

# SiC - photodiode JEC 0,1 ID



- characteristics :**
- ◆ spectral range 210 ... 380 nm
  - ◆ active SiC- chip area 0,055 mm<sup>2</sup>
  - ◆ integrated diffusor
  - ◆ sensor isolated to package
  - ◆ TO 39-package

- applications :**
- ◆ UV-measurement only
  - ◆ UV-source control
  - ◆ flame detection

## maximum ratings:

reverse voltage	20	V
operating temperature range	- 25 °C ... 70	°C
storage temperature range	-40 °C ... 100	°C
soldering temperature (3s)	260	°C

## technical data:

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

parameter	test condition	min.	typ.	max.	unit
sensitive area (diffusor)			16		mm <sup>2</sup>
spectral range		210		380	nm
maximum of spectral responsivity *	$\lambda_{\max} = 275 \text{ nm}$		0,25		mA/W
absolute spectral responsivity *	$\lambda = 254 \text{ nm}$		0,18		mA/W
dark current $I_R$	$V_R = 1 \text{ V}$		1		fA
short current (sun light)	bright sun cloudy		50 20		nA
capacitance			21		pF

(\* based on sensitive area of diffusor)

rev 1 (07/2009)

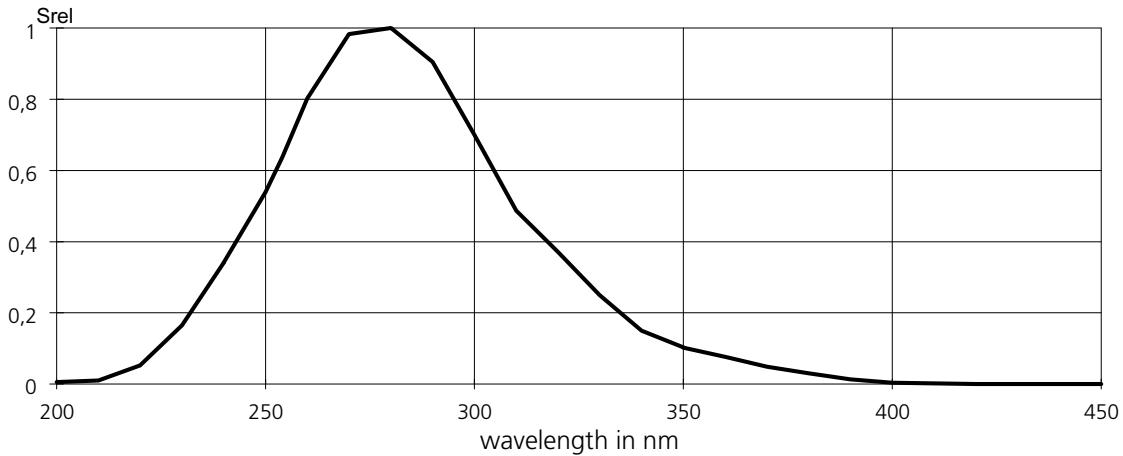


**Electro Optical Components, Inc.**

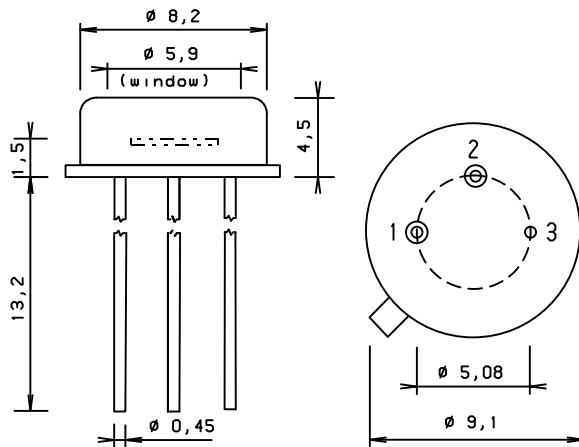
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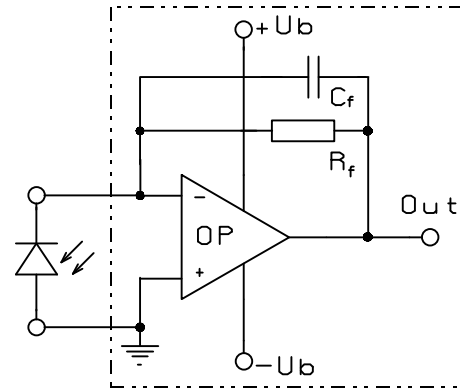
## relative spectral responsivity



## package dimensions



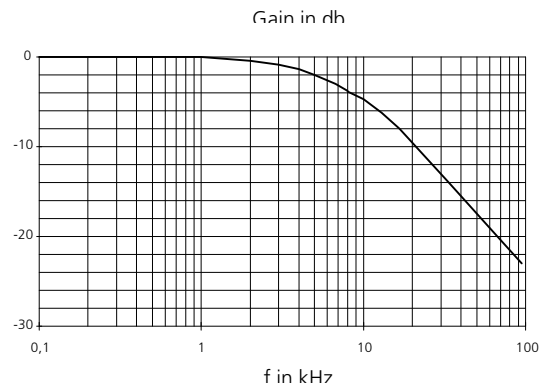
## application example



- 1 kathode
- 2 anode
- 3 case

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 input capacitance of the OPV. The exact value of  $C_f$  depends on  $R_f$ , used OPV and capacitance of the circuit. A typical value is 1 pF.

The diagram shows dependence of amplitude of the application circuit with OPA 111,  $R_f = 50 \text{ M}\Omega$  and  $C_f = 0.5 \text{ pF}$ .



For more information:

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