

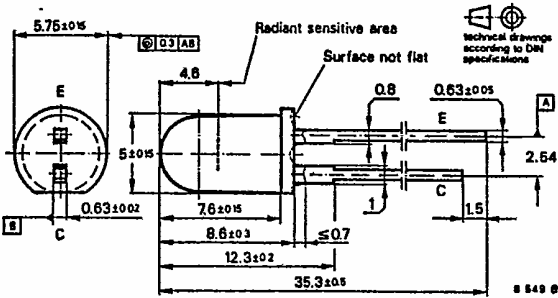
Silicon NPN Epitaxial Planar Phototransistor

Applications: Detector in electronic control and drive circuits

Features:

- Plastic case \varnothing 5 mm (T-1 $\frac{1}{2}$)
- Suitable for visible and near infrared radiation
- High sensitivity
- Wide angle of half sensitivity
- Axial terminals

Dimensions in mm



Angle of half sensitivity
 $\pm \varphi = 20^\circ$
Special case
Clear plastic
Weight max. 0.4 g

Accessories

- Mounting clip Order No. 562136
- Retainer ring Order No. 562135

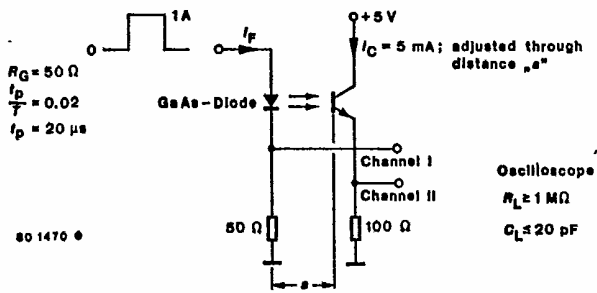
Absolute maximum ratings

Collector-emitter voltage	V_{CEO}	32	V
Emitter-collector voltage	V_{ECO}	5	V
Collector current	I_C	100	mA
Peak collector current $t_p = 0.5, t_p \leq 10 \text{ms}$	I_{CM}	200	mA
Total power dissipation $T_{amb} \leq 47^\circ\text{C}$	P_{tot}	150	mW
Junction temperature	T_j	100	$^\circ\text{C}$
Storage temperature range	T_{stg}	-25...+100	$^\circ\text{C}$
Soldering temperature $t \leq 3 \text{s}$	$T_{sd}^{1)}$	245	$^\circ\text{C}$

