

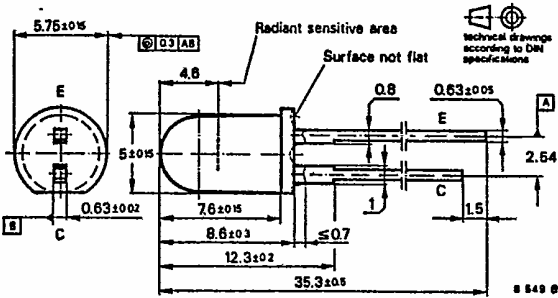
Silicon NPN Epitaxial Planar Phototransistor

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

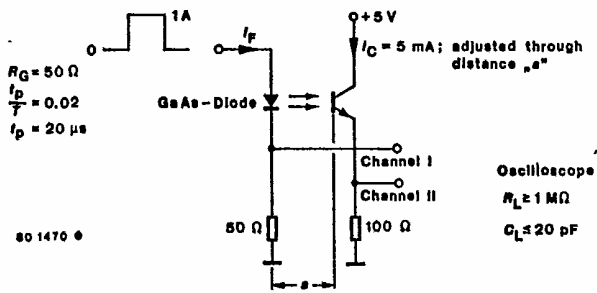
Absolute maximum ratings

| | | | |
|---|---------------|------------|------------------|
| 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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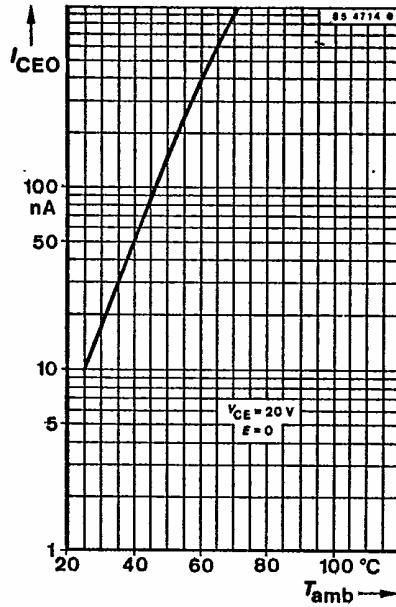
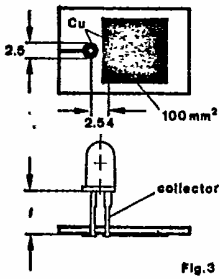
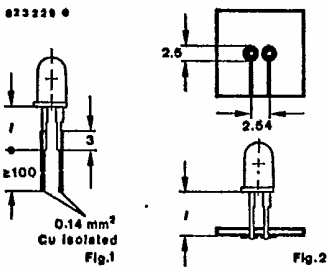
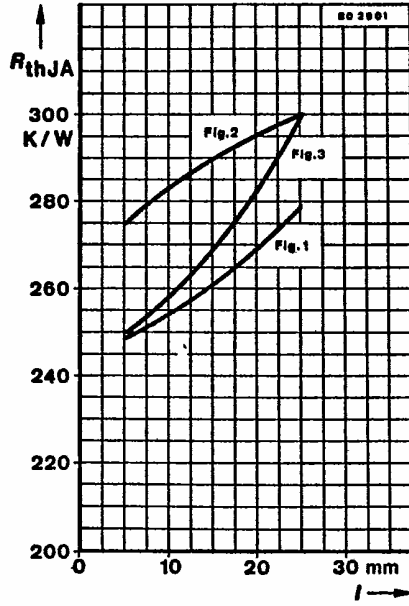
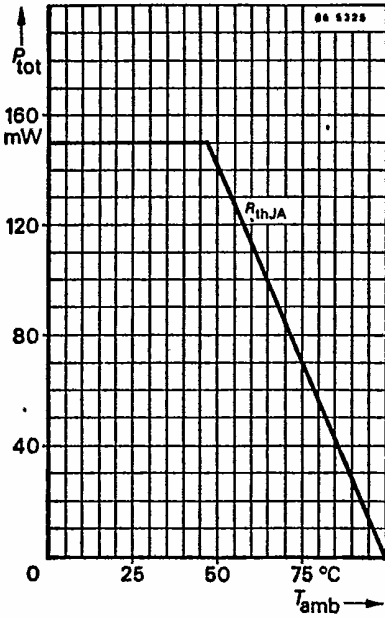
| Thermal resistance | | Min. | Typ. | Max. | |
|---|--------------------|------|-----------|------|---------------|
| Junction ambient | R_{thJA} | | | 350 | K/W |
| Optical and electrical characteristics | | | | | |
| $T_{amb} = 25\text{ °C}$ | | | | | |
| Collector dark current | | | | | |
| $V_{CE} = 20\text{ V}, E = 0$ | $I_{CEO}^{1)}$ | | 10 | 200 | nA |
| Collector light current | | | | | |
| $V_{CE} = 5\text{ V}, E_A = 1\text{ klx}$ | $I_{CS}^{2)}$ | | 6 | | mA |
| $V_{CE} = 5\text{ V}, E_e = 1\text{ mW/cm}^2, \lambda_p = 950\text{ nm}$ | $I_{CS}^{2)}$ | 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 | | | | | |
| $I_C = 1\text{ mA}$ | $V_{(BR)CEO}^{1)}$ | 32 | | | V |
| Collector-Emitter saturation voltage | | | | | |
| $I_C = 1\text{ mA}, E_e = 1\text{ mW/cm}^2, \lambda_p = 950\text{ nm}$ | $V_{CEsat}^{1)}$ | | | 0.3 | V |
| Cut-off frequency | | | | | |
| $V_S = 5\text{ V}, I_C = 5\text{ mA}, R_L = 100\text{ }\Omega$ | f_c | | 170 | | kHz |
| 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 |



