

- characteristics :
- ◆ SiC-photodiode with integrated special filter
  - ◆ response close to erythema characteristic (CIE 87)
  - ◆ ideal for solar application
  - ◆ full hermetic TO-5 package
  - ◆ integrated diffusor for cos-shaped response characteristic
  - ◆ sensor assembly isolated to ground

- applications :
- ◆ measurement of erythema efficient UV-part on natural sunlight (UVI-measurement with high exactness is possible)

absolute maximum ratings :

- ◆ max. reverse voltage 20 V
- ◆ operating temperature range -55 °C...+70 °C
- ◆ storage temperature range -55 °C...+100 °C
- ◆ welding temperature (3s) 260 °C

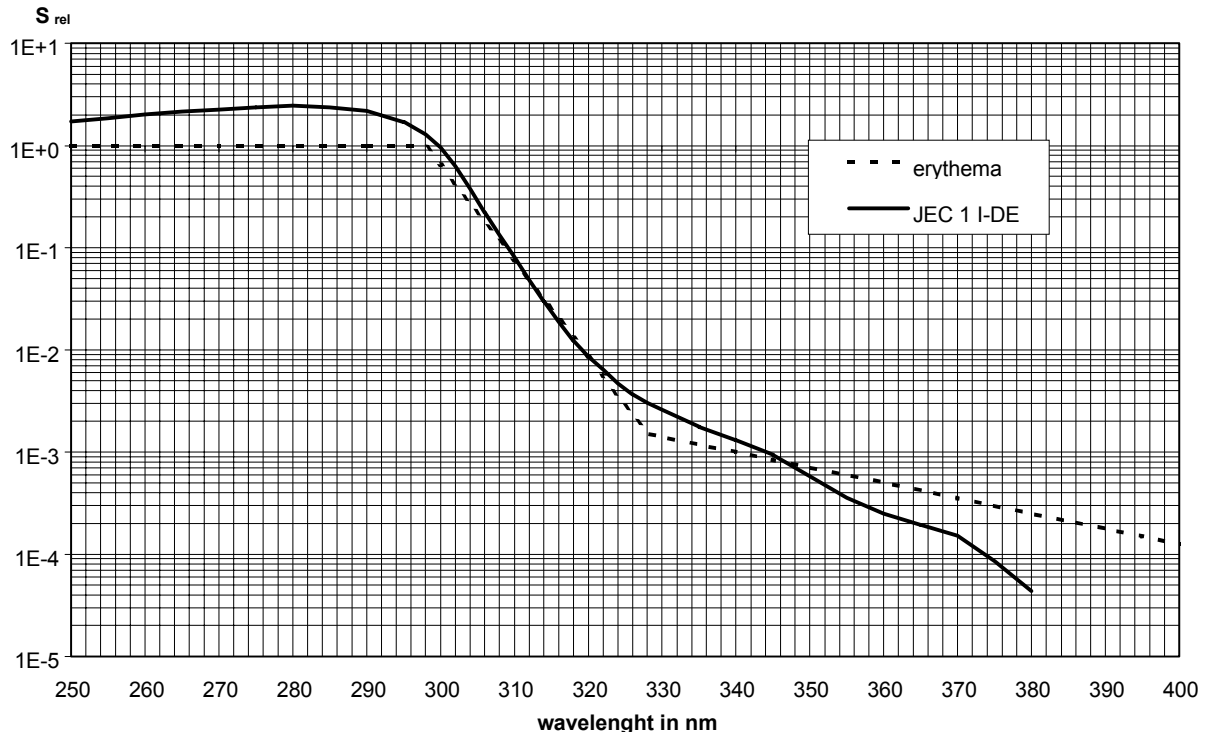
technical data :

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

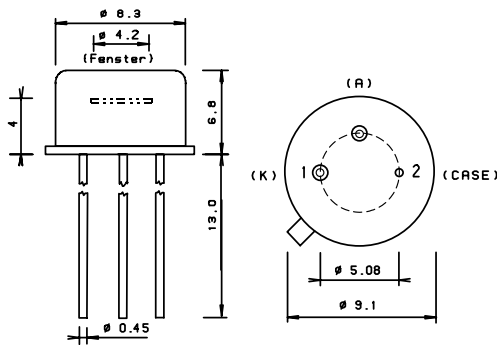
parameter	test condition	min.	typ.	max.	unit
active area of sensor			0.965		mm <sup>2</sup>
efficient area of diffusor			13.85 (Ø 4.2)		mm <sup>2</sup>
max. of spectral responsivity *)	$S = S_{\max}$	1.5	1.8	2.2	mA/W
absolute spectral responsivity *)	$\lambda = 313\text{ nm}$		0.03		mA/W
photocurrent at sunlight	bright sun		0.25		nA/UVI
dark current	$V_R = 1\text{ V}$		10		fA
junction capacity			195		pF

\*) based on efficient diffusor area

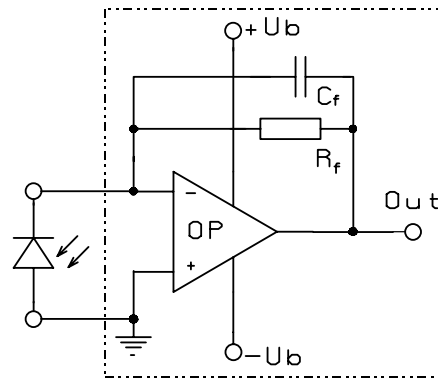
## relative spectral responsivity



## package dimensions



## application example



The application example shows a typical electrical application circuit.

$R_f$  determines responsivity of the circuit, typical values are 100 MOhm to 1 GOhm.

$C_f$  works as compensation of junction capacity of the photodiode and input capacity of the OP-amplifier.

Exact value of  $C_f$  depends on  $R_f$ , used OP-Amp as well as the parasitic capacities of the electrical circuit, typical value is 1 pF at minimum. For static measurements (UVI)  $C_f$  can be chosen much higher (1nF), so an additional effective suppression of noise of the amplifier can be achieved..