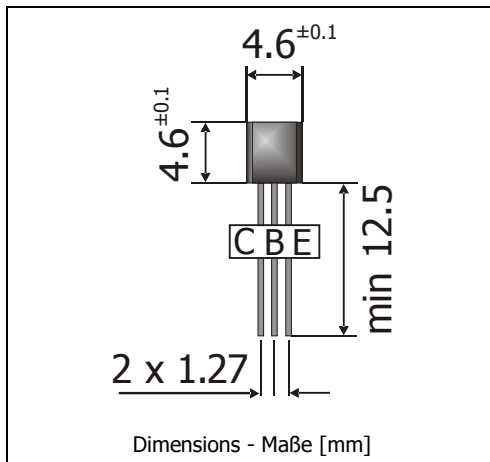


**BC337-xBK / BC338-xBK**
**NPN**
**General Purpose Si-Epitaxial Planar Transistors  
Si-Epitaxial Planar-Transistoren für universellen Einsatz**
**NPN**

Version 2010-05-27


 Power dissipation  
Verlustleistung

625 mW

 Plastic case  
Kunststoffgehäuse

 TO-92  
(10D3)

Weight approx. – Gewicht ca.

0.18 g

 Plastic material has UL classification 94V-0  
Gehäusematerial UL94V-0 klassifiziert

 Special packaging bulk  
Sonder-Lieferform Schüttgut

**Maximum ratings (T<sub>A</sub> = 25°C)**
**Grenzwerte (T<sub>A</sub> = 25°C)**

|  |           |                  | <b>BC337</b>         | <b>BC338</b> |
|--|-----------|------------------|----------------------|--------------|
| Collector-Emitter-volt. – Kollektor-Emitter-Spannung | E-B short | V <sub>CES</sub> | 50 V                 | 30 V         |
| Collector-Emitter-volt. – Kollektor-Emitter-Spannung | B open    | V <sub>CEO</sub> | 45 V                 | 25 V         |
| Emitter-Base-voltage – Emitter-Basis-Spannung        | C open    | V <sub>EBO</sub> | 5 V                  |              |
| Power dissipation – Verlustleistung                  |           | P <sub>tot</sub> | 625 mW <sup>1)</sup> |              |
| Collector current – Kollektorstrom (dc)              |           | I <sub>C</sub>   | 800 mA               |              |
| Peak Collector current – Kollektor-Spitzenstrom      |           | I <sub>CM</sub>  | 1 A                  |              |
| Base current – Basisstrom                            |           | I <sub>B</sub>   | 100 mA               |              |
| Junction temperature – Sperrschichttemperatur        |           | T <sub>j</sub>   | -55...+150°C         |              |
| Storage temperature – Lagerungstemperatur            |           | T <sub>S</sub>   | -55...+150°C         |              |

**Characteristics (T<sub>j</sub> = 25°C)**
**Kennwerte (T<sub>j</sub> = 25°C)**

|   |           |                    | <b>Min.</b> | <b>Typ.</b> | <b>Max.</b> |
|---|-----------|--------------------|-------------|-------------|-------------|
| DC current gain – Kollektor-Basis-Stromverhältnis <sup>2)</sup>                       |           |                    |             |             |             |
| V <sub>CE</sub> = 1 V, I <sub>C</sub> = 100 mA  | Group -16 | h <sub>FE</sub>    | 100         | 160         | 250         |
|   | Group -25 | h <sub>FE</sub>    | 160         | 250         | 400         |
|   | Group -40 | h <sub>FE</sub>    | 250         | 400         | 630         |
| V <sub>CE</sub> = 1 V, I <sub>C</sub> = 300 mA  | Group -16 | h <sub>FE</sub>    | 60          | 130         | –           |
|   | Group -25 | h <sub>FE</sub>    | 100         | 200         | –           |
|   | Group -40 | h <sub>FE</sub>    | 170         | 320         | –           |
| Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungsspg. <sup>2)</sup> |           |                    |             |             |             |
| I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA                                       |           | V <sub>CEsat</sub> | –           | –           | 0.7 V       |

