

# Si - photodiode with integrated amplifier

JI 576  
JI 577  
JI 578



- 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
  - ◆ assembly isolated to ground
  - ◆ replacement type for JI 7/JI 7,5 (not pincompatible!)
  - ◆ components are in conformity with RoHS and WEEE

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

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

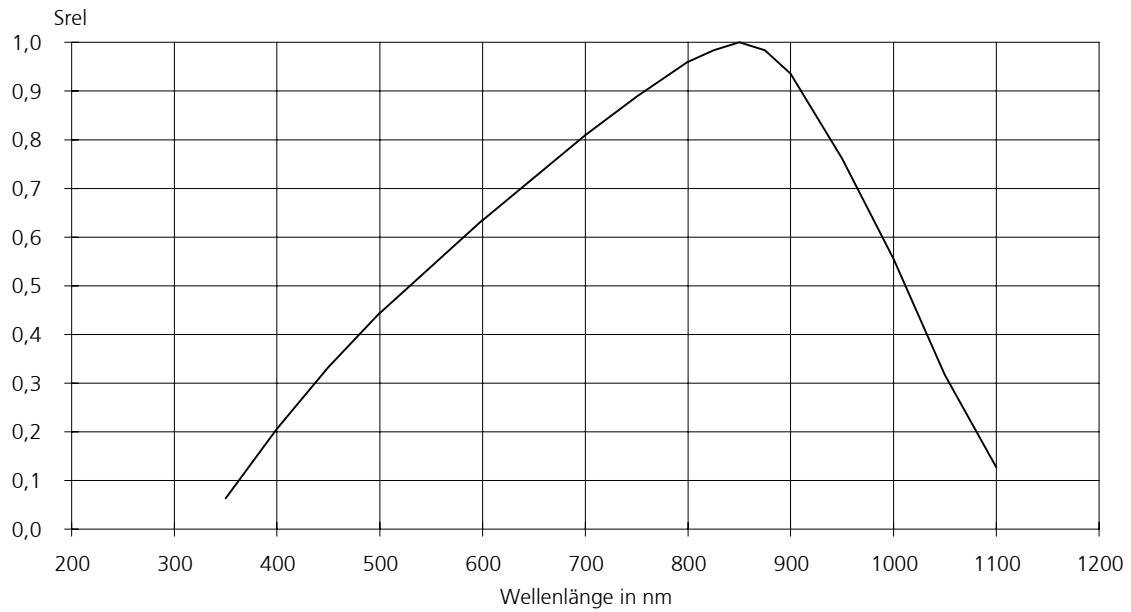
**technical data :**

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

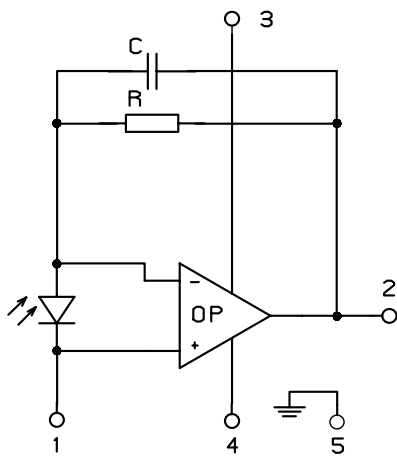
parameter	testcondition	JI 576	JI 577	JI 578	unit
active area		7			mm <sup>2</sup>
feedback resistor		1	10	100	MΩ
dark offset voltage	E = 0 lx	± 0,3 (±0,75)	± 0,3 (±0,75)	± 2,0 (±0,75)	mV
noise voltage	B = 20 kHz	0,2	0,3	0,5	mV <sub>rms</sub>
spectral range	S=0,1*S <sub>max</sub>	400...1100			nm
max. of spectral responsivity	S=S <sub>max</sub>	850			nm
max. spectral responsivity	S=S <sub>max</sub>	0,6	6	60	mV/nW
rise time		3,5	20	50	μs
bandwidth	- 3 dB	100	18	7	kHz
opening angle	S(φ)=0,5*S <sub>max</sub> *cos(φ)	± 50			Grad
saturation voltage	R <sub>L</sub> = 2 kΩ	-14,8 (-14,5)			V
short current		± 45			mA
operation voltage		± 5...± 15			V
current consumption		2,2 (2,6)			mA

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## relative spectral responsivity



## internal circuit



- 1 GND
- 2 Out
- 3 +V<sub>S</sub>
- 4 -V<sub>S</sub>
- 5 Case

## package dimensions

