

**preliminary data sheet**

**characteristics :**

- ◆ large area monolithic SiC photodiodes
- ◆ active aerea: 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 :**

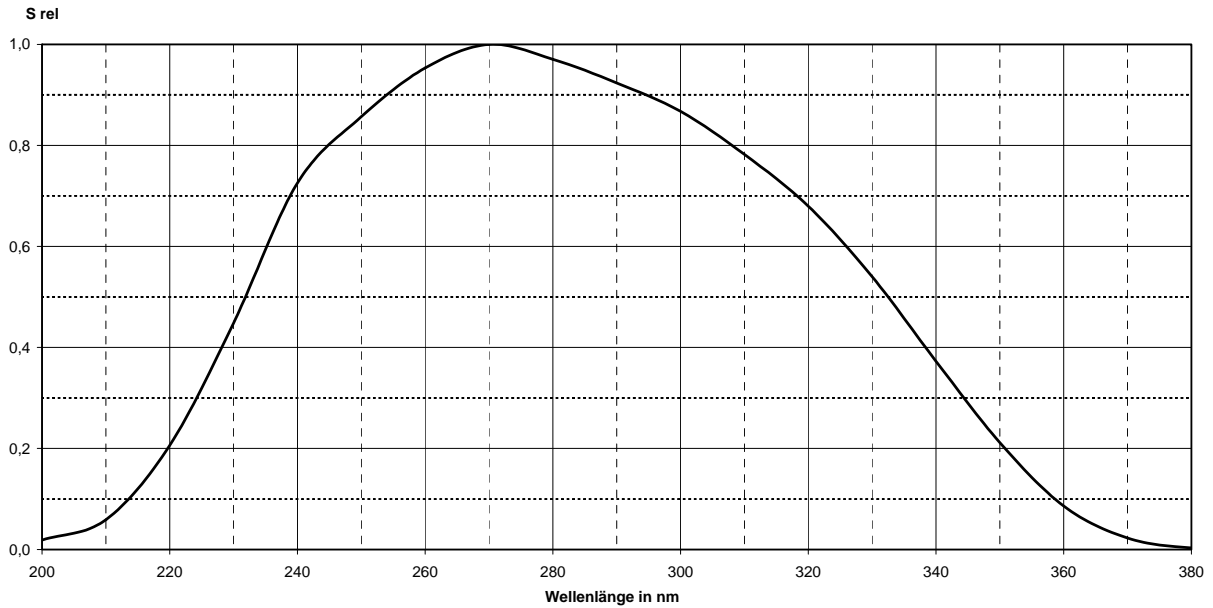
test conditions, as not otherwise specified:  $T_A = 25\text{ °C}$  ,  $V_R = 0\text{ V}$

| 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 $I_R$               | $E = 0\text{ lx}$  | 100         | 200     | fA              |
| rise time $t_r$ of photocurrent  | $R_L = 50\ \Omega$<br>$\lambda = 254\text{ nm}$<br>$I_P = 10\ \mu\text{A}$ | tbc         | tbc     | ns              |
| capacitance                      | $F = 1\text{ MHz}$<br>$E = 0\text{ lx}$                                    | 250         | 1.000   | pF              |

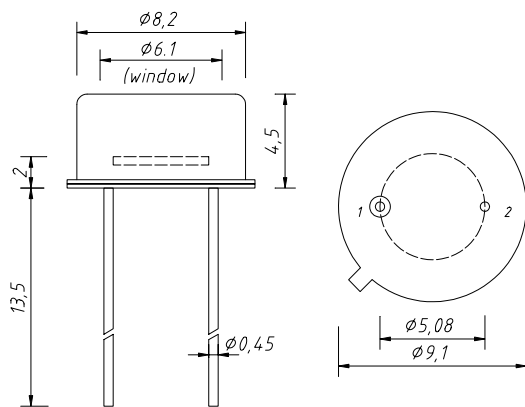
rev. 0 (10/2010)

# SiC-photodiodes JEC1,6 / JEC5

## relative spectral responsivity



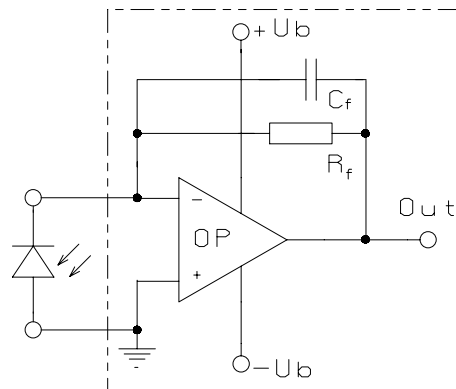
## Package dimensions



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  $C_f = 1 \text{ pF}$ .

