

Characteristics :

- ◆ large area SiC-photodiode
- ◆ active area: 2 mm²
- ◆ spectral range: 215 ... 355 nm
- ◆ high UV-responsivity: 160 mA/W
- ◆ hermetically sealed TO-package
- ◆ option for fully isolated chip assembly within TO package
- ◆ UT-option for extended operating temperature range 250°C
- ◆ RoHS, REACH and WEEE conform



Applications :

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

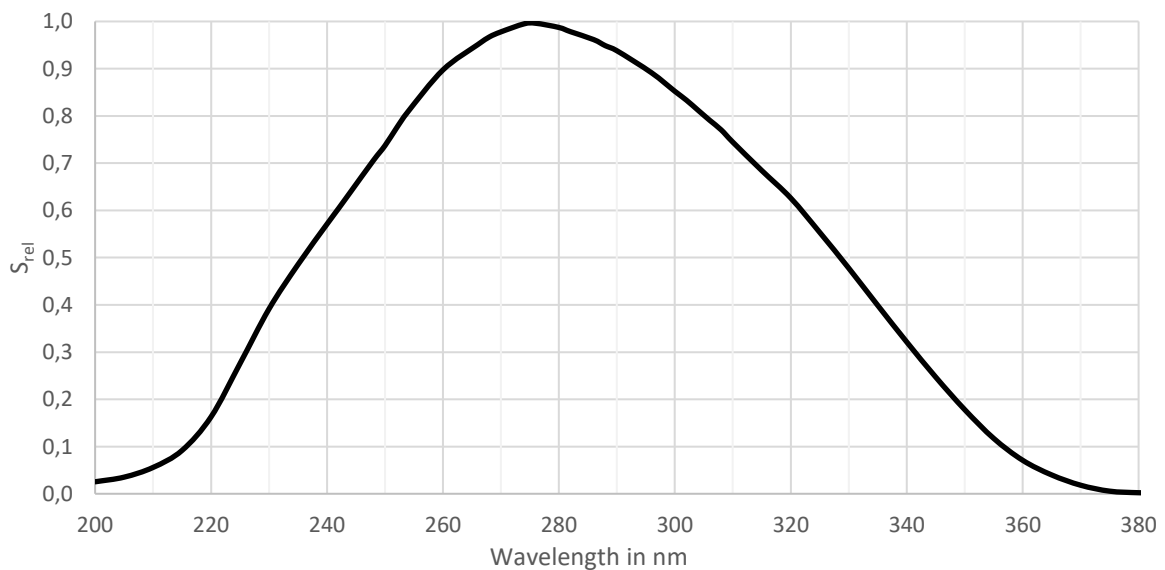
Absolute Maximum Ratings :

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

Versions:

Package	Anode: isolated Cathode: case-pin	Cathode: isolated Anode: case-pin	Anode, Cathode: isolated Additional case-pin	Operating Temperature up to 250 °C
TO5	JEA2	JEAC2	JEA2I	*-UT
TO18	JEA2S	-	JEA2IS	
TO52	JEA2SS	-	JEA2ISS	

Relativ Spectral Responsivity S_{rel} :



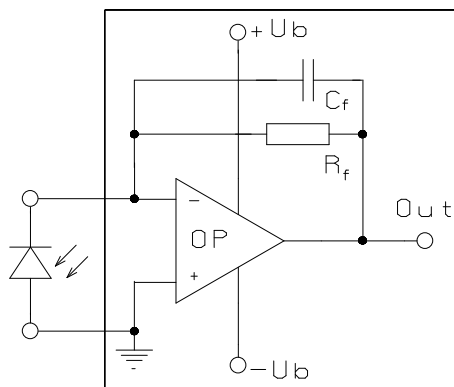
Rev. 9 (05/2021)

Technical Data :

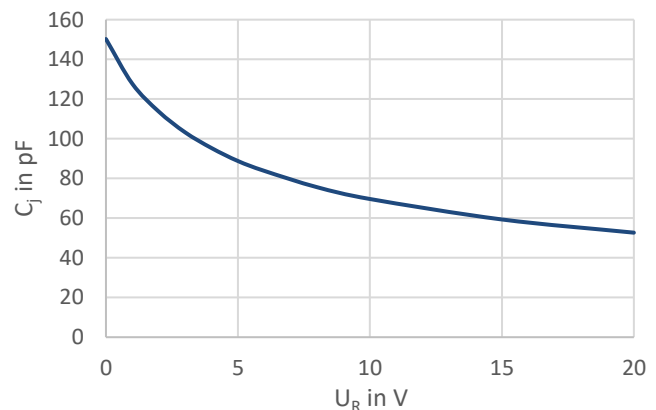
Parameter	Test condition	TO5	TO18	TO52	Unit
active area		1,415 x 1,415			mm ²
spectral range	λ_{short} λ_{long} $S = 0,1 \times S_{max}$	215 355			nm nm
wavelength of peak response		274			nm
peak response S_{max}	$\lambda = 274 \text{ nm}$	0,16			A/W
spectral response S_{254nm}	$\lambda = 254 \text{ nm}$	0,13			A/W
dark current I_R	$U_R = 1 \text{ V}$	200			fA
junction capacitance C_j (max.)	$f = 10 \text{ kHz}$	150			pF
rise time t_r of photocurrent	10%/90% $R_L = 50 \Omega$ $\lambda = 266 \text{ nm}$	<1,5			ns
field of view (FOV)	Anode isolated Cathode isolated Both isolated	± 48 ± 51 ± 52	± 26 - ± 29	± 40 - ± 46	degree
weight		0,8	0,3	0,3	gram
package drawing	Anode isolated Cathode isolated Both isolated	TO5 TO5 TO5 iso.	TO18 - TO18 iso.	TO52 - TO52 iso.	

