

SiC - photodiode JEC 1S/JEC 1SS



- characteristics :**
- ◆ spectral range 210 ... 380 nm
 - ◆ active area 0,965 mm²
 - ◆ high UV-responsivity 0,13 A/W
 - ◆ TO 18-package
 - ◆ components are in conformity with RoHS and WEEE

- 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: $\gamma_a = 25 \text{ }^\circ\text{C}$, $V_R = 0\text{V}$

parameter	test condition	min.	typ.	max.	unit
active area			1 x 1		mm ²
spectral range		210		380	nm
maximum of spectral responsivity	$\lambda_{\text{max}} = 275 \text{ nm}$		0,13		A/W
absolute spectral responsivity	$\lambda = 254 \text{ nm}$		0,11		A/W
dark current I_R	$V_R = 1 \text{ V}$		1		fA
capacitance			195		pF

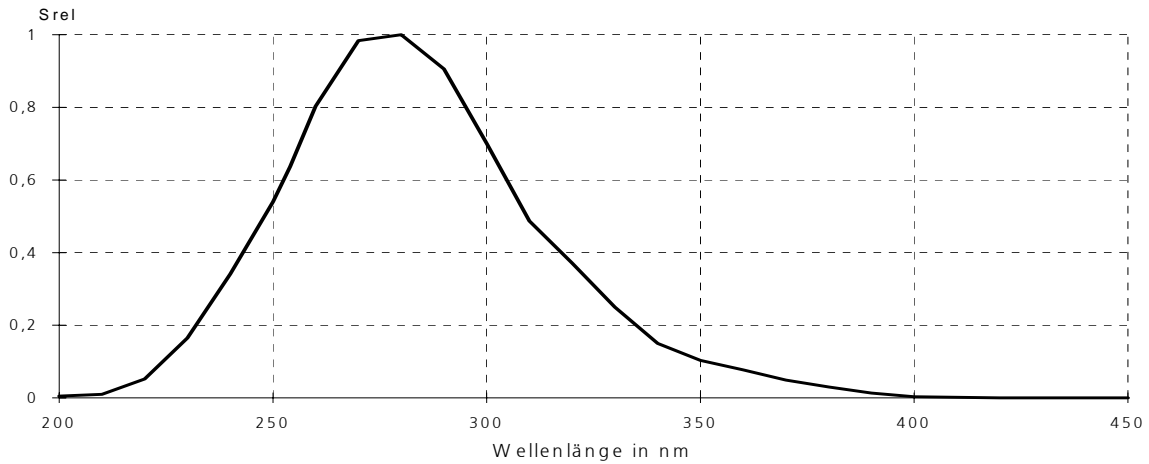
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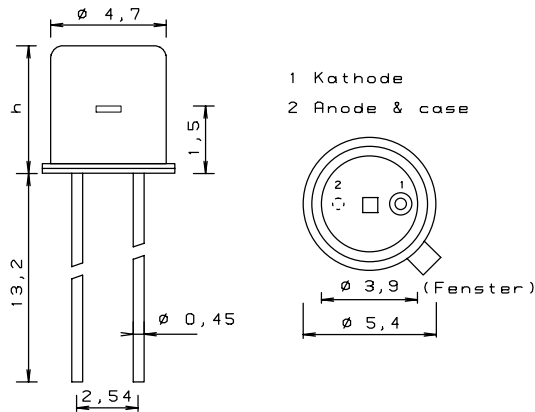
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JEC 1S/JEC 1SS

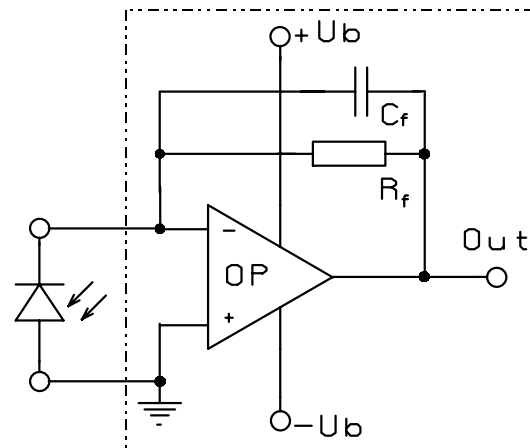
relative spectral responsivity



package dimensions



application example



JEC 1S h = 5,2 mm
 JEC 1SS h = 3,7 mm

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 $C_f = 0.5 \text{ pF}$.