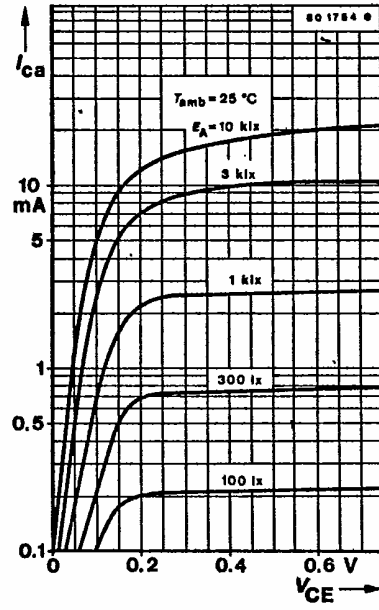
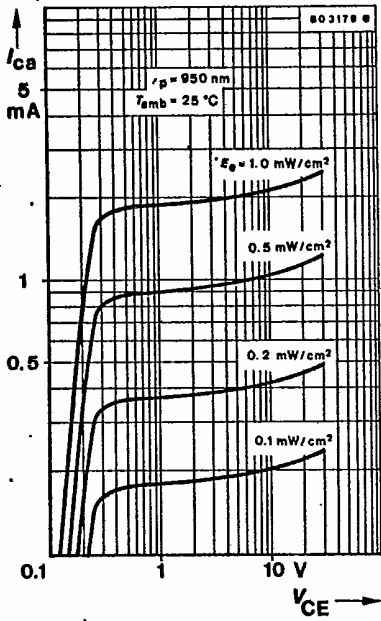
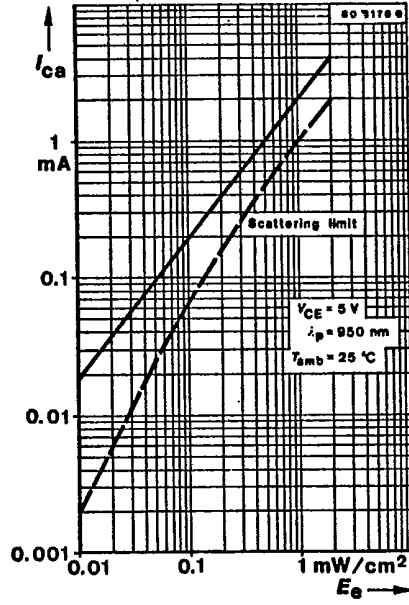
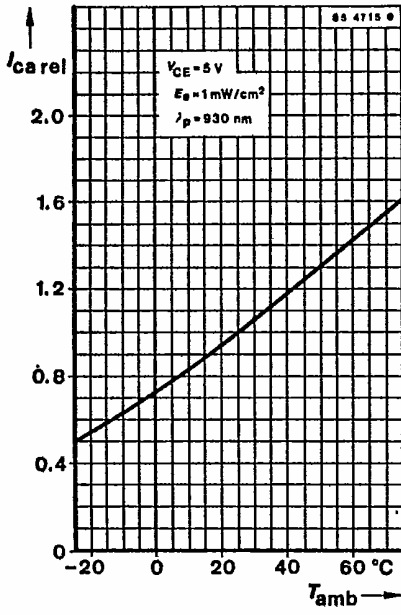
Test circuit

