JEC 1 S
SiC Photodiode

CHARACTERISTICS

Spectral range	210 to 380	nm
Activity area	0.965	mm^2
High UV-responsivity	0.16	A/W
TO-18 package		

APPLICATIONS

UV measurement only
UV source control (for instance in sterilizers)
Flame detection

MAXIMUM RATINGS

Reverse voltage	20	V
Operating temperature range	-25 to 70	°C
Storage temperature range	-40 to 100	°C
Soldering temperature (3s)	260	°C

TECHNICAL DATA

Common test conditions, if not otherwise specified: γ_a = 25°C, V_R = 0V

Parameter	Test conditions	Min.	Typ.	Max	Unit
Active area			1 x 1		mm^2
Spectral range		210		380	nm
Maximum of spectral responsivity	λ_{max} = 275nm		0.16		A/W
Absolute spectral responsivity	λ = 254nm		0.14		A/W
Dark current I_R	V_R = 1V		2		fA
Short current	bright sun		1		µA
(sunlight)	cloudy		0.4		µA
Capacitance			195		pF

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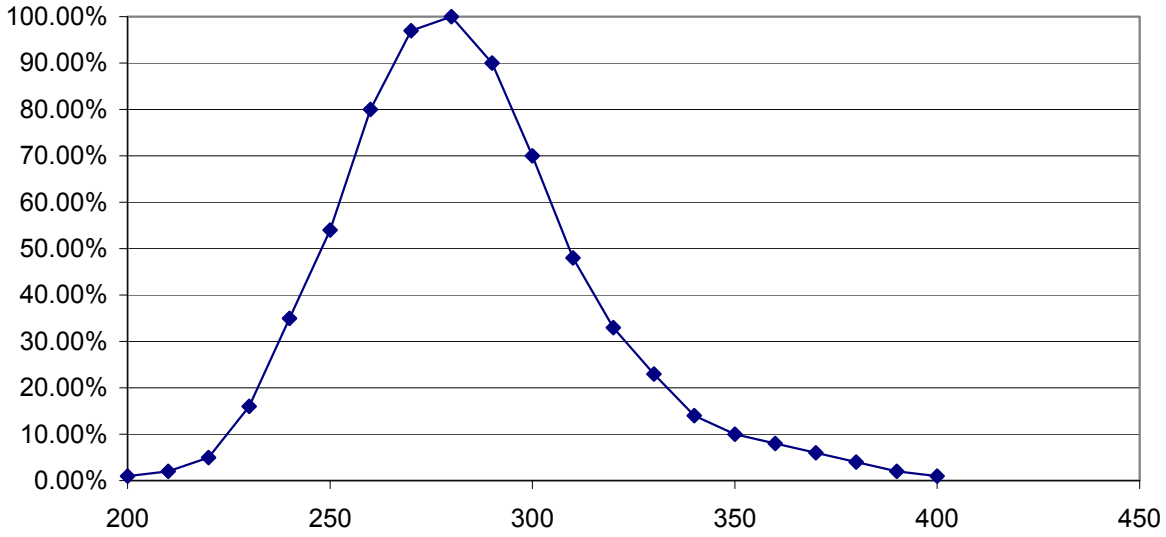
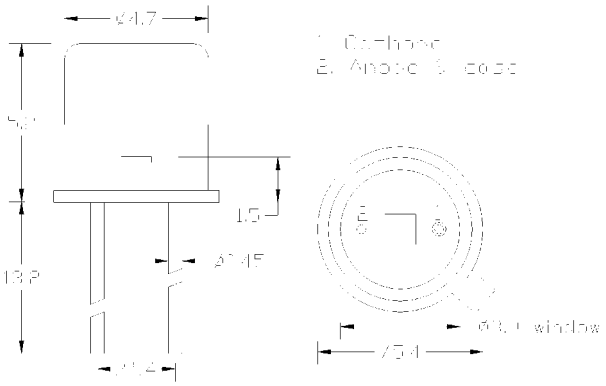
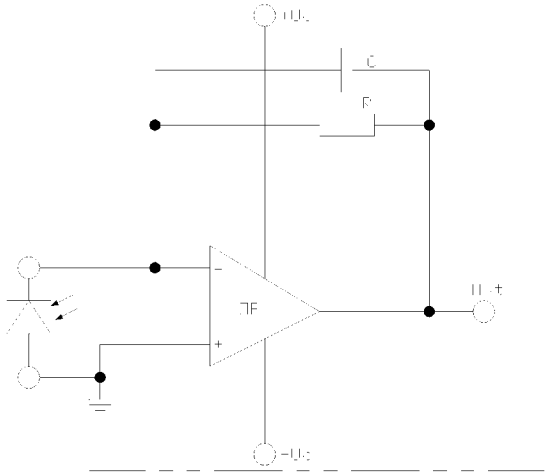
Relative Spectral Responsivity





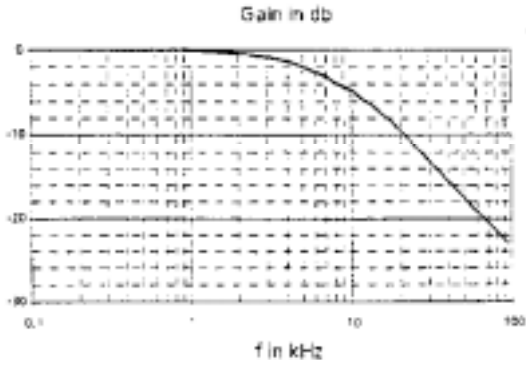
Package Dimensions



Internal Circuit

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 1pF.

The diagram shows dependence of amplitude of the application circuit with OPA 111, R_f = 50MΩ, and C_f = 0.5pF.



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