

Lensed UV - Photodiode with integrated amplifier

JIC 149 L



- characteristics :
- ◆ SiC-Photodiode with integrated current/voltage converter
 - ◆ very high UV-responsivity
 - ◆ enlargement of effective chip area by integrated lens
 - ◆ 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
 - ◆ replacement for SFH 530 (Osram), but with better characteristics

- 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 (5sec) 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⁾			11		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}
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
Field of View	S=0.5*S _{max}		± 5		degrees
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

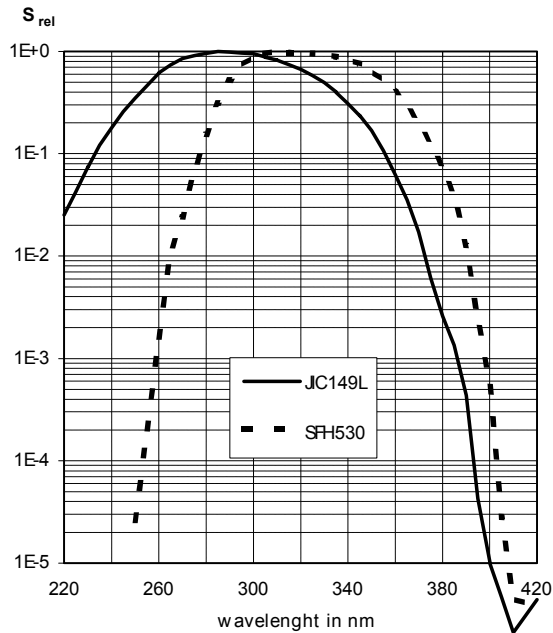
¹⁾ effective active is the collecting area of the lens

rev 02/2003

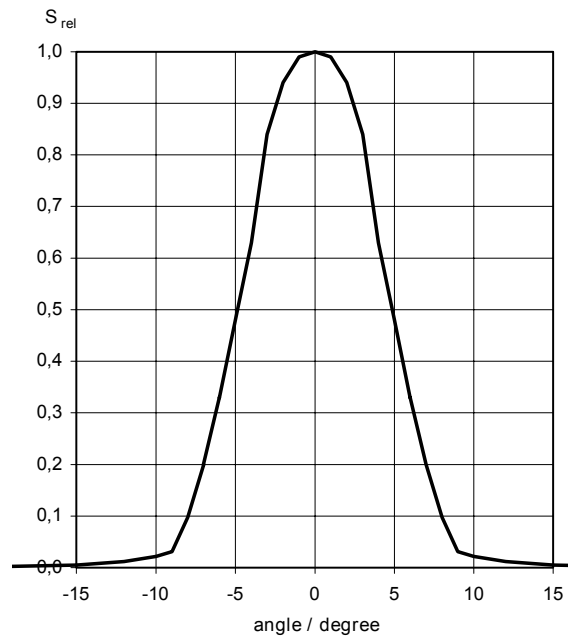
DATA SHEET

JIC 149 L

relative spectral responsivity

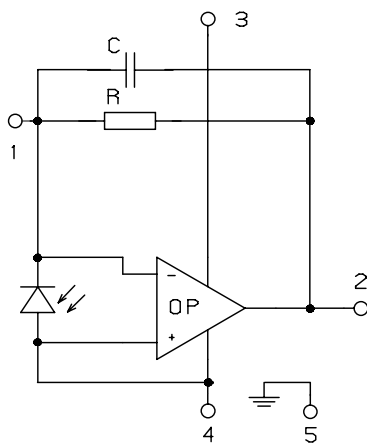


response characteristic

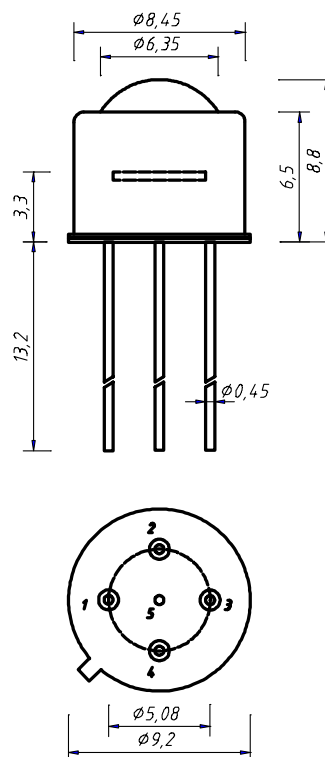


internal circuit

- 1 R_f
- 2 Out
- 3 V_S
- 4 GND
- 5 Case



package dimension



application hints:

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