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Data Sheet

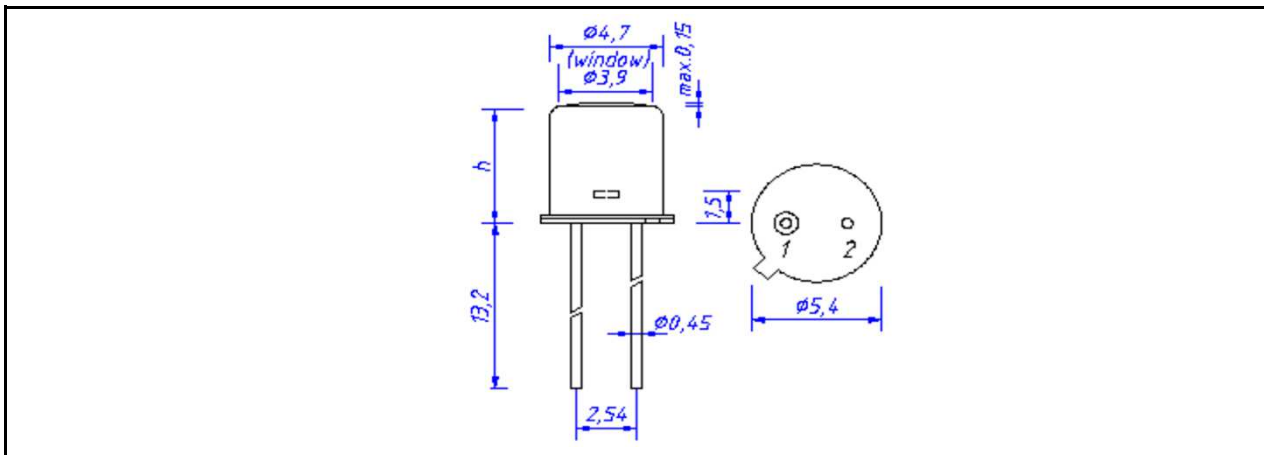
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UV photodiode

EOPD-280-0-0.3-1

Rev. 06, 2017

Radiation	Type	Technology	Case
ultraviolet	UV-glass	SiC	TO-52



1 - anode, 2 - cathode + case, $h=3.7$ mm

Description:

Highly reliable low cost SiC photodiode with high spectral sensitivity in the UV range (210 nm - 355 nm), mounted in hermetically sealed TO-52 package with UV-glass window

Characteristics:

- ◆ optional with insulated mounting of the photodiode
- ◆ high temperature option for operating up to 150°C
- ◆ RoHS and WEE compliant

Applications:

- ◆ universal measurements in the UV range
- ◆ sterilization lamp monitoring
- ◆ flame monitoring

Maximum Ratings

$T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Active area size	A	0.365 x 0.365	mm ²
Active area	A	0.1	mm ²
Reverse voltage	V_R	20	V
Operating temperature range	T_{amb}	-40 to +125	°C
Storage temperature range	T_{stg}	-40 to +125	°C
Soldering temperature, 3 s	T_{sol}	260	°C



We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

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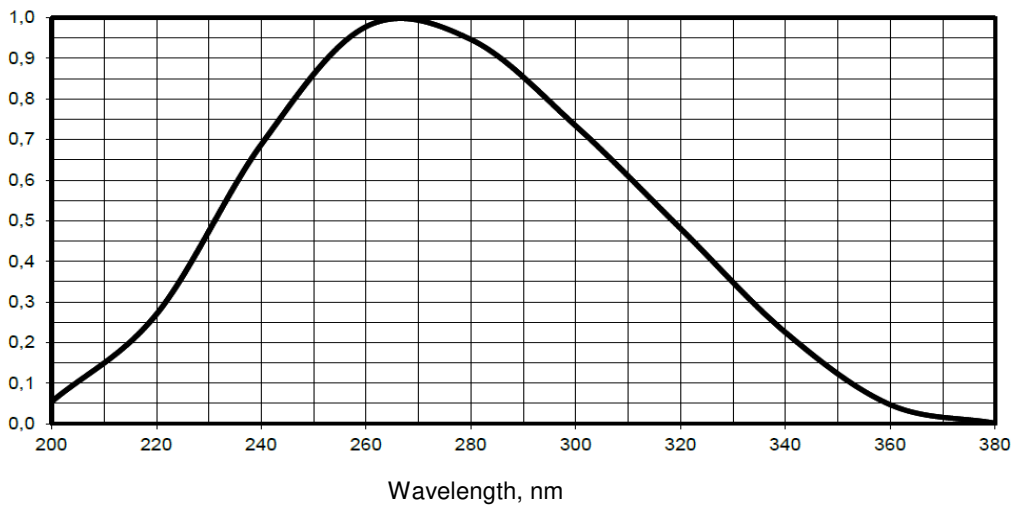
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Optical and Electrical Characteristics

$T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Dark current	$V_R = 1\text{ V}$	I_D		10		fA
Peak sensitivity wavelength	$V_R = 0\text{ V}$	λ_p		265		nm
Responsivity at λ_p	$V_R = 0\text{ V}$	S_λ		0.18		A/W
Responsivity at $\lambda = 254\text{ nm}$	$V_R = 0\text{ V}$	S_λ		0.16		A/W
Sensitivity range at $0.1 S_{max}$	$V_R = 0\text{ V}$	$\lambda_{min}; \lambda_{max}$	210		355	nm
Junction capacitance	$V_R = 0\text{ V}$	C_J		30		pF
Acceptance angle	$V_R = 0\text{ V}$	ϕ		± 40		deg

Relative spectral sensitivity



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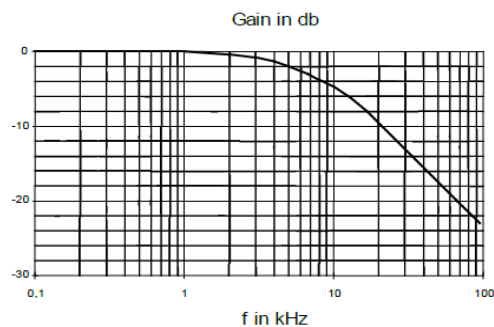
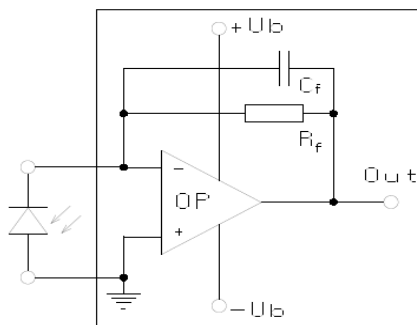
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application example



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 the dependence of the amplitude of the application circuit with OP-amp = AD795, $R_f = 10 \text{ M}\Omega$ and $C_f = 1 \text{ pF}$.

Art. Nr. 141 005



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