Si - photodiode with integrated amplifier

JI 546
JI 547
JI 548

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
- duale power supply
- hermetically sealed TO-5 package
- assembly isolated to ground
- replacement type for JI 4,8 (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

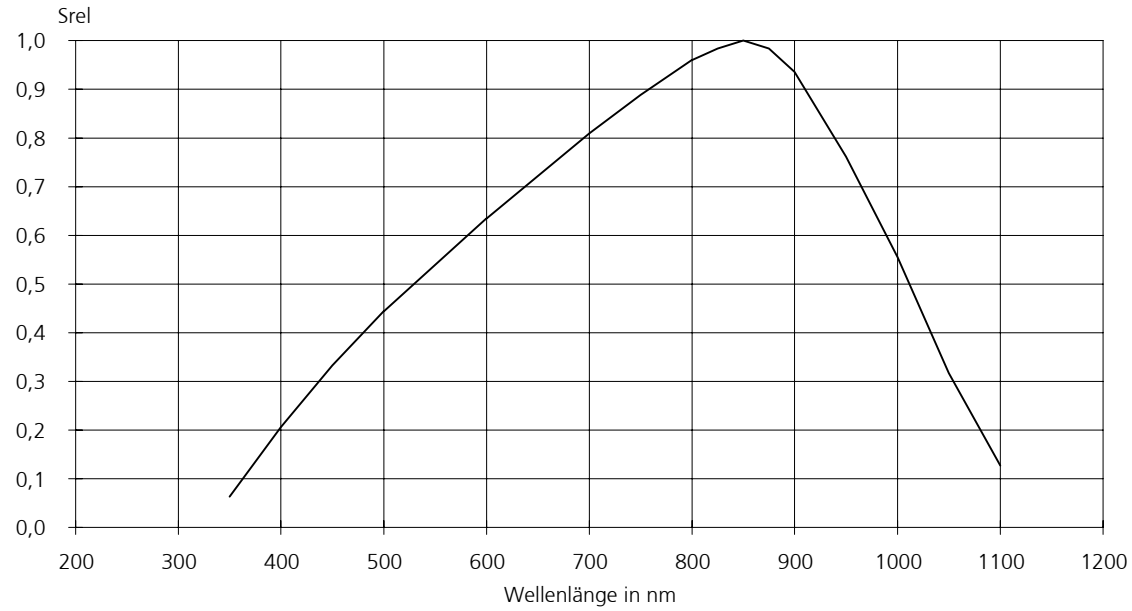
technical data :

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

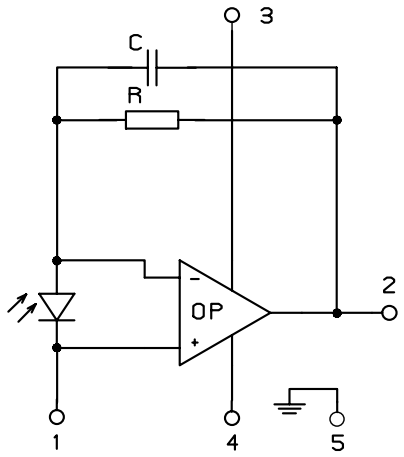
parameter	testcondition	JI 546	JI 547	JI 548	unit
active area		4,8			mm^2
feedback resistor		1	10	100	MΩ
dark offset voltage	E = 0 lx	± 0,5	± 0,5	± 2	mV
noise voltage	B = 20 kHz	0,2	0,3	0,5	mV_{rms}
spectral range	$S=0,1*S_{max}$	400...1100			nm
max. of spectral responsivity	$S=S_{max}$	850			nm
max. spectral responsivity	$S=S_{max}$	0,6	6	60	mV/nW
rise time		3	15	35	µs
bandwidth	- 3 dB	120	25	10	kHz
opening angle	$S(\varphi)=0,5*S_{max}*\cos(\varphi)$	± 50			Grad
saturation voltage	R_L = 2 kΩ	-14,8 (-14,5)			V
short current		± 45			mA
operation voltage		± 5...± 15			V
current consumption		2,2 (2,6)			mA

DATA SHEET

relative spectral responsivity



internal circuit



1 GND
2 Out
3 $+V_S$
4 $-V_S$
5 Case

package dimensions