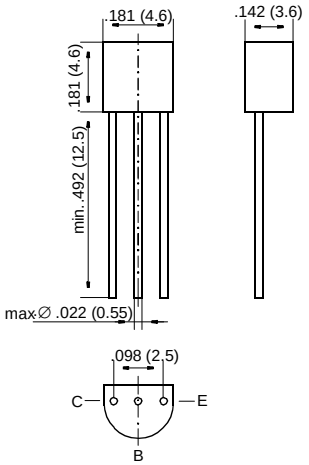
# BC327, BC328

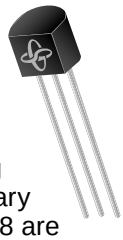
## Small Signal Transistors (PNP)

**TO-92**




*Dimensions in inches and (millimeters)*

### FEATURES



- PNP Silicon Epitaxial Planar Transistors for switching and amplifier applications. Especially suit-able 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**<br>**BC328** | $-V_{CES}$<br>$-V_{CES}$ | 50<br>30 | V<br>V |
| Collector-Emitter Voltage | **BC327**<br>**BC328** | $-V_{CEO}$<br>$-V_{CEO}$ | 45<br>25 | V<br>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 °C | | $P_{tot}$ | 625[1)] | mW |
| Junction Temperature | | $T_j$ | 150 | °C |
| Storage Temperature Range | | $T_S$ | –65 to +150 | °C |

[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

## ELECTRICAL CHARACTERISTICS

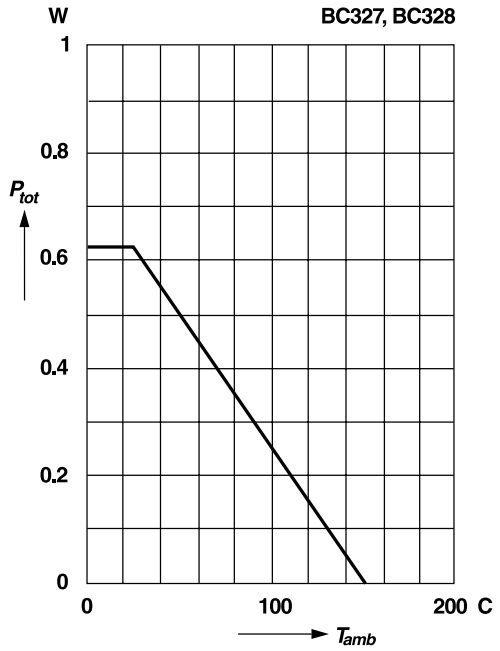
Ratings at 25 °C ambient temperature unless otherwise specified

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

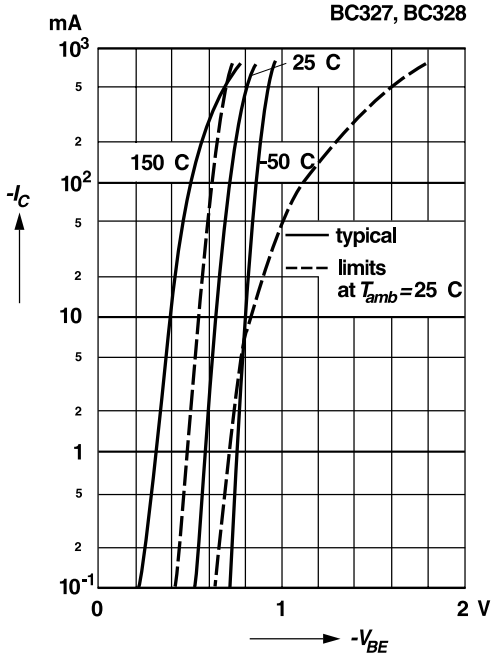
[1)] Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

