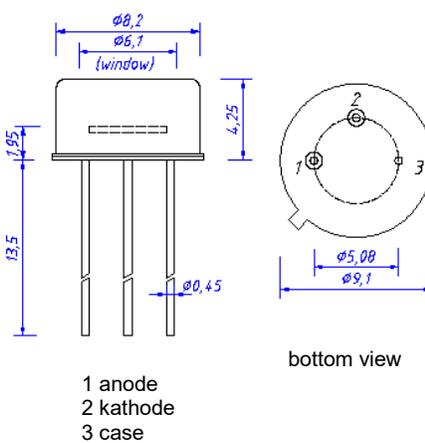
package dimension TO18 / TO52

bottom view

1 anode
2 cathode+case

TO18(i) / TO52(i)

bottom view
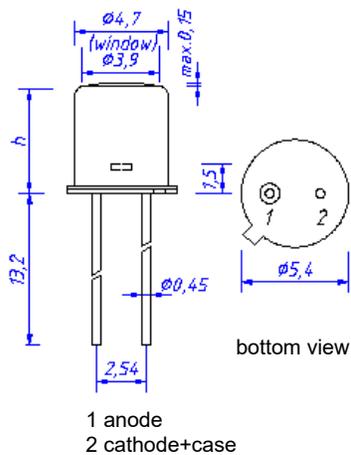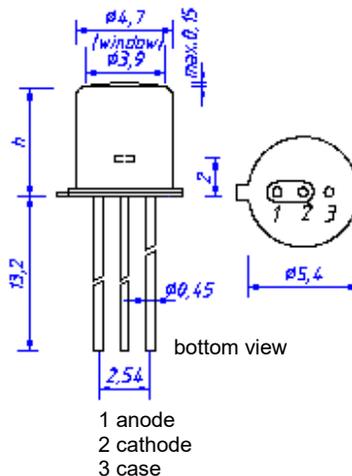
TO18/TO18(i): h = 5,2 mm
TO52/TO52(i): h = 3,7 mm

1 anode
2 cathode
3 case

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application example
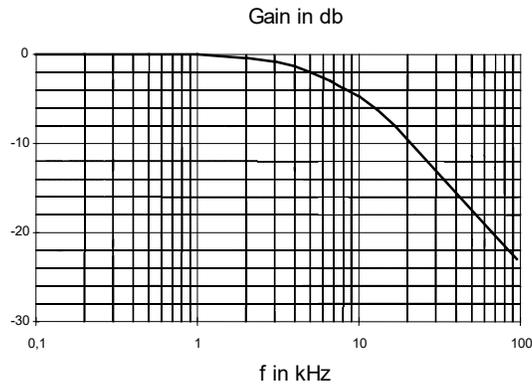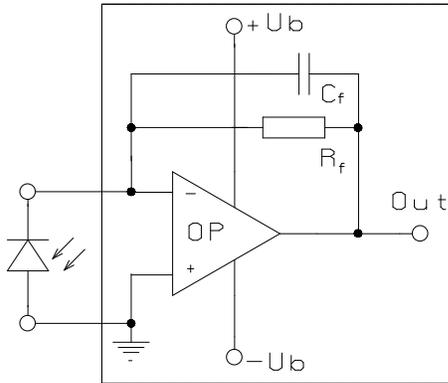
The application example shows a typical circuit R_f is responsible fort he gain oft he circuit Cf compensates thereverse junction capacitance of the photodiode and the input capacitance of the OP-amp. The exact value of C_f depends on R_f, used OP-amp and capacitance of the circuit. A typical value is 1pF.

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