

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

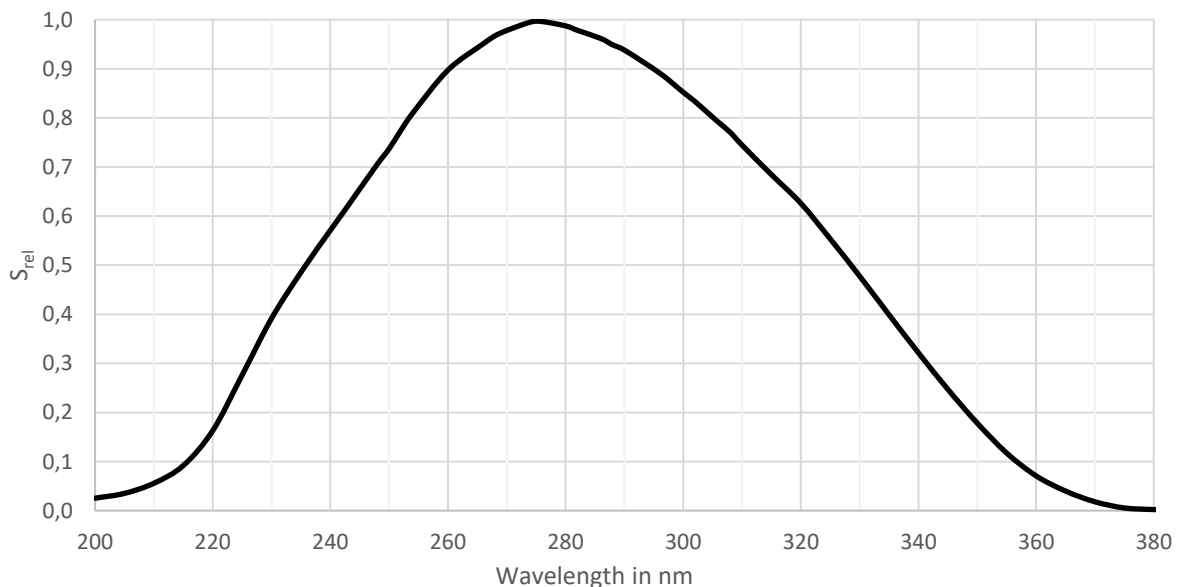
Absolute Maximum Ratings :

- ◆ 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	-	JEA2ISZ	
TO52	JEA2SS	-	JEA2ISSZ	

Relativ Spectral Responsivity S_{rel} :



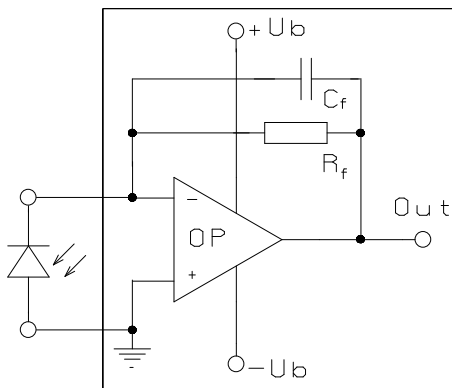
Rev. 8 (01/2021)

Technical Data :

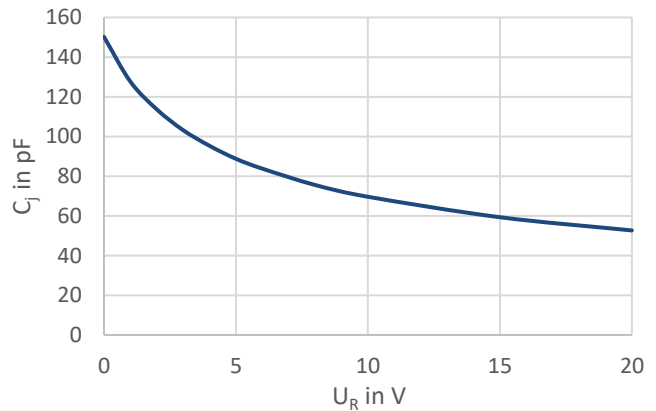
Parameter	Test condition	TO5	TO18	TO52	Unit
active area		1,415 x 1,415			mm ²
spectral range	λ_{short} λ_{long} $S = 0,1 \times S_{max}$	215 355			nm nm
wavelength of peak response		274			nm
peak response S_{max}	$\lambda = 274 \text{ nm}$	0,16			A/W
spectral response S_{254nm}	$\lambda = 254 \text{ nm}$	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 ± 27 ± 29	± 40 ± 43 ± 46	degree
weight		0,8	0,3	0,3	gram
package drawing	Anode isolated Cathode isolated Both isolated	TO5 TO5 TO5 iso.	TO18 TO18 TO18 iso.	TO52 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 :

