

# UV-photodetector

## JI 100 EI 8UVT1

### PRELIMINARY SPECIFICATION



- characteristics :**
- ◆ spectral range 190 ... 1100 nm
  - ◆ active area 100 mm<sup>2</sup>
  - ◆ integrated amplifier
  - ◆ integrated cooler and temperature sensor
  - ◆ sensor isolated to case
  - ◆ very low noise level
  - ◆ components are in conformity with RoHS and WEEE

- applications :**
- ◆ UV-NIR-spectroscopy
  - ◆ broadband measuring detector

**absolute maximum ratings:**

operating voltage	± 18	V
power consumption	180	mW
operating temperature range	- 25 °C ... 70	°C
storage temperature range	0 °C ... 100	°C
soldering temperature (3s)	260	°C

**technical data :**

test conditions, as not otherwise specified:  $\gamma_a = 25 \text{ °C}$ ,  $V_{cc} = \pm 15V$

parameter	test condition	min.	typ.	max.	unit
active area			10 x 10		mm <sup>2</sup>
dark offset voltage			± 0,5	± 1	mV
drifting of offset voltage	$\gamma_a = 22 \text{ °C}$ $\gamma_u = 15...35 \text{ °C}$			± 5	µV/K
saturation voltage			13,5		V
feedback resistor		19	20	21	MΩ
operation voltage		±5	±15	±18	V
operating current	dark value		± 4		mA
rise time (with optimal external compensation)	$\lambda = 870 \text{ nm}$		0,15		ms
bandwidth	- 3 dB		2		kHz
resistance of thermistor	$\gamma_a = 25 \text{ °C}$	9,8	10	10,2	kΩ
temp. coeff. of thermistor	$\gamma_a = 25 \text{ °C}$		-4,04		%
voltage of cooler				1,7	V
current of cooler				2	A

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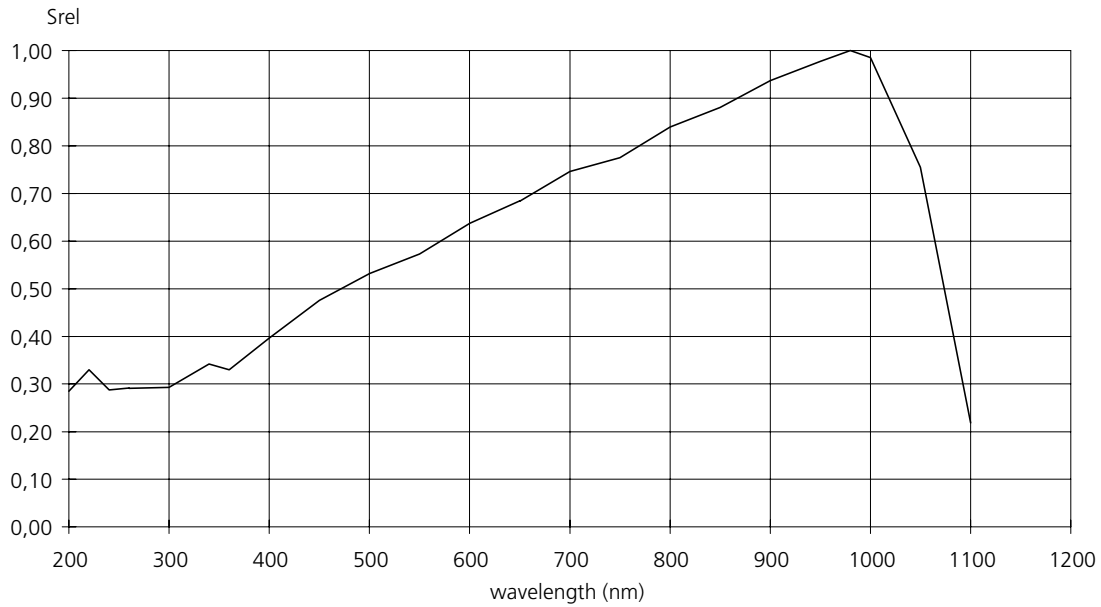
**Electro Optical Components, Inc.**

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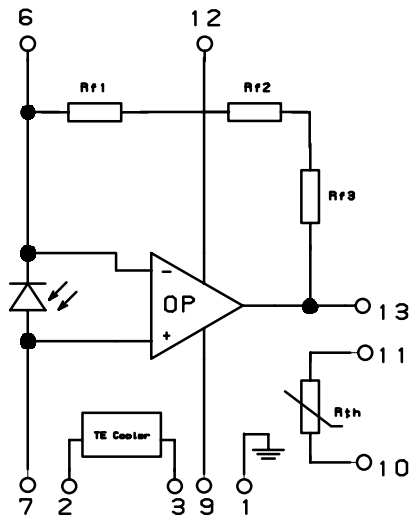
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## relative spectral response

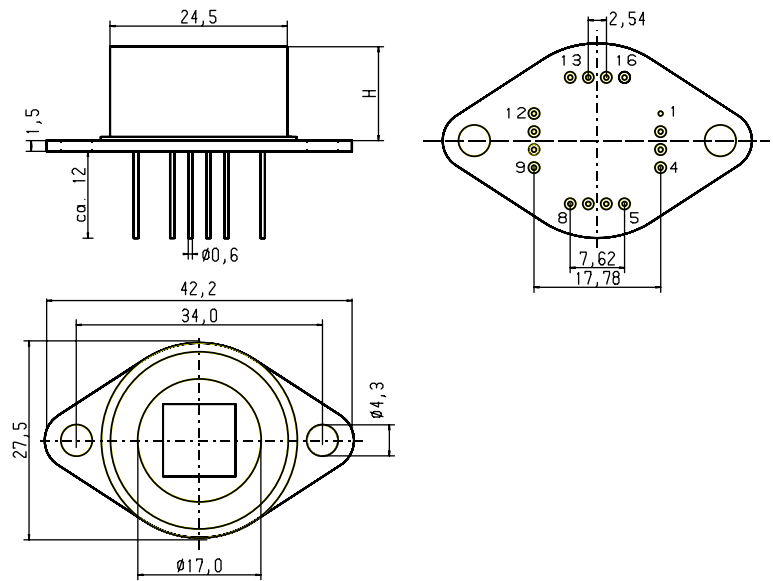


## pin configuration



- |               |               |
|---------------|---------------|
| 1 case        | 9 $V_{CC-}$   |
| 2 TE-cooler - | 10 thermistor |
| 3 TE-cooler + | 11 thermistor |
| 4 n.c.        | 12 $V_{CC+}$  |
| 5 n.c.        | 13 Out        |
| 6 $R_{f1}$    | 14 n.c.       |
| 7 GND         | 15 n.c.       |
| 8 n.c.        | 16 n.c.       |

## package



### Option H

H = 9,5; (5,5; 12,5) mm

**application hint** assembly option R1 ... R3, i.e. adjustable feedback resistor on request



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