¹⁾ Distance from the touching border ≥ 1.5 mm with intermediate PC-board

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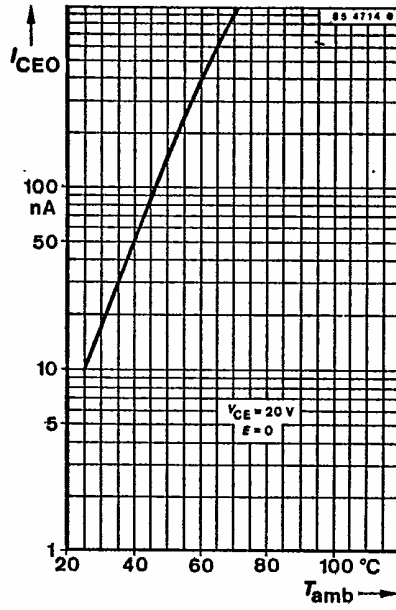
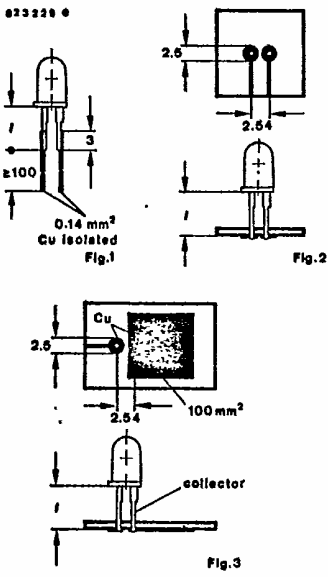
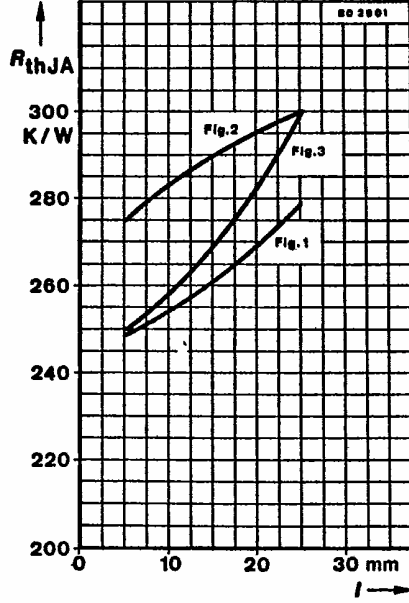
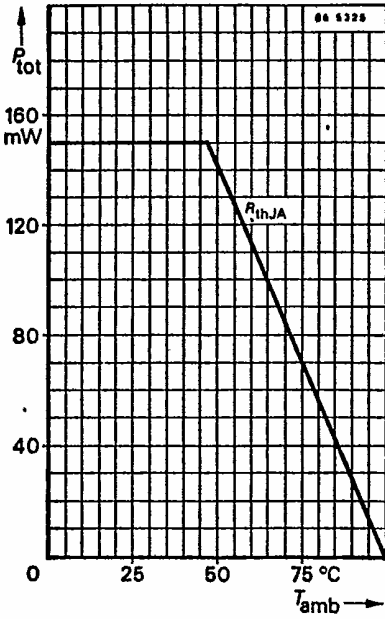
Thermal resistance		Min.	Typ.	Max.	
Junction ambient	R_{thJA}			350	K/W
Optical and electrical characteristics					
$T_{amb} = 25\text{ °C}$					
Collector dark current			10	200	nA
$V_{CE} = 20\text{ V}, E = 0$		$I_{CEO}^{1)}$			
Collector light current			6		mA
$V_{CE} = 5\text{ V}, E_A = 1\text{ klx}$		$I_{CS}^{2)}$			
$V_{CE} = 5\text{ V}, E_e = 1\text{ mW/cm}^2, \lambda_p = 950\text{ nm}$			1	2	mA
Peak wavelength sensitivity	λ_p		780		nm
Range of spectral bandwidth (50%)	$\lambda_{0.5}$		520...950		nm
Collector-emitter breakdown voltage					V
$I_C = 1\text{ mA}$		$V_{(BR)CEO}^{1)}$	32		
Collector-Emitter saturation voltage				0.3	V
$I_C = 1\text{ mA}, E_e = 1\text{ mW/cm}^2, \lambda_p = 950\text{ nm}$		$V_{CEsat}^{1)}$			
Cut-off frequency			170		kHz
$V_S = 5\text{ V}, I_C = 5\text{ mA}, R_L = 100\text{ }\Omega$		f_c			
Switching characteristics					
$V_S = 5\text{ V}, I_C = 5\text{ mA}, R_L = 100\text{ }\Omega$, see test circuit					
Delay time	t_d		1.8		μs
Rise time	t_r		1.6		μs
Turn-on time	t_{on}		3.4		μs
Storage time	t_s		0.3		μs
Fall time	t_f		1.7		μs
Turn-off time	t_{off}		2.0		μs