### Admissible power dissipation versus ambient temperature

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

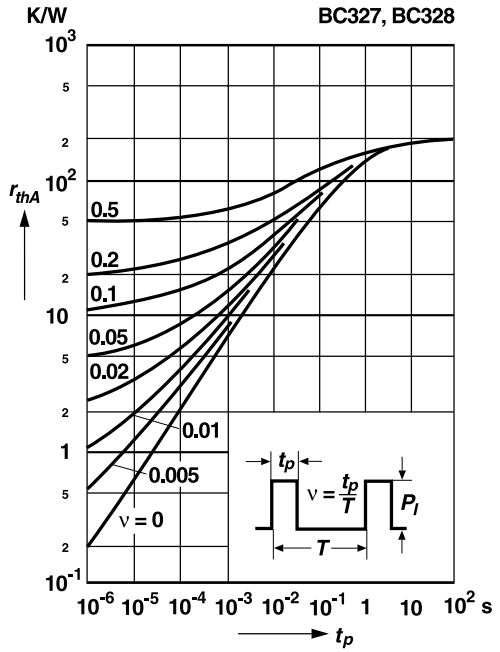



### Collector current versus base-emitter voltage

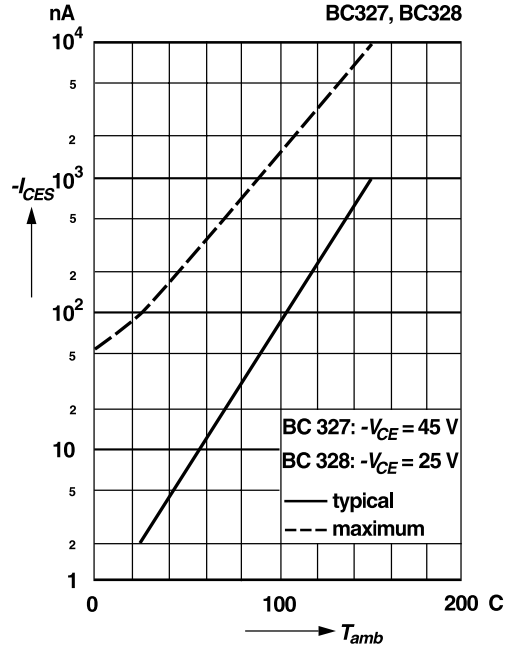



### Pulse thermal resistance versus pulse duration

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




### Collector-emitter cutoff current versus ambient temperature

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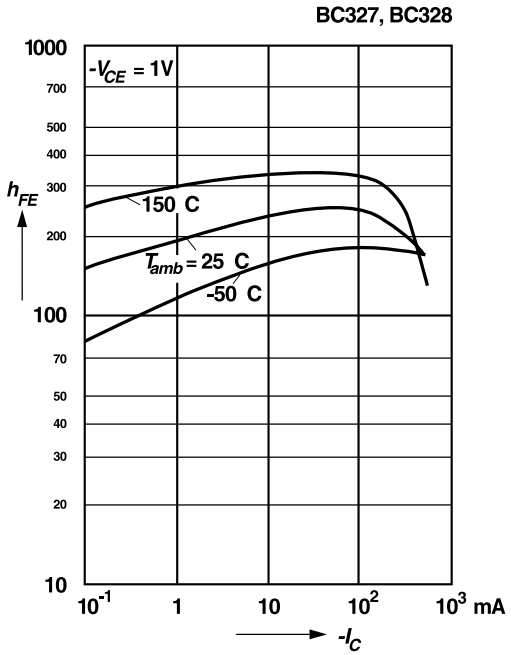
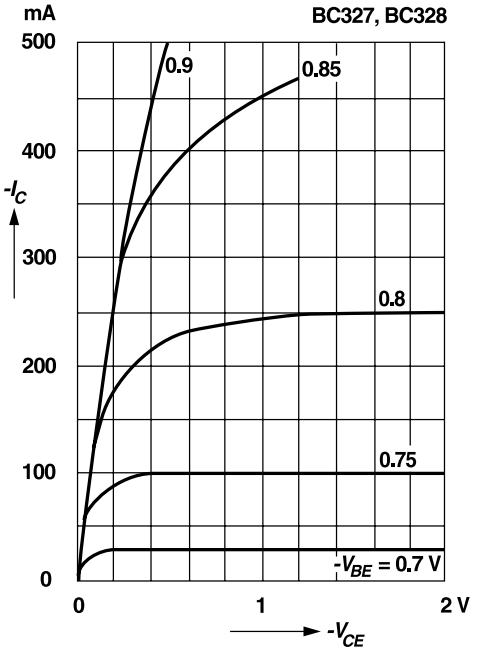
# RATINGS AND CHARACTERISTIC CURVES BC327, BC328

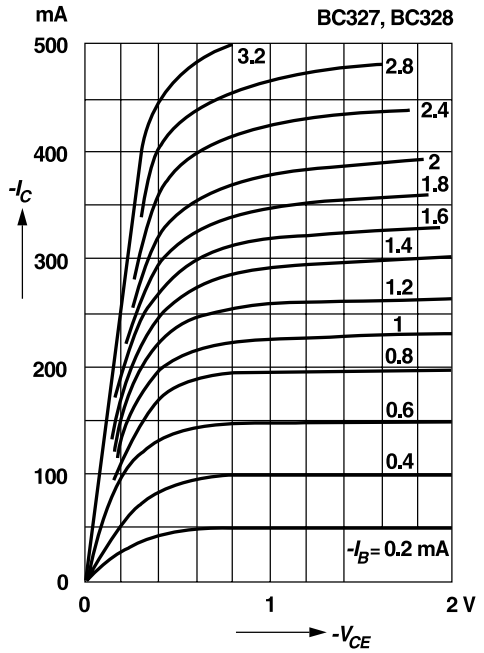
**DC current gain**
**versus collector current**



