



<b>UV - Photodiode with integrated amplifier</b>	<b>JIC 129 L</b>
--	------------------



- characteristics :**
- ◆ SiC-Photodiode with integrated current/voltage converter
  - ◆ very high UV-responsivity
  - ◆ enlargement of effective chiparea by integrated lense
  - ◆ very low visible and IR responsivity
  - ◆ extra sensor pin for external adjustment of gain and bandwidth
  - ◆ single supply voltage
  - ◆ low current consumption
  - ◆ sensor assembly isolated to ground
  - ◆ components are in conformity with RoHS and WEEE

- applications :**
- ◆ selective UV-measurements
  - ◆ flamedetection and -control
  - ◆ control of UV-lamps in water and surface disinfection
  - ◆ control of UV-lasers
  - ◆ control of irradiancy in varnish and adhesive hardening

**absolute maximum ratings :**

- ◆ supply voltage +5,5 V
- ◆ operating temperature range -25 °C ... +85 °C
- ◆ storage temperature range -40 °C ... +100 °C
- ◆ welding temperature (5s) 300 °C

**technical data :**

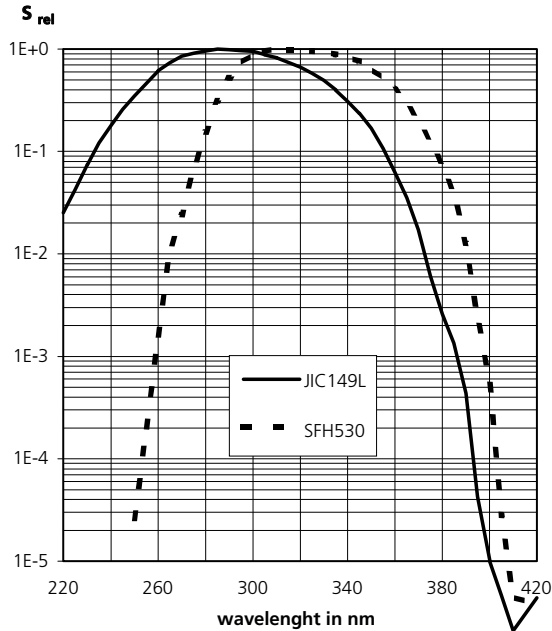
common test conditions, as not otherwise specified:  $T_A = 25\text{ °C}$ ,  $V_S = +5\text{ V}$

parameters	test condition	min.	typ.	max.	unit
active area <sup>1)</sup>			2,75		mm <sup>2</sup>
feedback resistor		0,95	1,00	1,05	GΩ
dark offset voltage	E = 0 lx		± 0,5	± 2	mV
noise voltage	B = 1 kHz		0,1		mV <sub>rms</sub>
Maximum of spectral responsivity	S = S <sub>max</sub> λ = 285 nm		30		mV/nW
max. of spectral responsivity	λ = 310 nm	180	270	400	mV/ nW/mm <sup>2</sup>
selectivity	S <sub>400-1200nm</sub> / S <sub>310nm</sub>		< 10 <sup>-4</sup>		
rise time			20		ms
bandwidth	- 3 dB		15		Hz
opening angle	S=0,5*S <sub>max</sub>		± 5		Grad
saturation voltage	R <sub>L</sub> = 2 kΩ	+ 4,8	+ 4,95		V
short current			± 50		mA
operating voltage			+ 2,7...+ 5		V
current consumption			750 (1100)		μA

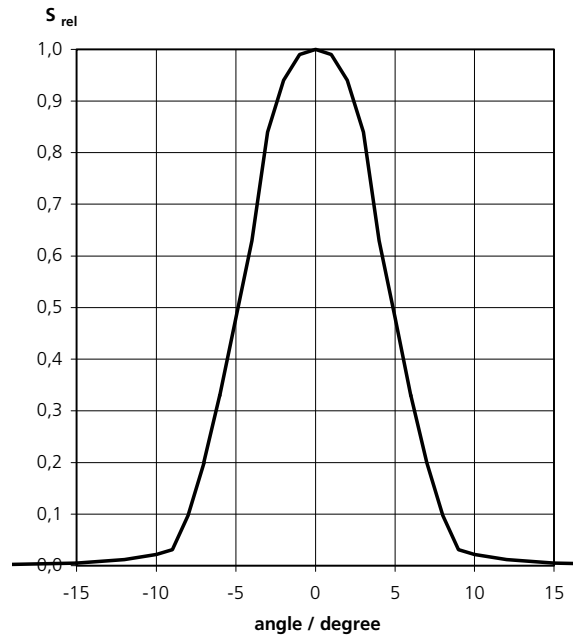
**D  
A  
T  
A  
  
S  
H  
E  
E  
T**

<sup>1)</sup> effektive active area because of focusing of light by the lense  
SUNSTAR光电 http://www.sensor-ic.com/ TEL: 0755-83376489 FAX: 0755-83376182 E-MAIL: szss20@163.com  
rev2 (03/2009)

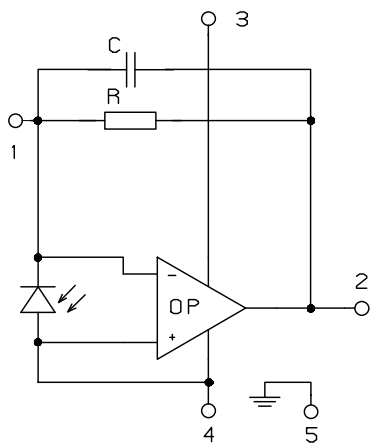
**relative spectral responsivity**



**response characteristic**

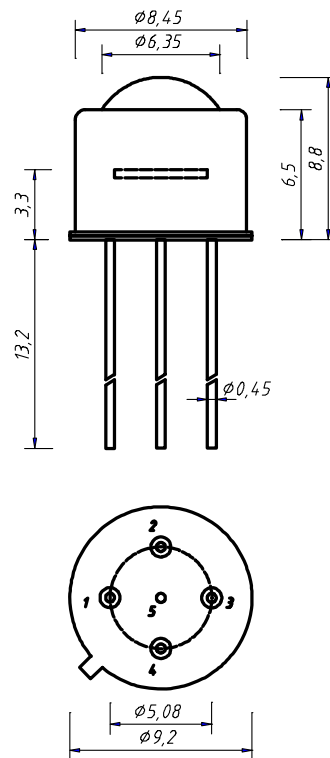


**internal circuit**



- 1  $R_f$
- 2 Out
- 3  $V_s$
- 4 GND
- 5 Case

**package dimension**



**application hints:**

- If an external resistor for reduction of gain is used, please make sure that length of connectors is as short as possible to reduce noise and capacitive interference.
- If internally adjusted gain is used only, please cut pin „1“.