

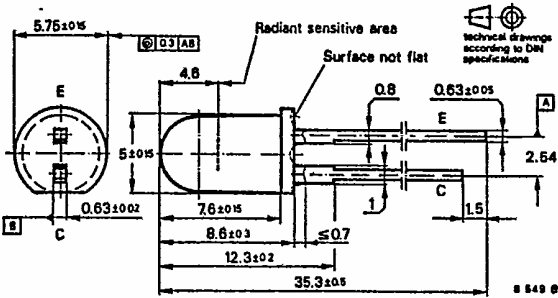
**Silicon NPN Epitaxial Planar Phototransistor**

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

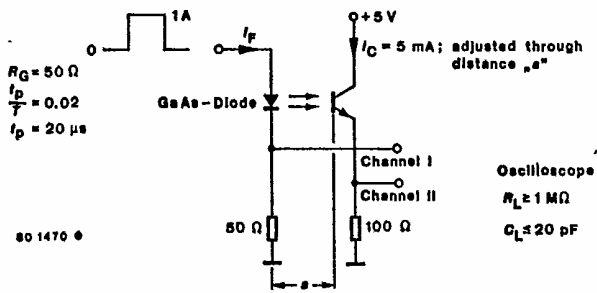
Absolute maximum ratings

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

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

# BPW 40

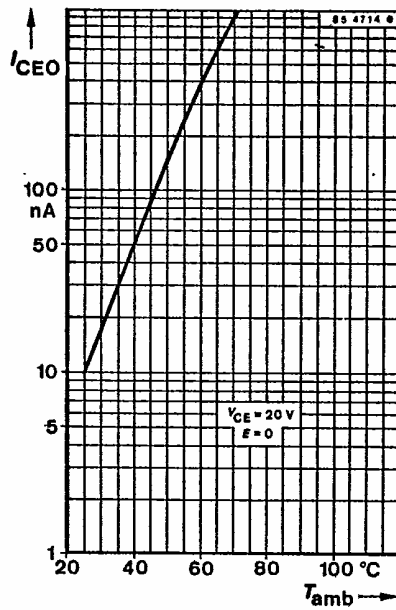
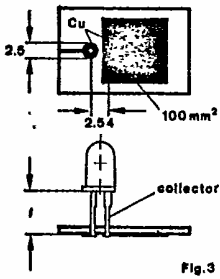
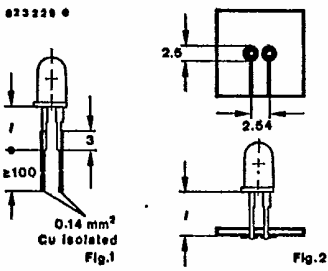
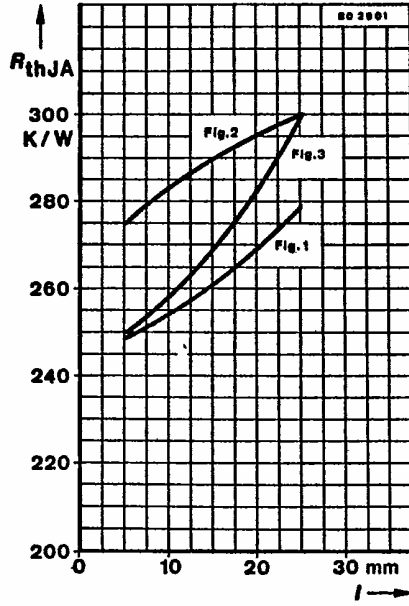
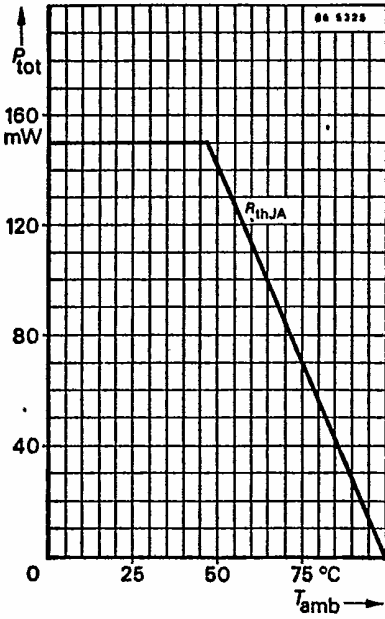
| Thermal resistance  |                    | Min. | Typ.      | Max. |               |
|---|--------------------|------|-----------|------|---------------|
| Junction ambient  | $R_{thJA}$         |      |           | 350  | K/W           |
| <b>Optical and electrical characteristics</b>            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



