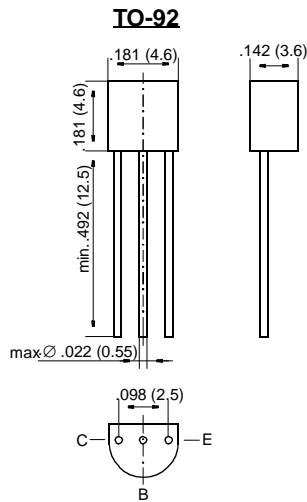


# BC327, BC328

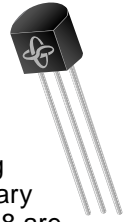
## Small Signal Transistors (PNP)



Dimensions in inches and (millimeters)

### FEATURES

- ◆ PNP Silicon Epitaxial Planar Transistors for switching and amplifier applications. Especially suitable for AF-driver stages and low-power output stages.
- ◆ These types are also available subdivided into three groups -16, -25, and -40, according to their DC current gain. As complementary types, the NPN transistors BC337 and BC338 are recommended.
- ◆ On special request, these transistors are also manufactured in the pin configuration TO-18.



### MECHANICAL DATA

**Case:** TO-92 Plastic Package

**Weight:** approx. 0.18 g

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

|   |       | Symbol     | Value             | Unit |
|---|-------|------------|-------------------|------|
| Collector-Emitter Voltage                     | BC327 | $-V_{CES}$ | 50                | V    |
|   | BC328 | $-V_{CES}$ | 30                | V    |
| Collector-Emitter Voltage                     | BC327 | $-V_{CEO}$ | 45                | V    |
|   | BC328 | $-V_{CEO}$ | 25                | V    |
| Emitter-Base Voltage                          |       | $-V_{EBO}$ | 5                 | V    |
| Collector Current                             |       | $-I_C$     | 800               | mA   |
| Peak Collector Current                        |       | $-I_{CM}$  | 1                 | A    |
| Base Current                                  |       | $-I_B$     | 100               | mA   |
| Power Dissipation at $T_{amb} = 25\text{ °C}$ |       | $P_{tot}$  | 625 <sup>1)</sup> | mW   |
| Junction Temperature                          |       | $T_j$      | 150               | °C   |
| Storage Temperature Range                     |       | $T_S$      | -65 to +150       | °C   |

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

# BC327, BC328

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

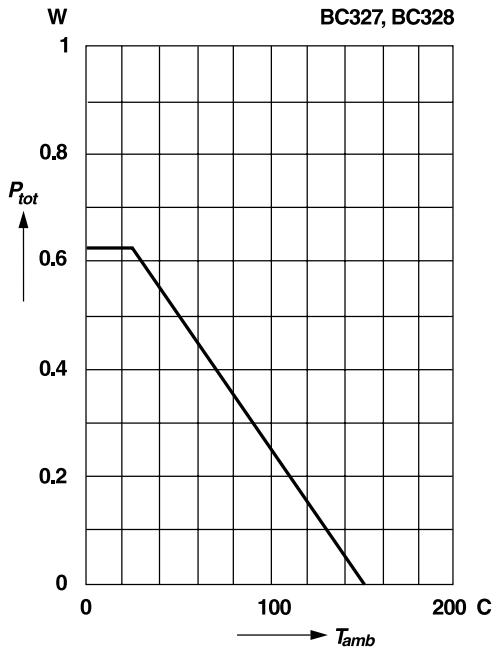
|  | Symbol   | Min.             | Typ.             | Max.                   | Unit                                       |
|--|--|------------------|------------------|------------------------|--|
| DC Current Gain<br>at $-V_{CE} = 1\text{ V}$ , $-I_C = 100\text{ mA}$<br><b>Current Gain Group-16</b>  | $h_{FE}$   | 100              | 160              | 250                    | —  |
| -25  | $h_{FE}$   | 160              | 250              | 400                    | —  |
| -40  | $h_{FE}$   | 250              | 400              | 630                    | —  |
| at $-V_{CE} = 1\text{ V}$ , $-I_C = 300\text{ mA}$<br><b>Current Gain Group-16</b>   | $h_{FE}$   | 60               | 130              | —                      | —  |
| -25  | $h_{FE}$   | 100              | 200              | —                      | —  |
| -40  | $h_{FE}$   | 170              | 320              | —                      | —  |
| Thermal Resistance Junction to Ambient Air   | $R_{thJA}$   | —                | —                | 200 <sup>1)</sup>      | K/W  |
| Collector-Emitter Cutoff Current<br>at $-V_{CE} = 45\text{ V}$<br>at $-V_{CE} = 25\text{ V}$<br>at $-V_{CE} = 45\text{ V}$ , $T_{amb} = 125\text{ °C}$<br>at $-V_{CE} = 25\text{ V}$ , $T_{amb} = 125\text{ °C}$ | <b>BC327</b><br>$-I_{CES}$<br><b>BC328</b><br>$-I_{CES}$<br><b>BC327</b><br>$-I_{CES}$<br><b>BC328</b><br>$-I_{CES}$ | —<br>—<br>—<br>— | 2<br>2<br>—<br>— | 100<br>100<br>10<br>10 | nA<br>nA<br>$\mu\text{A}$<br>$\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage<br>at $-I_C = 10\text{ mA}$  | <b>BC327</b><br>$-V_{(BR)CEO}$<br><b>BC328</b><br>$-V_{(BR)CEO}$   | 45<br>25         | —<br>—           | —<br>—                 | V<br>V                                     |
| Collector-Emitter Breakdown Voltage<br>at $-I_C = 0.1\text{ mA}$   | <b>BC327</b><br>$-V_{(BR)CES}$<br><b>BC328</b><br>$-V_{(BR)CES}$   | 50<br>30         | —<br>—           | —<br>—                 | V<br>V                                     |
| Emitter-Base Breakdown Voltage<br>at $-I_E = 0.1\text{ mA}$  | $-V_{(BR)EBO}$   | 5                | —                | —                      | V  |
| Collector Saturation Voltage<br>at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$  | $-V_{CEsat}$   | —                | —                | 0.7                    | V  |
| Base-Emitter Voltage<br>at $-V_{CE} = 1\text{ V}$ , $-I_C = 300\text{ mA}$   | $-V_{BE}$  | —                | —                | 1.2                    | V  |
| Gain-Bandwidth Product<br>at $-V_{CE} = 5\text{ V}$ , $-I_C = 10\text{ mA}$ , $f = 50\text{ MHz}$  | $f_T$  | —                | 100              | —                      | MHz  |
| Collector-Base Capacitance<br>at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$  | $C_{CBO}$  | —                | 12               | —                      | pF   |

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

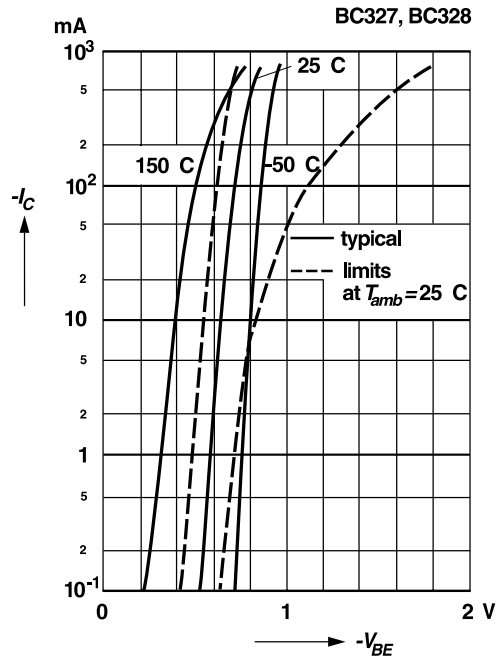
# RATINGS AND CHARACTERISTIC CURVES BC327, BC328

## Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

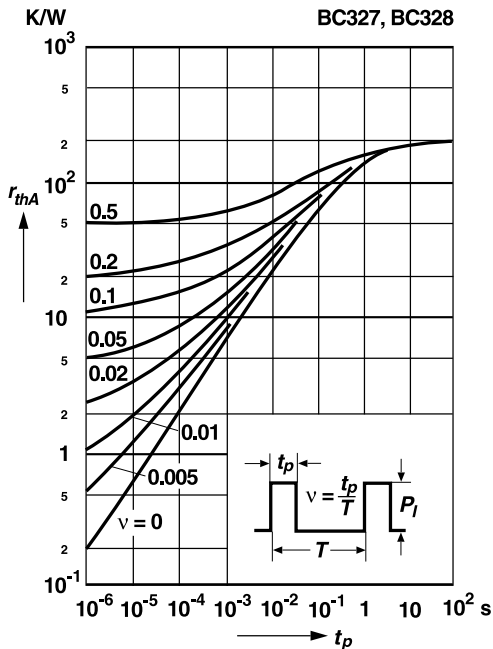


## Collector current versus base-emitter voltage

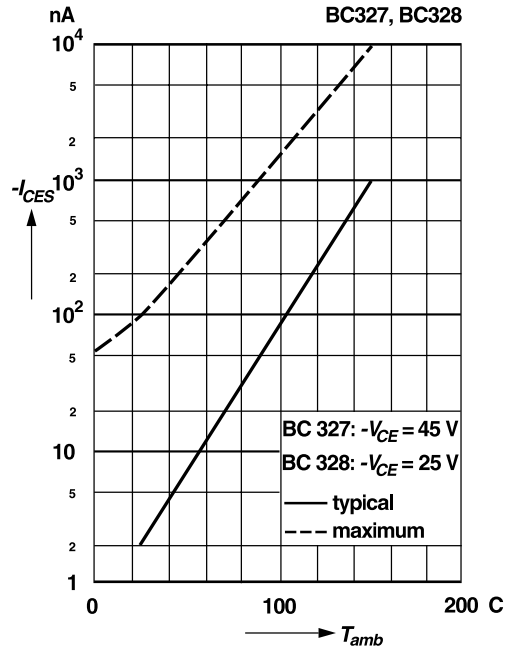


## Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

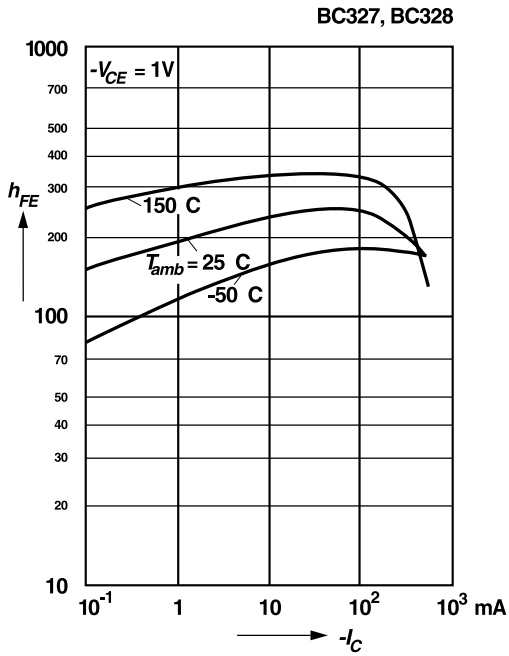


## Collector-emitter cutoff current versus ambient temperature

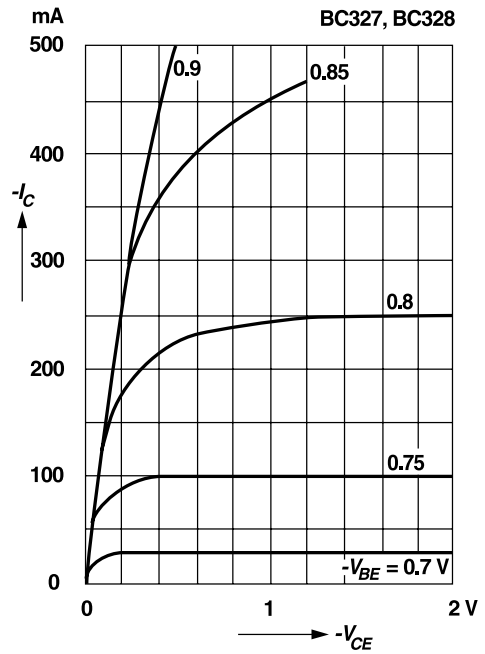


# RATINGS AND CHARACTERISTIC CURVES BC327, BC328

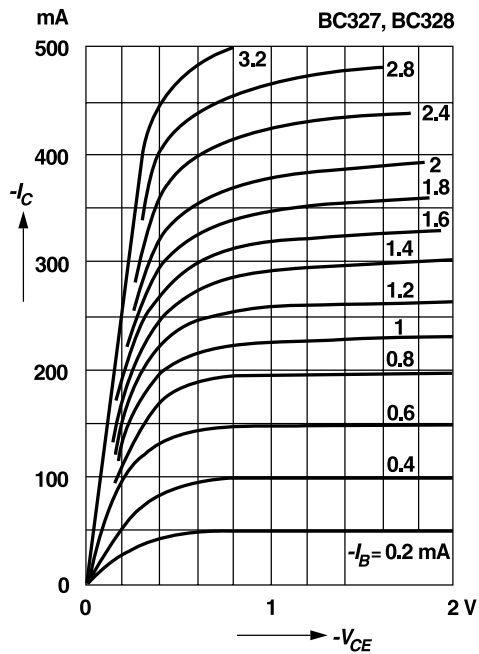
DC current gain  
versus collector current