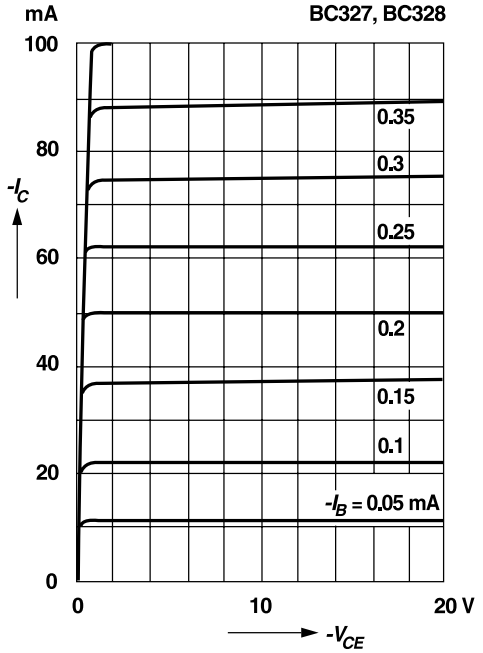

**Common emitter**
**collector characteristics**




**Common emitter**
**collector characteristics**




**Common emitter**
**collector characteristics**

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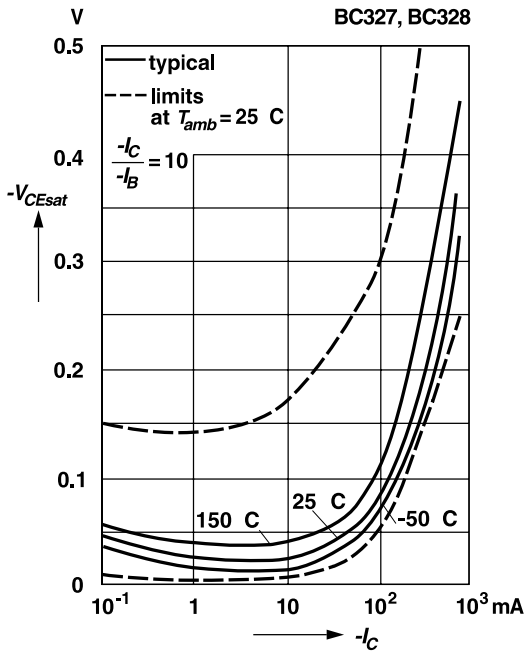
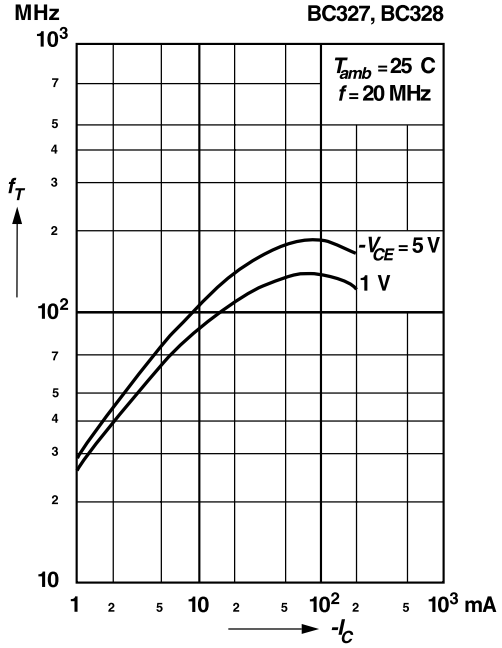
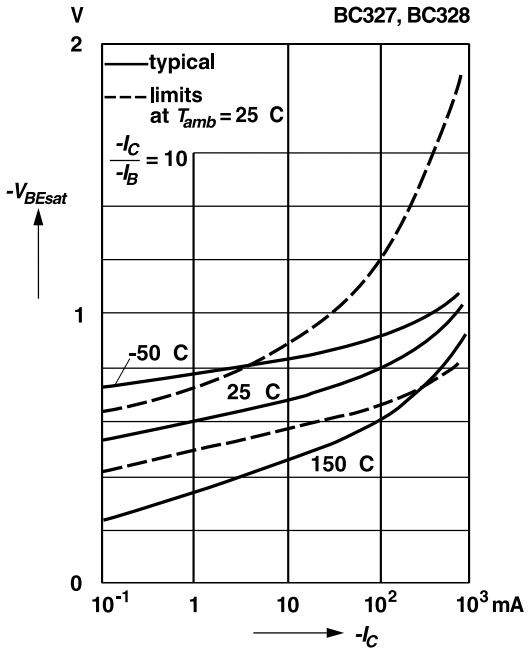
**Collector saturation voltage versus collector current**




**Gain-bandwidth product versus collector current**




**Base saturation voltage versus collector current**

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