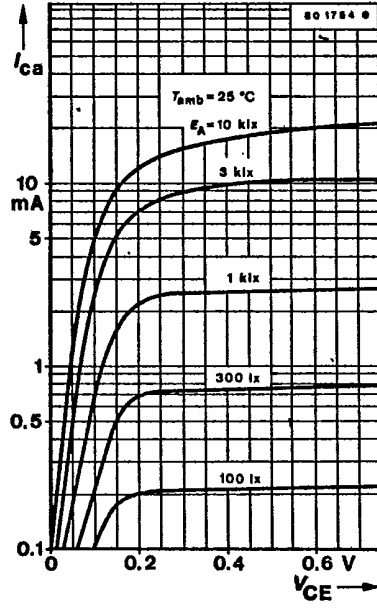
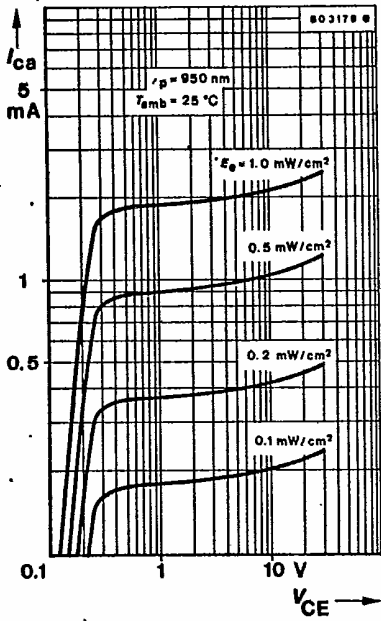
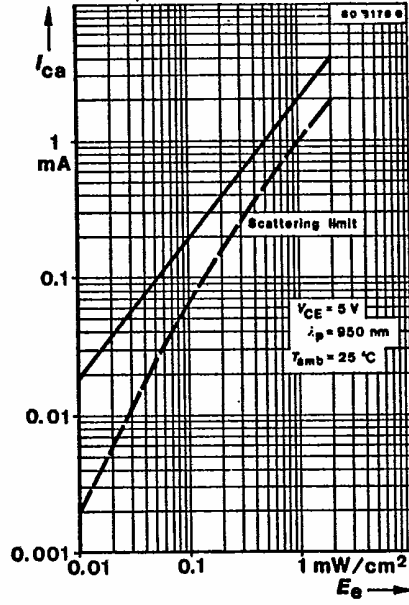
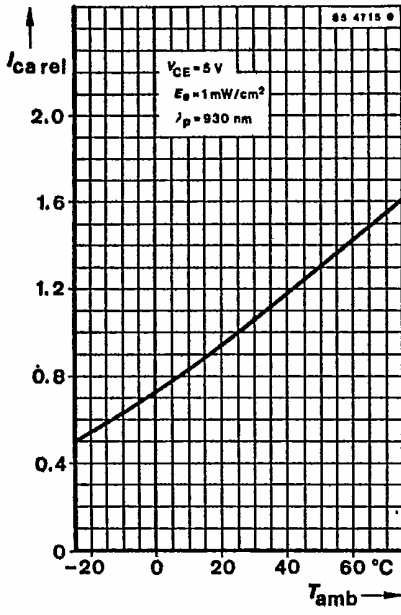
Test circuit

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

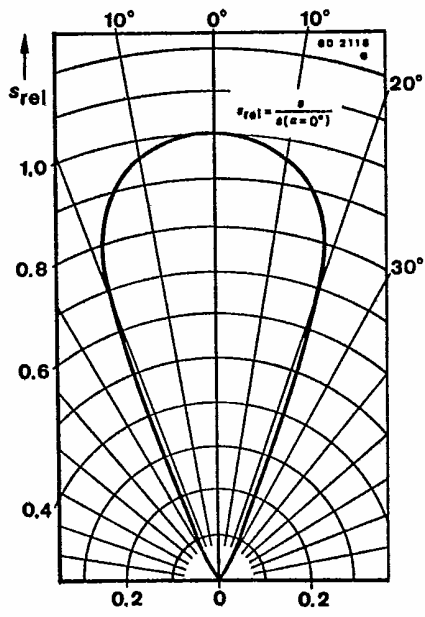
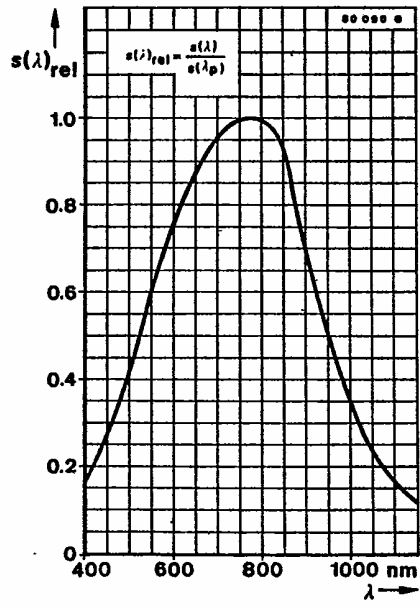
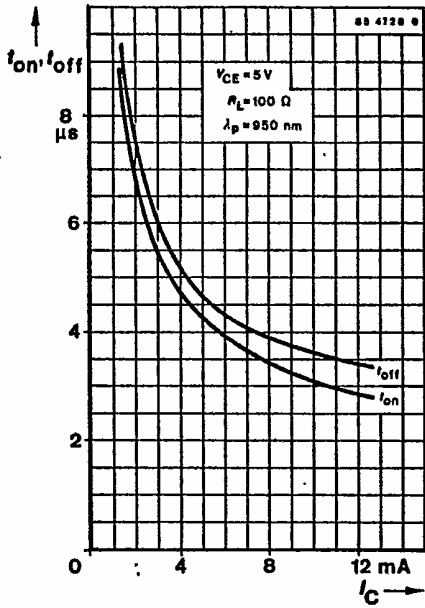
# BPW 40



# BPW 40



# BPW 40



This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.