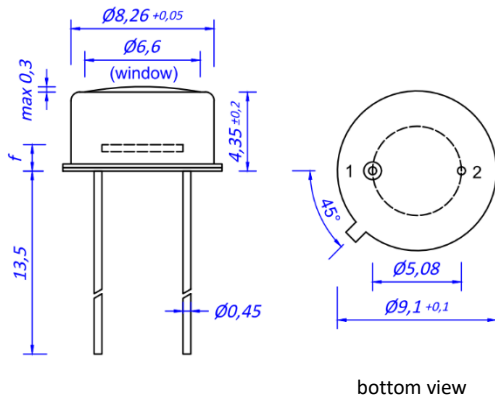


The application example shows a typical circuit R_f is responsible for the gain of the circuit C_f compensates the reverse junction capacitance of the photodiode and the input capacitance of the opamp. The exact value of C_f depends on R_f , used opamp and capacitance of the circuit. A typical value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

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

Case Dimensions:

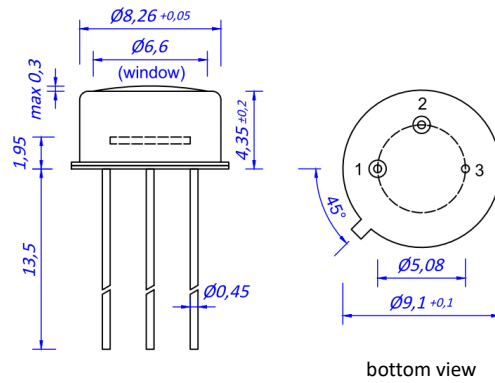
T05



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

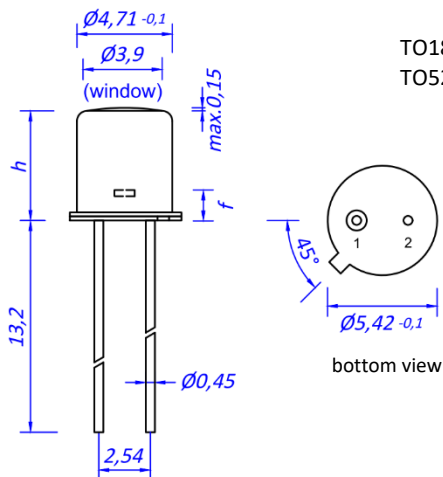
JEAC2: Pin 1: Cathode
Pin 2: Anode + Case
f = 1,85 mm

T05 isolated



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

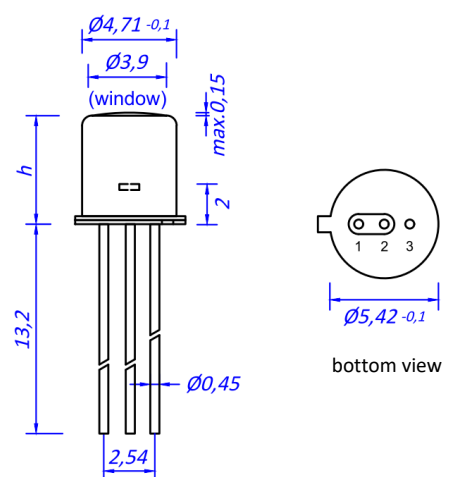
T018 / T052



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