



## SiC-photodiodes JEC1,6 / JEC5

### preliminary data sheet

#### characteristics :

- ◆ large area monolithic SiC photodiodes
- ◆ active area: 1,55 or 5 mm<sup>2</sup>
- ◆ spectral range: 215 ... 360 nm
- ◆ high UV-responsivity: 0,16 A/W
- ◆ hermetically sealed TO39-package
- ◆ components are ROHS and WEE conform



#### applications :

- ◆ UV-measurement only
- ◆ UV-source control
- ◆ flame detection

#### maximum ratings :

- ◆ reverse voltage 20 V
- ◆ operating temperature range - 40 °C ... 100 °C
- ◆ storage temperature range - 40 °C ... 100 °C
- ◆ soldering temperature (3s) 260 °C

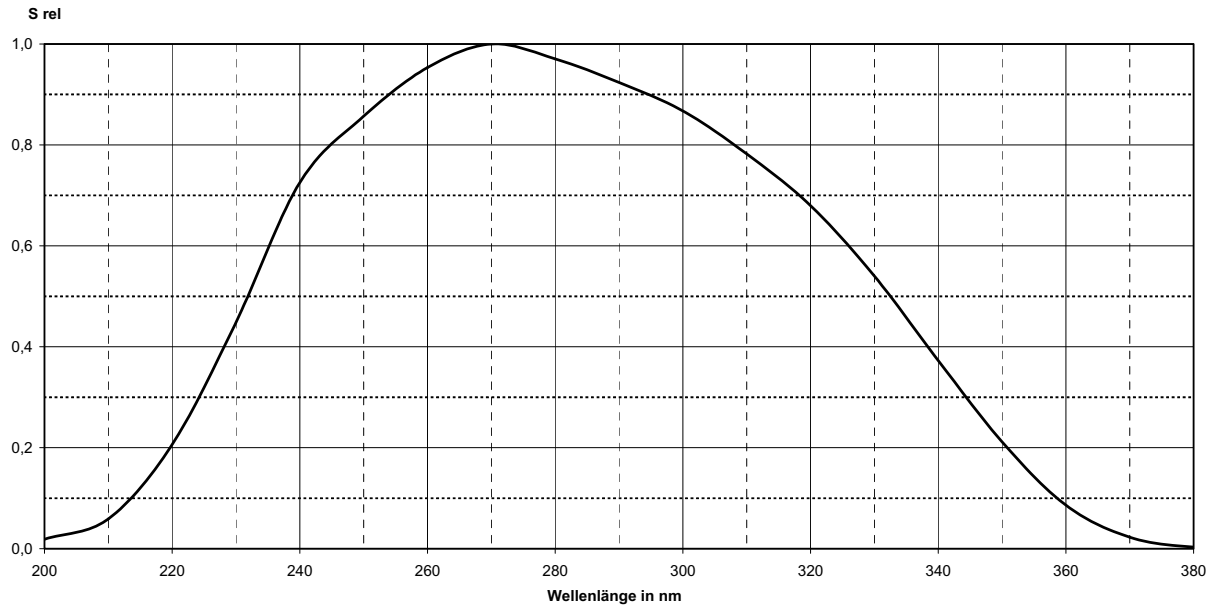
#### technical data :

test conditions, as not otherwise specified: T<sub>A</sub> = 25 °C , V<sub>R</sub> = 0 V

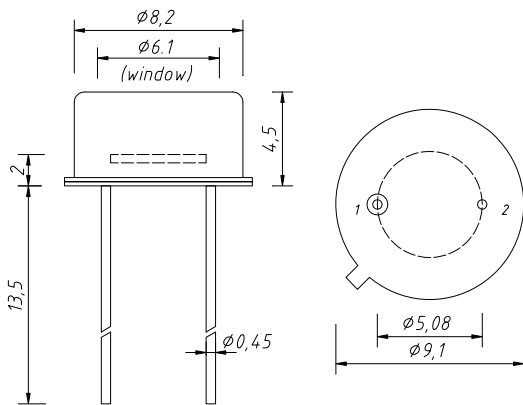
parameter	test condition	JEC1,6	JEC5	unit
active area		1,25 x 1,25	Ø 2,525	mm <sup>2</sup>
maximum of spectral responsivity	$\lambda_{max} = 270 \text{ nm}$	0,16	0,16	A/W
spectral range	$S = 0,1 \times S_{max}$			
	$\lambda_{min}$	215	215	nm
	$\lambda_{max}$	360	360	
absolute spectral responsivity	$\lambda = 254 \text{ nm}$	0,14	0,14	A/W
dark current I <sub>R</sub>	E = 0 lx	100	200	fA
rise time t <sub>r</sub> of photocurrent	R <sub>L</sub> = 50 Ω $\lambda = 254 \text{ nm}$ I <sub>p</sub> = 10 μA	tbc	tbc	ns
capacitance	F = 1 MHz E = 0 lx	250	1.000	pF

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## relative spectral responsivity



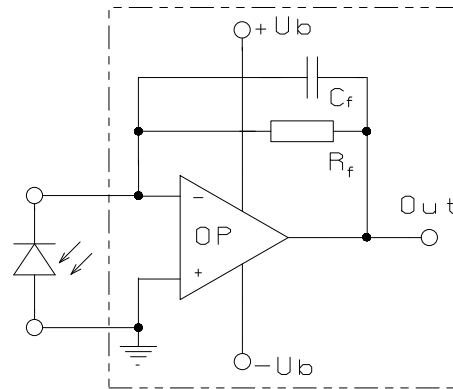
## Package dimensions



1 cathode  
2 anode & case

bottomview

## 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 OP-amp. the exact value of  $C_f$  depends on  $R_f$ , used OP-amp and capacitance of the circuit. A typical value is 1 pF.

The chart shows dependence of amplitude of the application circuit with OP-amp = AD795,  $R_f = 10 \text{ M}\Omega$  and  $C_f = 1 \text{ pF}$ .

