

## Silicon NPN Epitaxial Planar Phototransistor



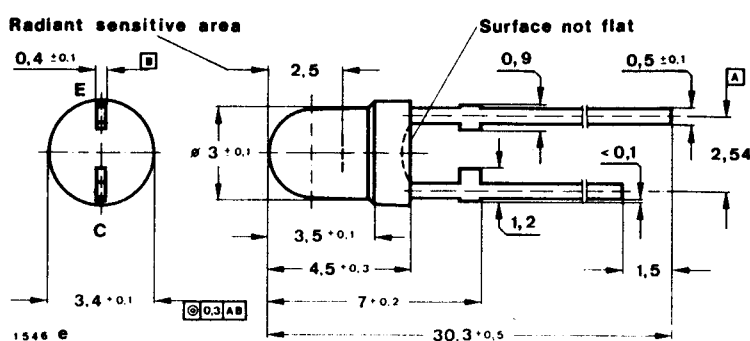
**Application:** Detector in electronic control and drive circuits

**Features:**

- Plastic case  $\varnothing 3$  mm
- Suitable for visible and near infrared radiation
- High sensitivity
- Wide angle of half sensitivity
- Axial terminals

### Preliminary specifications

**Dimensions in mm**



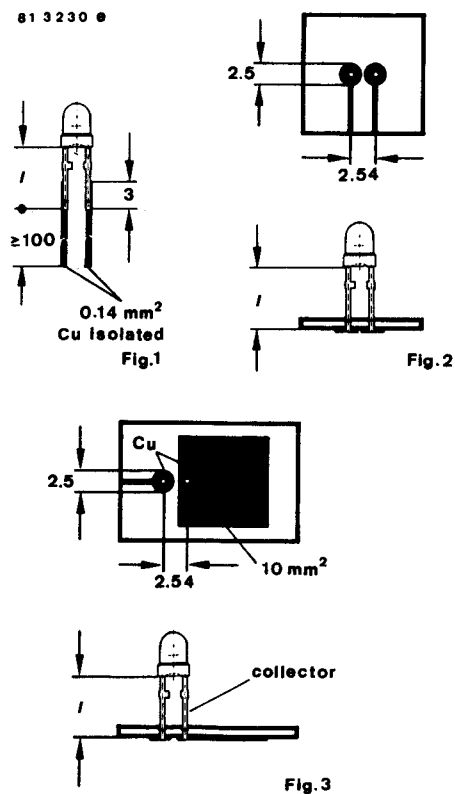
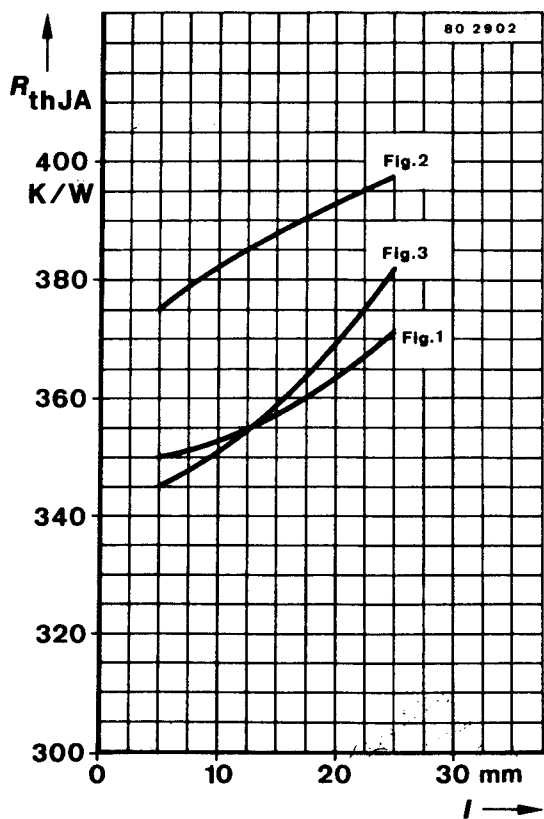
Angle of half sensitivity  $\alpha = 180^\circ$

Special case  
Clear plastic  
Weight max. 0.35 g

### Absolute maximum ratings

Collector-emitter voltage	$V_{CEO}$	32	V
Emitter-collector voltage	$V_{ECO}$	5	V
Collector current	$I_C$	50	mA
Peak collector current			
$\frac{t_p}{T} = 0.5, t_p \leq 10 \text{ ms}$	$I_{CM}$	100	mA
Total power dissipation			
$T_{amb} \leq 55^\circ \text{C}$	$P_{tot}$	100	mW
Junction temperature	$T_j$	100	$^\circ \text{C}$
Storage temperature range	$T_{stg}$	$-25 \dots +100$	$^\circ \text{C}$
Soldering temperature, maximal			
$t \leq 3 \text{ s}$	$T_{sd}^{1)}$	245	$^\circ \text{C}$

<sup>1)</sup> Distance from the touching border  $\geq 1.5$  mm with intermediate PC-board



Thermal resistance

Junction ambient

	Min.	Typ.	Max.	
$R_{thJA}$			450	K/W

Optical and electrical characteristics

$T_{amb} = 25^{\circ}C$

Collector dark current

$V_{CE} = 20 V, E = 0$

$I_{CEO}^{*})$	10	200	nA
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Collector light current

$V_{CE} = 5 V, E_A = 1 \text{ klx}^1)$

$V_{CE} = 5 V, E_e = 1 \text{ mW/cm}^2, \lambda_p = 950 \text{ nm}$

$I_{ca}$	3	mA	
$I_{ca}^{*})$	0.5	1.0	mA

Peak wavelength sensitivity

$\lambda_p$	830	nm
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Range of spectral bandwidth (50 %)

$\lambda_{0.5}$	560 ... 980	nm
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Collector-emitter breakdown voltage

$I_C = 1 \text{ mA}$

$V_{(BR)CEO}^{*})$	32	V
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Collector-emitter saturation voltage

$I_C = 0.1 \text{ mA}, E_e = 1 \text{ mW/cm}^2, \lambda_p = 950 \text{ nm}$

$V_{CEsat}^{*})$	0.3	V
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\*) AQL = 0.65 %

1) Standard illuminant A (DIN 5033/IEC 306-1)