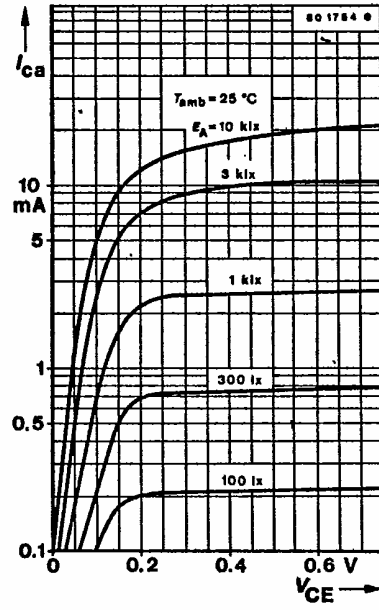
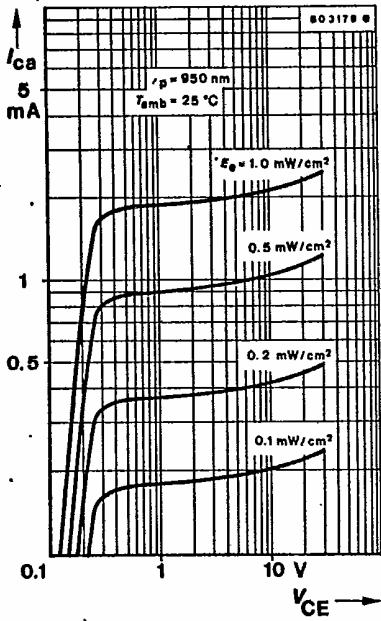
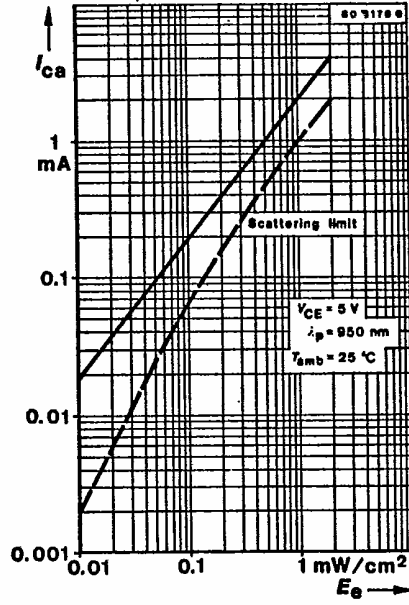
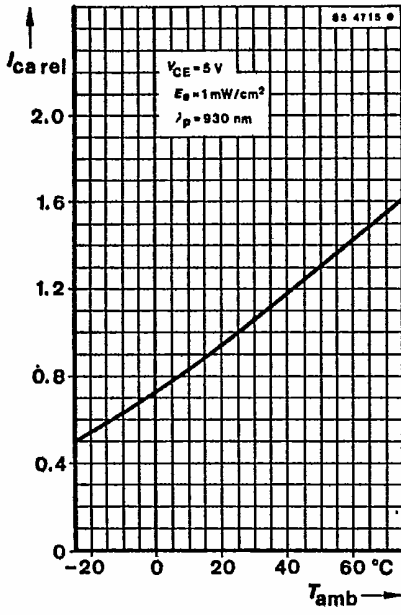
Test circuit

¹⁾ AQL = 0.65 % ²⁾ Standard illuminant A (DIN 5033/IEC 306-1)

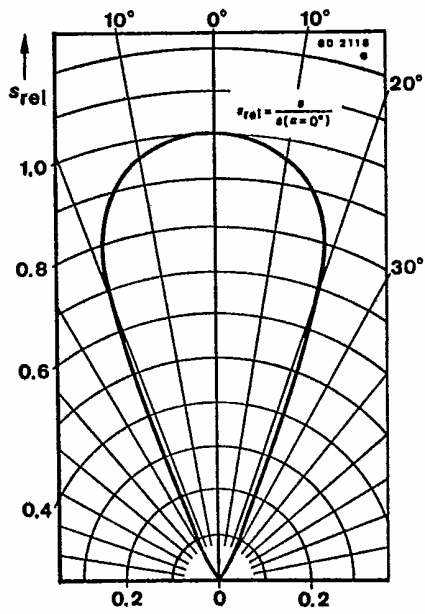
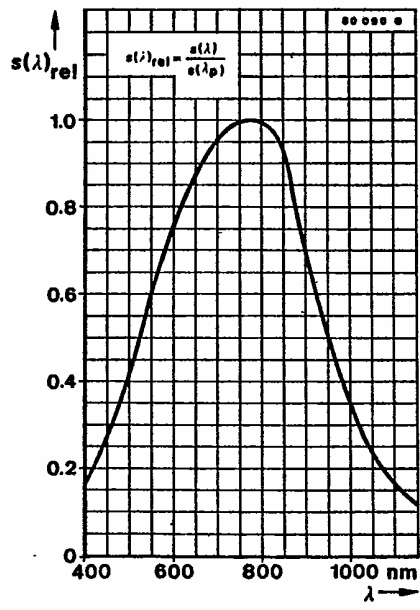
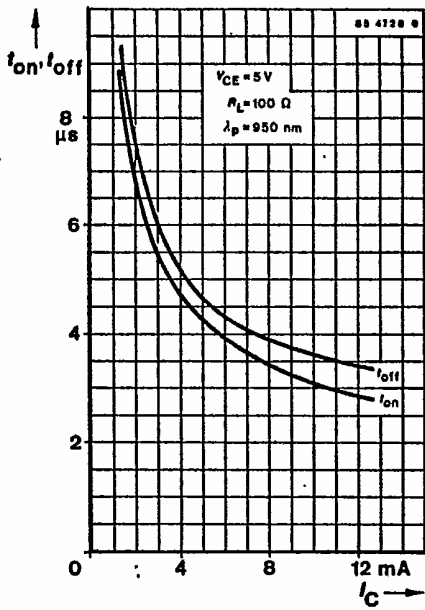
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