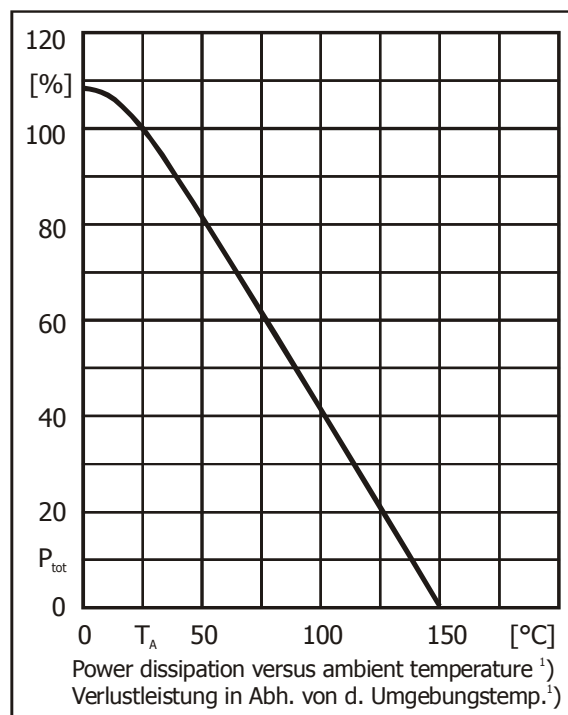
1 Valid, if leads are kept at ambient temperature at a distance of 2 mm from case

Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

 2 Tested with pulses t<sub>p</sub> = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 μs, Schaltverhältnis ≤ 2%

**Characteristics ( $T_j = 25^\circ\text{C}$ )**
**Kennwerte ( $T_j = 25^\circ\text{C}$ )**

|   |       |           | Min.                             | Typ.                             | Max.             |
|---|-------|-----------|----------------------------------|----------------------------------|------------------|
| Base-Emitter-voltage – Basis-Emitter-Spannung <sup>2)</sup><br>$V_{CE} = 1\text{ V}, I_C = 300\text{ mA}$         |       |           | $V_{BE}$                         | –                                | 1.2 V            |
| Collector-Emitter cutoff current – Kollektor-Emitter-Reststrom  |       |           |                                  |                                  |                  |
| $V_{CE} = 45\text{ V}, (\text{B-E short})$  | BC337 | $I_{CES}$ | –                                | 2 nA                             | 100 nA           |
| $V_{CE} = 25\text{ V}, (\text{B-E short})$  | BC338 | $I_{CES}$ | –                                | 2 nA                             | 100 nA           |
| $V_{CE} = 45\text{ V}, T_j = 125^\circ\text{C}, (\text{B-E short})$   | BC337 | $I_{CES}$ | –                                | –                                | 10 $\mu\text{A}$ |
| $V_{CE} = 25\text{ V}, T_j = 125^\circ\text{C}, (\text{B-E short})$   | BC338 | $I_{CES}$ | –                                | –                                | 10 $\mu\text{A}$ |
| Gain-Bandwidth Product – Transitfrequenz<br>$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 50\text{ MHz}$          |       |           | $f_T$                            | 100 MHz                          | –                |
| Collector-Base Capacitance – Kollektor-Basis-Kapazität<br>$V_{CB} = 10\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$ |       |           | $C_{CBO}$                        | 12 pF                            | –                |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft                       |       |           | $R_{thA}$                        | < 200 K/W <sup>1)</sup>          |                  |
| Recommended complementary PNP transistors<br>Empfohlene komplementäre PNP-Transistoren                            |       |           | BC327 / BC328                    |                                  |                  |
| Available current gain groups per type<br>Lieferbare Stromverstärkungsgruppen pro Typ                             |       |           | BC337-16<br>BC337-25<br>BC337-40 | BC338-16<br>BC338-25<br>BC338-40 |                  |



<sup>2)</sup> Tested with pulses  $t_p = 300\ \mu\text{s}$ , duty cycle  $\leq 2\%$  – Gemessen mit Impulsen  $t_p = 300\ \mu\text{s}$ , Schaltverhältnis  $\leq 2\%$

<sup>1)</sup> Valid, if leads are kept at ambient temperature at a distance of 2 mm from case

Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden