SiC-Photodiode with Lens Cap
JEA0,25L · JEAC0,25L · JEA0,25L-I

Characteristics :

- medium size SiC-photodiode with lens cap
- active area: 0,25 mm²
- spectral range: 215 … 355 nm
- high UV-responsivity: 0,18 A/W
- hermetically sealed TO-package
- option for isolated assembly of photodiode
- 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

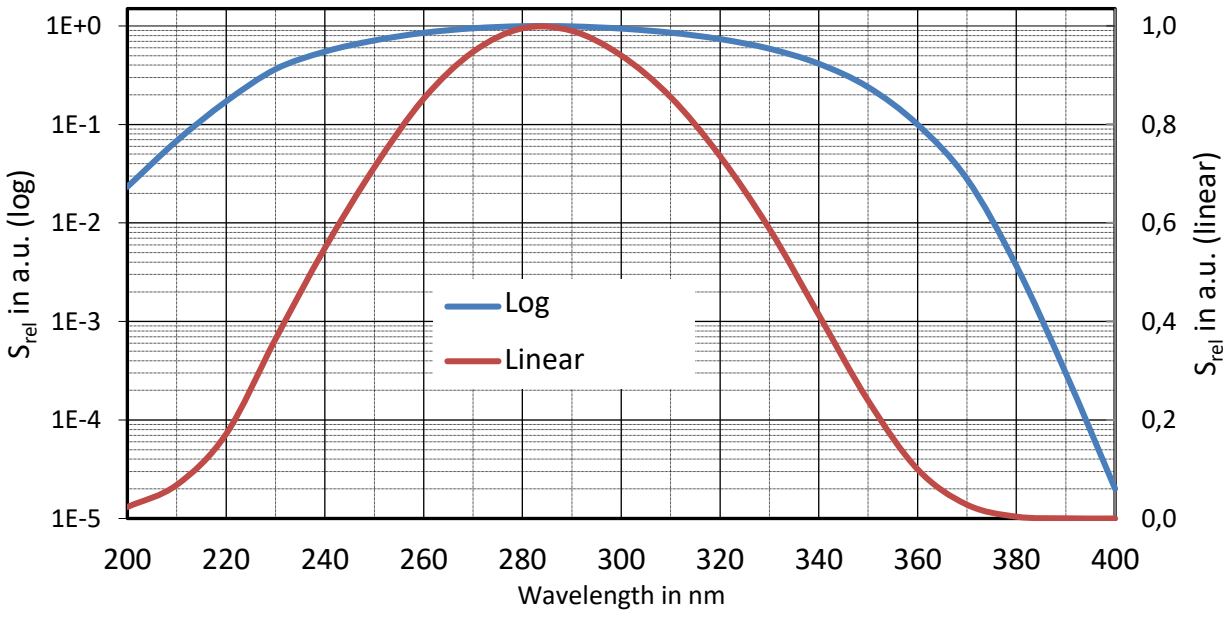
Absolute Maximum Ratings :

- 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	JEA0,25L	JEAC0,25L	JEA0,25L-I	-UT

Relativ Spectral Responsivity S_{rel}:

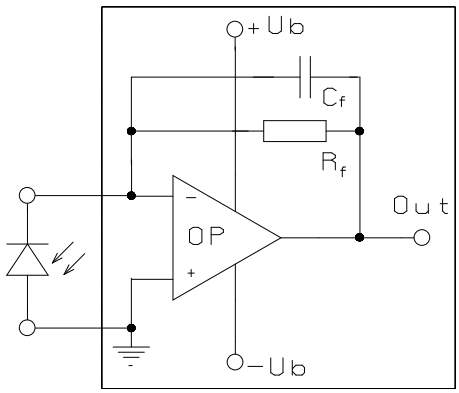


Technical Data :

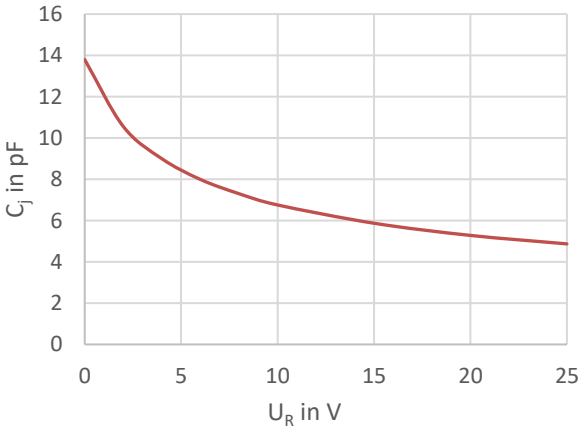
Parameter	Test condition	Value	Unit
active area		0,55 x 0,55	mm^2
effective active area		5	mm^2
spectral range λ_{short} λ_{long}	S = 0,1 x S_{max}	215 360	nm nm
wavelenght of peak response		282	nm
peak response S_{max}	λ = 265 nm	0,18	A/W
spectral response S_{254nm}	λ = 254 nm	0,145	A/W
dark current I_R	U_R = 1 V	25	fA
junction capacitance C_j (max.)	f = 10 kHz	14	pF
rise time t_r of photocurrent	10%/90% R_L = 50 Ω λ = 266 nm	<1,2	ns
field of view (FOV)	S = 0,5 x S_{max}	±5	degree
weight		1,0	gram

test conditions, as not otherwise specified: T_A = 25 °C , U_R = 0 V

Application Example



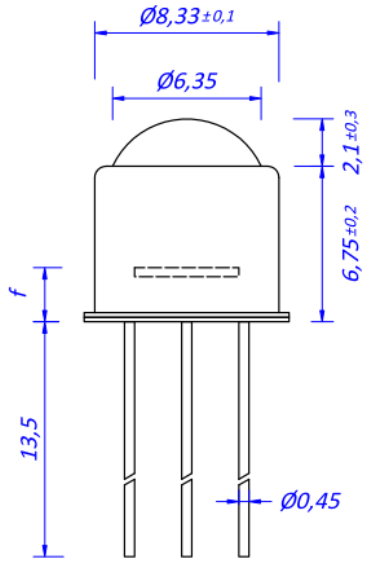
Junction Capacitance C_j vs. Reverse Voltage U_R:



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.

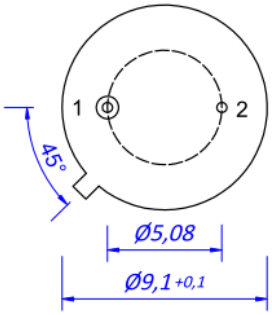
The chart shows the typical dependence of junction capacitance C_j vs. applied revers voltage U_R.
Lower intrinsic capacitance can be used to increase the bandwith (lower the rise time) in electric circuits.

Case Dimensions:



JEA 0,25L
JEAC0,25L

bottom view

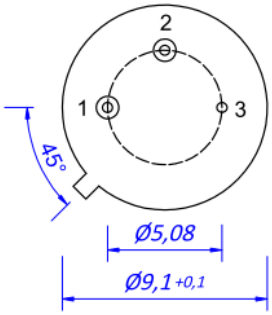


Pinout:
JEA 0,25L: 1 Anode
2 Cathode+Case
f = 1,6 mm

Pinout:
JEAC 0,25L: 1 = Cathode
2 = Anode + Case
f= 1,85 mm

JEA0,25L-I

bottom view



Pinout:
JEA 0,25L-I: 1 Anode
2 Cathode
3 Case
f = 1,95 mm