test conditions, as not otherwise specified: $T_A = 25 \text{ }^\circ\text{C}$, $U_R = 0 \text{ V}$

Application Example



Junction Capacitance C_j vs. Reverse Voltage U_R :

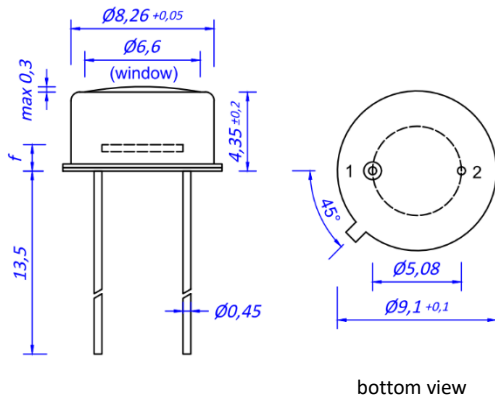


The application example shows a typical circuit. R_f is responsible for the gain of the circuit. C_f compensates the reverse junction capacitance of the photodiode and the input capacitance of the opamp. The exact value of C_f depends on R_f , used opamp and capacitance of the circuit. A typical value is 1pF.

The chart shows the typical dependence of junction capacitance C_j vs. applied reverse voltage U_R . Lower intrinsic capacitance can be useful to increase the bandwidth (lower the rise time) in electric circuits.

Case Dimensions:

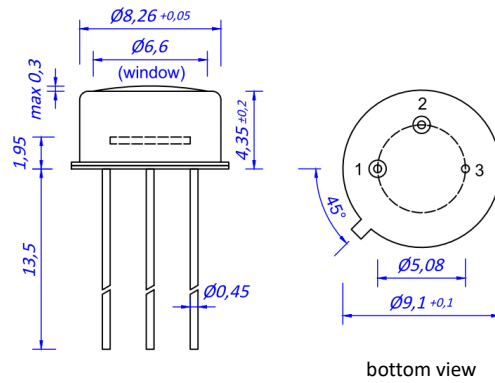
T05



JEA2: Pin 1: Anode
Pin 2: Cathode + Case
f = 1,6 mm

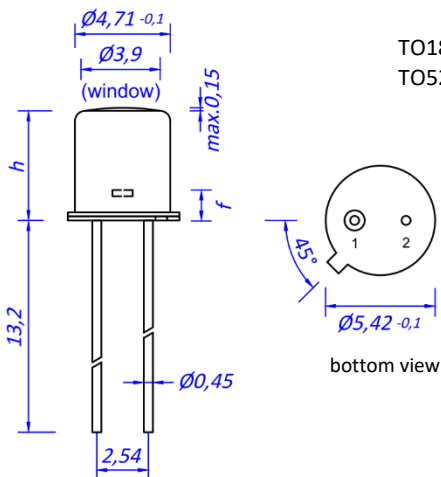
JEAC2: Pin 1: Cathode
Pin 2: Anode + Case
f = 1,85 mm

T05 isolated



JEA2I: Pin 1: Anode
Pin 2: Cathode
Pin 3: Case

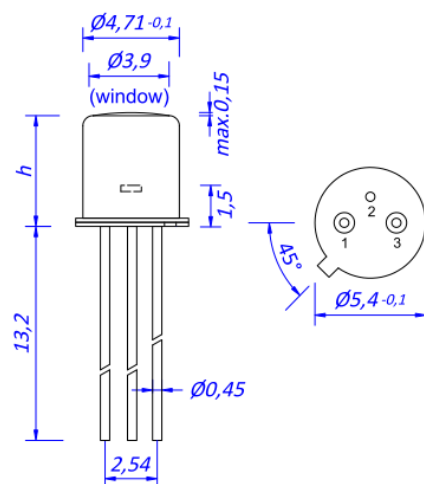
T018 / T052



T018: h = 5,2 mm ± 0,1 mm
T052: h = 3,7 mm ± 0,1 mm

JEA2S/SS: Pin 1: Anode
Pin 2: Cathode + Case
f = 1,5 mm

T018 / T052 isolated



JEA2ISZ/ ISSZ: Pin 1: Anode
Pin 2: Cathode
Pin 3: Case