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

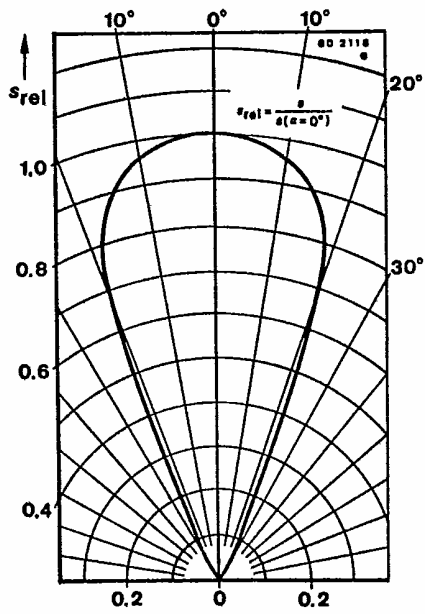
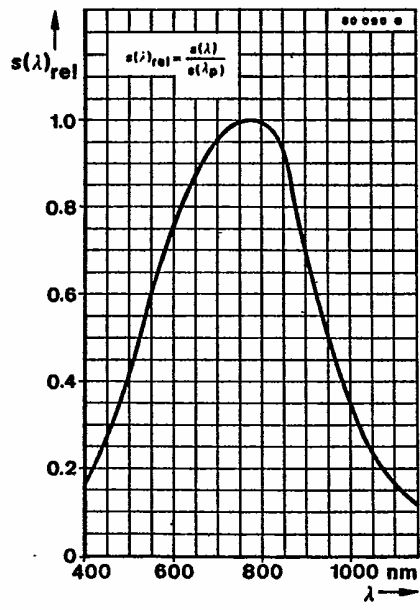
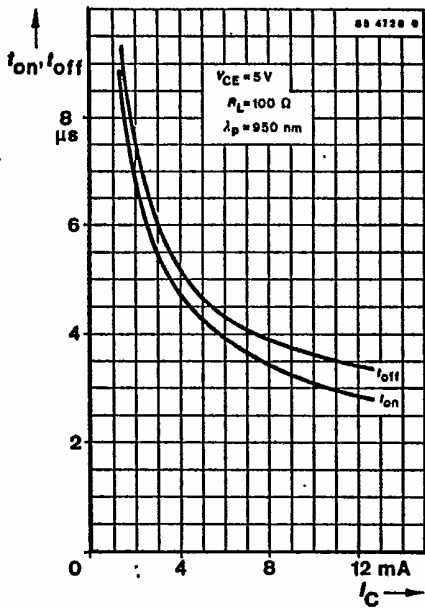
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