

**SiC-Photodiode
JEAC0,05S; JEAC0,05SS****Characteristics :**

- ◆ low cost SiC-photodiode
- ◆ active area: 0,05 mm²
- ◆ spectral range: 205 ... 355 nm
- ◆ high UV-responsivity: 0,18 A/W
- ◆ hermetically sealed TO-package
- ◆ HT-option for extended operating temperature range 150°C
- ◆ RoHS and WEE conform

Applications :

- ◆ optical measurements in UV-range
- ◆ control of sterilization lamps
- ◆ flame control

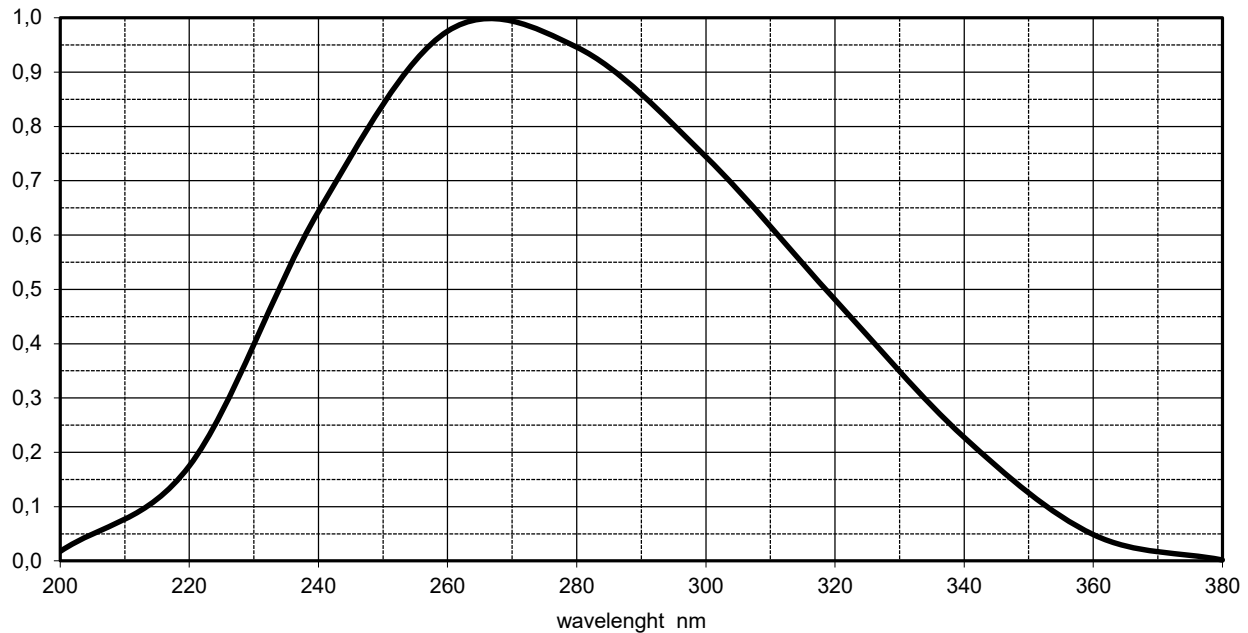
Absolute maximum ratings :

- ◆ reverse voltage 10 V
- ◆ operating temperature range - 40 °C ... 125 °C
- ◆ storage temperature range - 40 °C ... 125 °C
- ◆ soldering temperature (3s) 260 °C

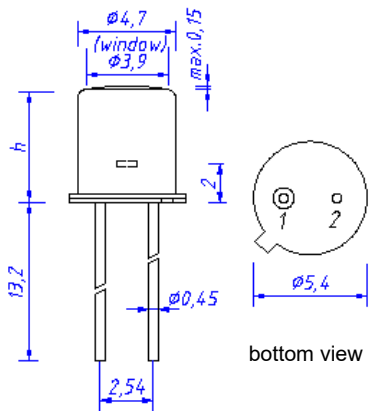
Technical data :test conditions, as not otherwise specified: T_A = 25 °C , V_R = 0 V

parameter	test condition	JEAC0,05S	JEAC0,05SS	unit
active area		0,288x0,288		mm ²
spectral range	S = 0,1 x S _{max}			
λ _{min}		215		nm
λ _{max}		355		nm
wavelength of peak response		265		nm
peak response S _{max}	λ = 265 nm	0,18		A/W
spectral response S _{254nm}	λ = 254 nm	0,16		A/W
dark current I _R	V _R = 1 V	10		fA
junction capacitance C	f = 10 kHz	30		pF
field of view (FOV)		±35	±40	grade
FOV for isolated assembly		±38	±45	grade
weight		0,3	0,3	gram
package drawing		TO18	TO52	

Relativ Spectral Responsivity



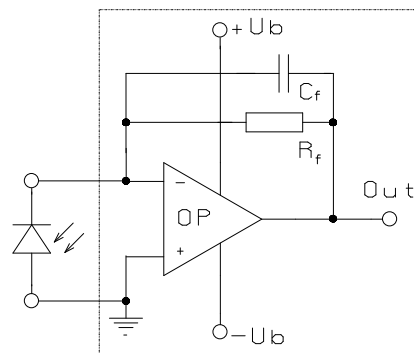
Package Dimension TO18



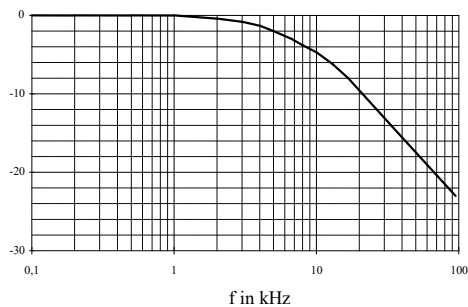
TO18: h = 5,2 mm
TO52: h = 3,7 mm

1 cathode
2 anode+case

Application Example



Gain in db



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 the input capacitance of the OP-amp. The exact value of C_f depends on R_f , used OP-amp and capacitance of the circuit. A typical value is 1pF. The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, $R_f = 10 \text{ M}\Omega$ and $C_f = 1 \text{ pF}$