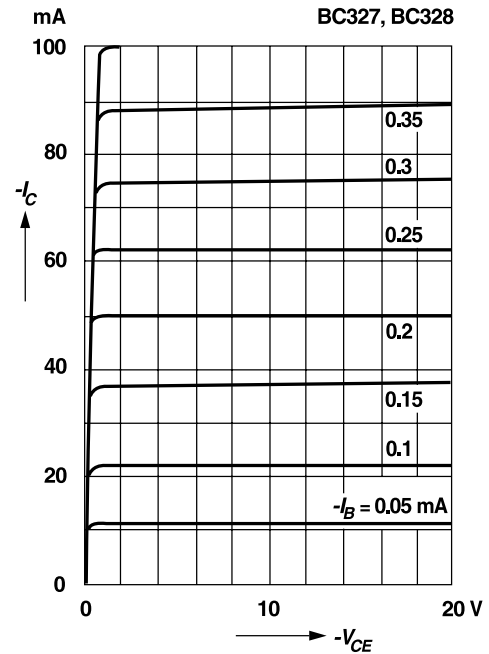
Common emitter  
collector characteristics



Common emitter  
collector characteristics

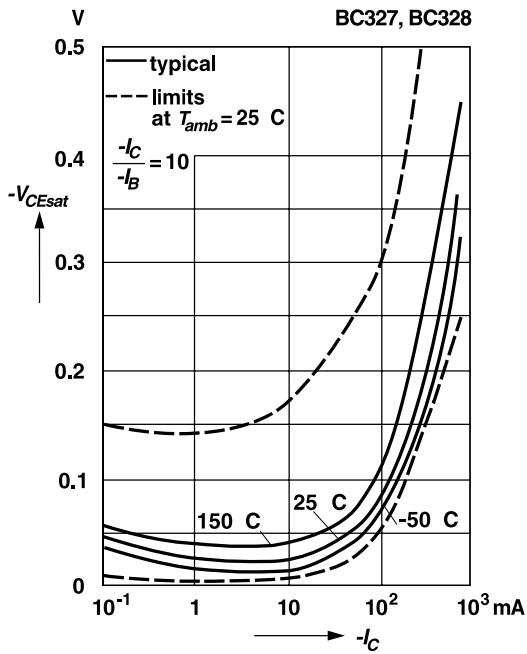


Common emitter  
collector characteristics

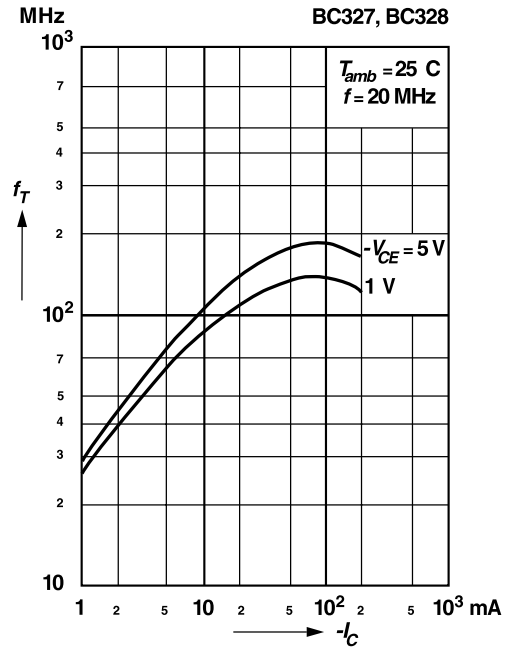


# RATINGS AND CHARACTERISTIC CURVES BC327, BC328

Collector saturation voltage  
versus collector current



Gain-bandwidth product  
versus collector current



Base saturation voltage  
versus collector current

