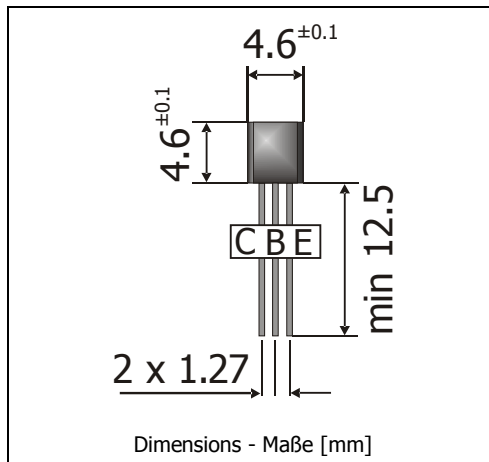


**BC337-xBK / BC338-xBK****NPN**

**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       |

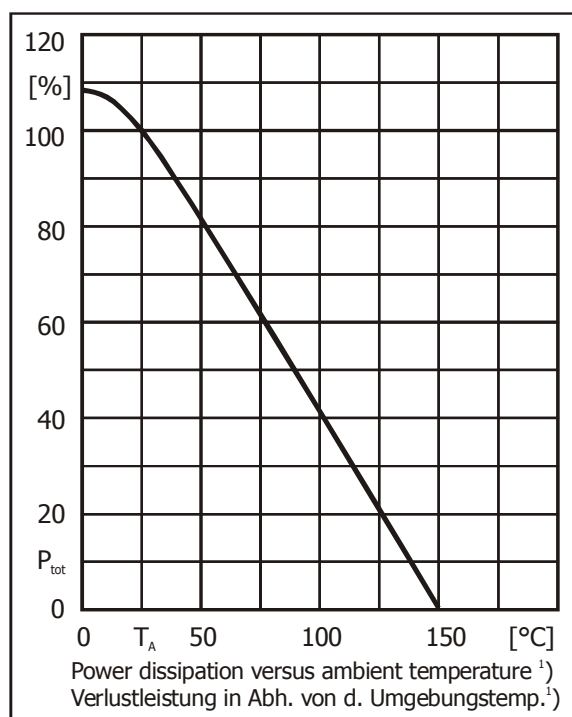
1 Valid, if leads are kept at ambient temperature at a distance of 2 mm from case

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

|                                                                                             |                  |                         | Min.                             | Typ.    | Max.                             |
|---------------------------------------------------------------------------------------------|------------------|-------------------------|----------------------------------|---------|----------------------------------|
| Base-Emitter-voltage – Basis-Emitter-Spannung <sup>2)</sup>                                 |                  |                         |                                  |         |                                  |
| V <sub>CE</sub> = 1 V, I <sub>C</sub> = 300 mA,                                             | V <sub>BE</sub>  |                         | –                                | –       | 1.2 V                            |
| Collector-Emitter cutoff current – Kollektor-Emitter-Reststrom                              |                  |                         |                                  |         |                                  |
| V <sub>CE</sub> = 45 V, (B-E short)                                                         | BC337            | I <sub>CES</sub>        | –                                | 2 nA    | 100 nA                           |
| V <sub>CE</sub> = 25 V, (B-E short)                                                         | BC338            | I <sub>CES</sub>        | –                                | 2 nA    | 100 nA                           |
| V <sub>CE</sub> = 45 V, T <sub>j</sub> = 125°C, (B-E short)                                 | BC337            | I <sub>CES</sub>        | –                                | –       | 10 µA                            |
| V <sub>CE</sub> = 25 V, T <sub>j</sub> = 125°C, (B-E short)                                 | BC338            | I <sub>CES</sub>        | –                                | –       | 10 µA                            |
| Gain-Bandwidth Product – Transitfrequenz                                                    |                  |                         |                                  |         |                                  |
| V <sub>CE</sub> = 5 V, I <sub>C</sub> = 10 mA, f = 50 MHz                                   | f <sub>T</sub>   |                         | –                                | 100 MHz | –                                |
| Collector-Base Capacitance – Kollektor-Basis-Kapazität                                      |                  |                         |                                  |         |                                  |
| V <sub>CB</sub> = 10 V, I <sub>E</sub> = i <sub>e</sub> = 0, f = 1 MHz                      | C <sub>CBO</sub> |                         | –                                | 12 pF   | –                                |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft | R <sub>thA</sub> | < 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<sub>p</sub> = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 µs, Schaltverhältnis ≤ 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