

**UV - Photodiode with
integrated amplifier****JIC 129 L**

- 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: $T_A = 25\text{ °C}$, $V_s = +5\text{ V}$

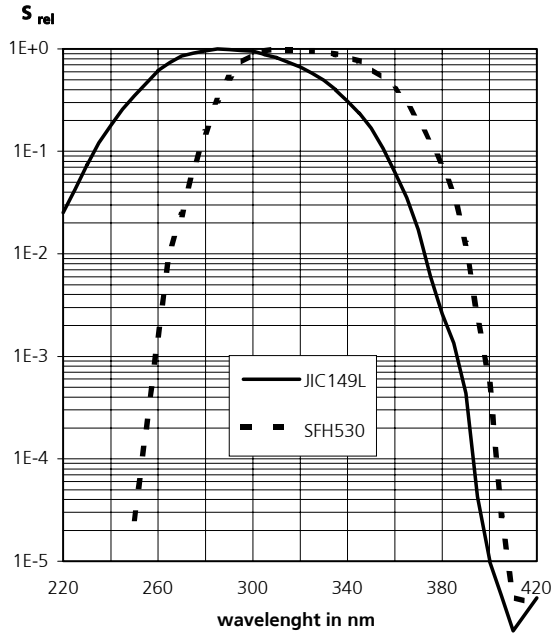
parameters	test condition	min.	typ.	max.	unit
active area ¹⁾			2,75		mm ²
feedback resistor		0,95	1,00	1,05	GΩ
dark offset voltage	E = 0 lx		± 0,5	± 2	mV
noise voltage	B = 1 kHz		0,1		mV _{rms}
Maximum of spectral responsivity	S = S _{max} λ = 285 nm		30		mV/nW
max. of spectral responsivity	λ = 310 nm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

¹⁾ effektive active area because of focusing of light by the lense

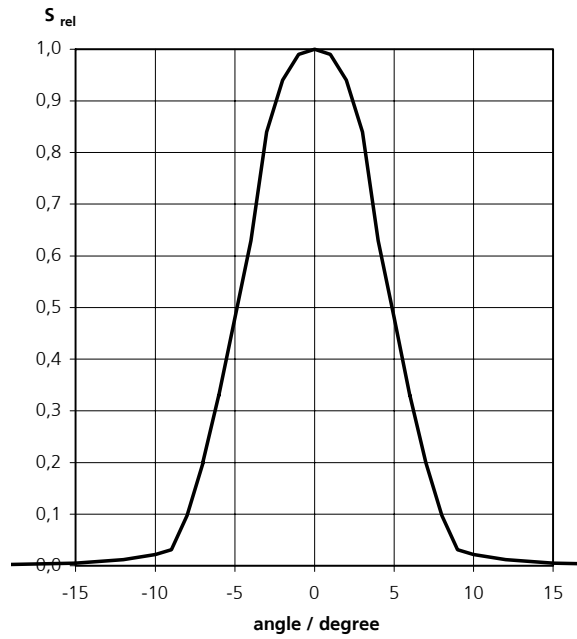
rev 2 (03/2009)

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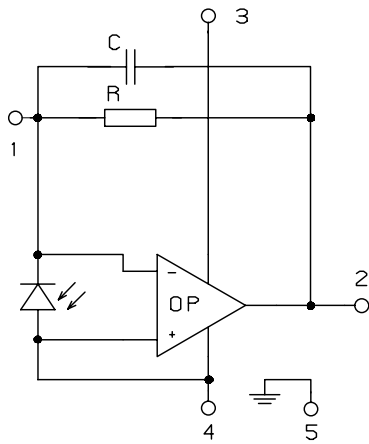
relative spectral responsivity



response characteristic

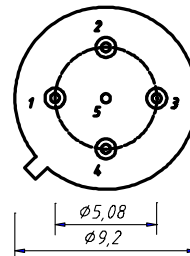
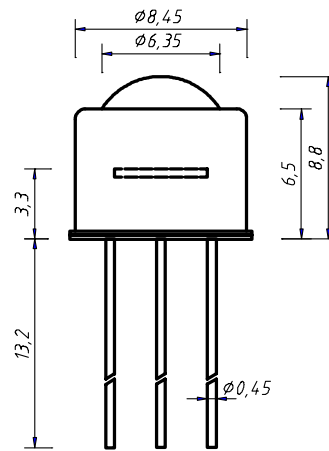


internal circuit



- 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“.