

Si – photodiode with integrated amplifier

JI 546L
JI 547L
JI 548L



- characteristics :
- ◆ Si-photodiode with integrated low noise JFET-amplifier
 - ◆ integrated feedback resistor and capacitor
 - ◆ decadic staggered responsivity
 - ◆ spectral range VIS and NIR
 - ◆ very low offset and driftparameters
 - ◆ high dynamic range
 - ◆ dual power supply
 - ◆ hermetically sealed TO-5 package
 - ◆ lense cap
 - ◆ assembly isolated to ground
 - ◆ component ROHS and WEEE conform

- applikations :
- ◆ common light-/radiation measuring application
 - ◆ detector for measurement of low radiation intensities with high signal to noise level
 - ◆ spectroscopy
 - ◆ medical diagnostics

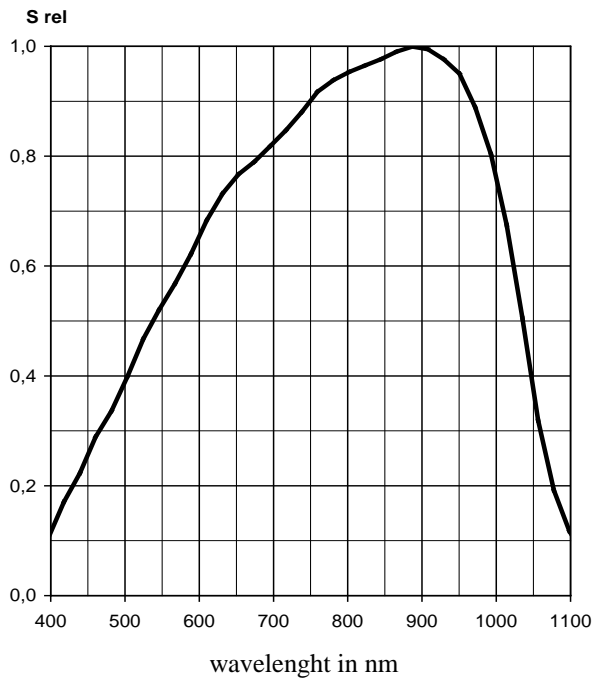
- maximum ratings :
- ◆ supply voltage ± 18 V
 - ◆ operating temperature range -25 °C ... $+85$ °C
 - ◆ storage temperature range -40 °C ... $+100$ °C
 - ◆ soldering temperature (3s) 260 °C

common test conditions, as not otherwise specified: $T_A = 25$ °C, $V_S = \pm 15$ V
typ. data, maximum data in brackets

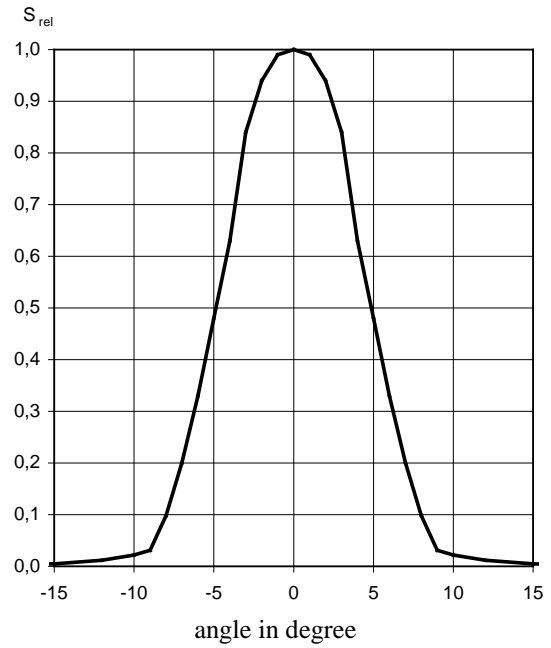
parameter	Test condition	JI 546L	JI 547L	JI 548L	unit
active area		4,8			mm ²
Feed back resistor		1	10	100	MΩ
dark offset voltage	E = 0 lx	± 0,5	± 0,5	± 2	mV
noise voltage	B = 20 kHz	0,2	0,3	0,5	mV _{rms}
Spectral range	S=0,1*S _{max}	400...1100			nm
wavelength max. of spectral responsivity	S=S _{max}	850			nm
max. spectral responsivity	S=S _{max}	1	10	100	mV/nW
rise time		3	15	35	μs
bandwidth	- 3 dB	120	25	10	kHz
FOV	S(φ)=0,5*S _{max} *cos(φ)	± 5			Grad
saturation voltage	R _L = 2 kΩ	-14,8 (-14,5)			V
short current		± 45			mA
operating voltage		± 5...± 15			V
current consumption		2,2 (2,6)			mA

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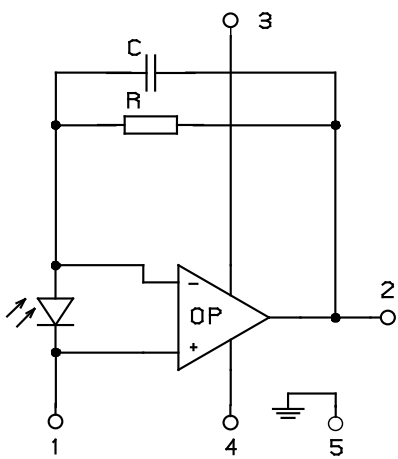
relative spectral responsivity



response characteristic

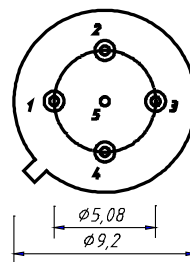
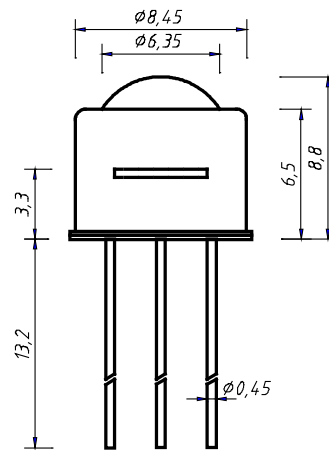


internal circuit



- 1 GND
- 2 Out
- 3 +V_s
- 4 -V_s
- 5 Case

package dimension



bottom view!