

SiC - photodiode JEC 1SHT/ JEC 1SSHT



- characteristics :**
- ◆ spectral range 210 ... 380 nm
 - ◆ active arrea 0,965 mm²
 - ◆ high UV-responsivity 0,13 A/W
 - ◆ TO 18-package
 - ◆ suitable for operating temperatures up to 150 °C
 - ◆ components are in conformity with RoHS and WEEE

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

maximum ratings:

reverse voltage	20	V
operating temperature range	- 25 °C ... +150	°C
storage temperature range	-40 °C ... +150	°C
soldering temperature (3s)	260	°C

technical data :

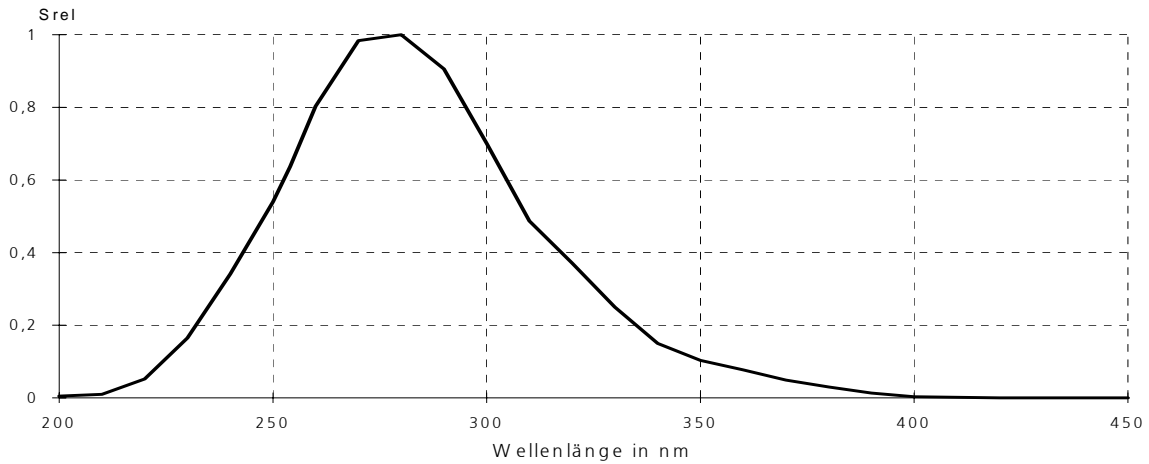
test conditions, as not otherwise specified: $\gamma_a = 25 \text{ °C}$, $V_R = 0V$

parameter	test condition	min.	typ.	max.	unit
active area			1 x 1		mm ²
spectral range		210		380	nm
maximum of spectral responsivity	$\lambda_{\max} = 275 \text{ nm}$		0,13		A/W
absolute spectral responsivity	$\lambda = 254 \text{ nm}$		0,11		A/W
short current (Sonnenlicht)	bright sun cloudy		1 0,4		μA
dark current I_R	$V_R = 1 \text{ V}$		5		fA
capacitance			80		pF

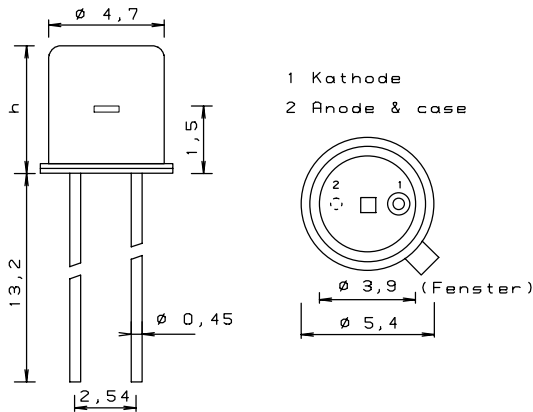
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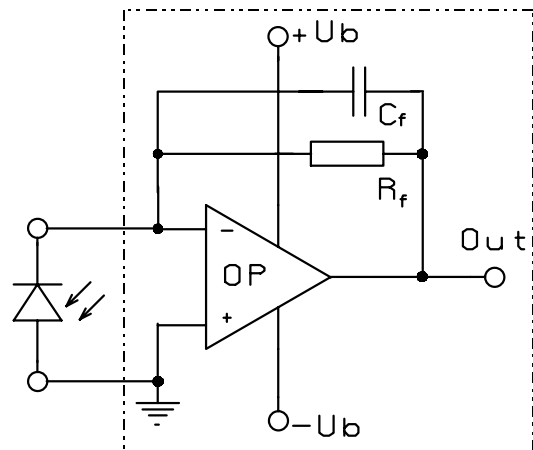
relative spectral responsivity



package dimensions



application example



JEC 1SHT $h = 5,2 \text{ mm}$
 JEC 1SSHT $h = 3,7 \text{ mm}$

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 $C_f = 0.5 \text{ pF}$.

