

SiC - photodiode JEC0.1S & JEC0.1SS



characteristics : ♦ spectral range 210 ... 380 nm
♦ active area 0,055 mm²
♦ high UV-responsivity 0,13 A/W
♦ TO 18-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

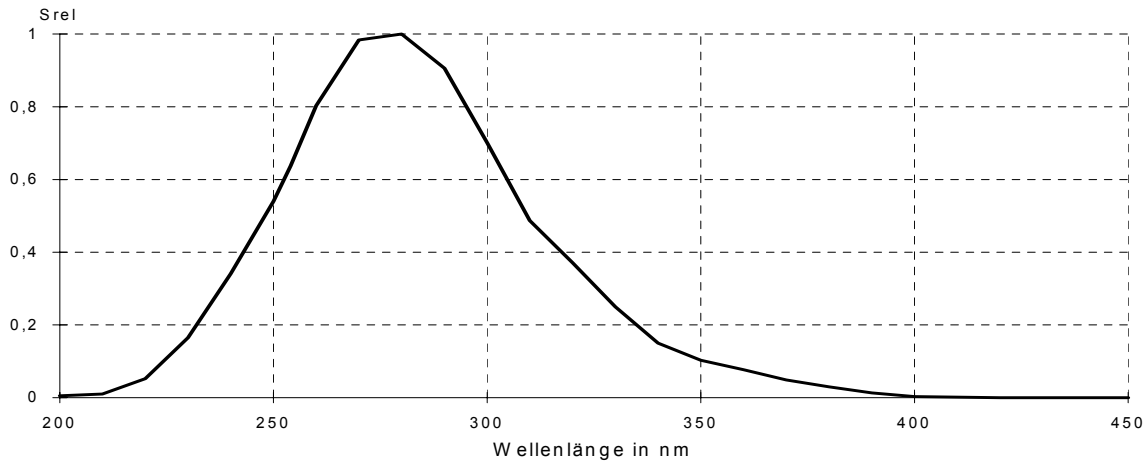
technical data:

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

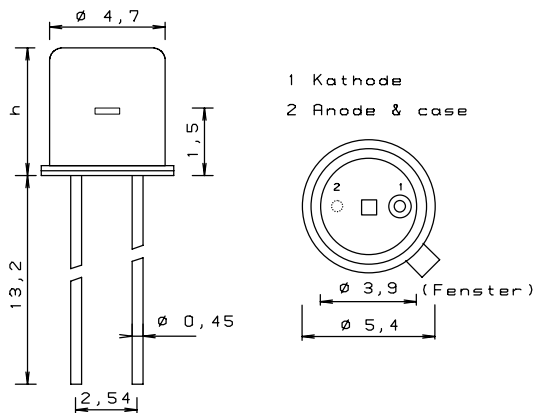
parameter	test condition	min.	typ.	max.	unit
active area			0,25 x 0,25		mm ²
spectral range		210		380	nm
maximum of spectral responsivity	$\lambda_{\max} = 275\text{ nm}$		0,13		A/W
absolute spectral responsivity	$\lambda = 254\text{ nm}$		0,11		A/W
dark current I_R	$V_R = 1\text{ V}$		1		fA
short current (sun light)	bright sun cloudy		50 20		nA
capacitance			21		pF

JEC0.1S & JEC0.1SS

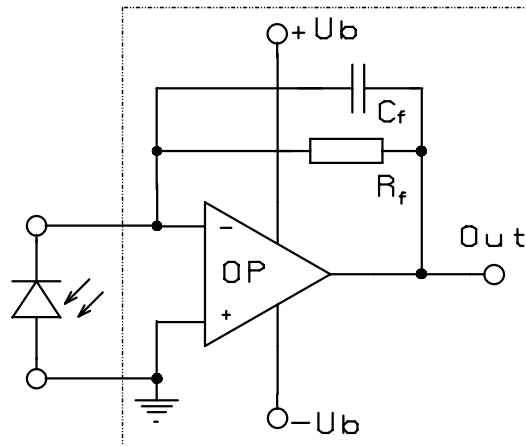
relative spectral responsivity



package dimensions



application example

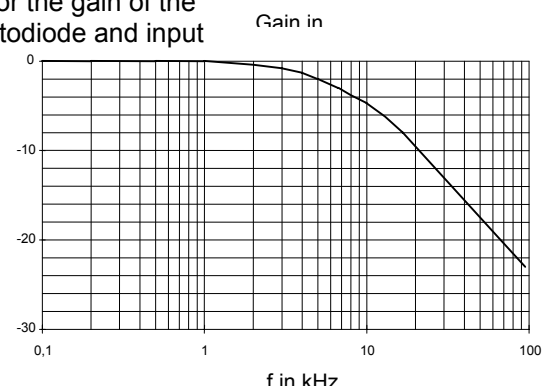


JEC 0.1S h = 5,2 mm

JEC 0.1SS 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 $C_f = 0.5 \text{ pF}$.



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