

BC327/328

Switching and Amplifier Applications

- Suitable for AF-Driver stages and low power output stages
- Complement to BC337/BC338



PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|---------------------------|-----------|------------------|
| V_{CES} | Collector-Emitter Voltage | | |
| | : BC327 | -50 | V |
| | : BC328 | -30 | V |
| V_{CEO} | Collector-Emitter Voltage | | |
| | : BC327 | -45 | V |
| | : BC328 | -25 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current (DC) | -800 | mA |
| P_C | Collector Dissipation | 625 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -55 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------------------|--------------------------------------|---|------|------|------|-------|
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = -10\text{mA}, I_B = 0$ | | | | |
| | : BC327 | | -45 | | | V |
| | : BC328 | | -25 | | | V |
| BV_{CES} | Collector-Emitter Breakdown Voltage | $I_C = -0.1\text{mA}, V_{BE} = 0$ | | | | |
| | : BC327 | | -50 | | | V |
| | : BC328 | | -30 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E = -10\mu\text{A}, I_C = 0$ | -5 | | | V |
| I_{CES} | Collector Cut-off Current | | | | | |
| | : BC307 | $V_{CE} = -45\text{V}, V_{BE} = 0$ | | -2 | -100 | nA |
| | : BC338 | $V_{CE} = -25\text{V}, V_{BE} = 0$ | | -2 | -100 | nA |
| h_{FE1} h_{FE2} | DC Current Gain | $V_{CE} = -1\text{V}, I_C = -100\text{mA}$ | 100 | | 630 | |
| | | $V_{CE} = -1\text{V}, I_C = -300\text{mA}$ | 40 | | | |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C = -500\text{mA}, I_B = -50\text{mA}$ | | | -0.7 | V |
| $V_{BE}(\text{on})$ | Base-Emitter On Voltage | $V_{CE} = -1\text{V}, I_C = -300\text{mA}$ | | | -1.2 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 20\text{MHz}$ | | 100 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 12 | | pF |

h_{FE} Classification

| Classification | 16 | 25 | 40 |
|----------------|-----------|-----------|-----------|
| h_{FE1} | 100 ~ 250 | 160 ~ 400 | 250 ~ 630 |
| h_{FE2} | 60- | 100- | 170- |

Typical Characteristics

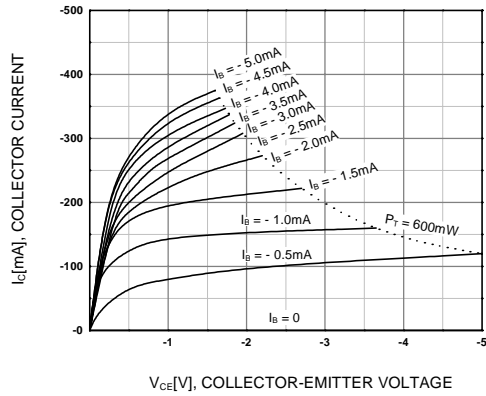


Figure 1. Static Characteristic

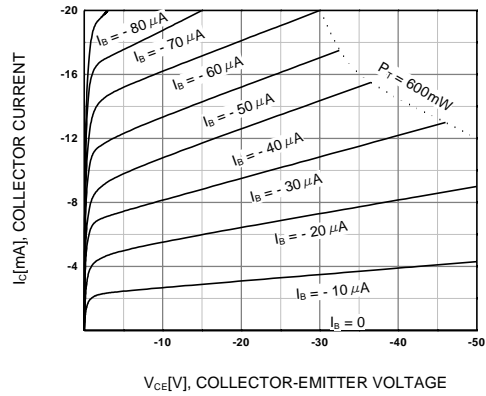


Figure 2. Static Characteristic

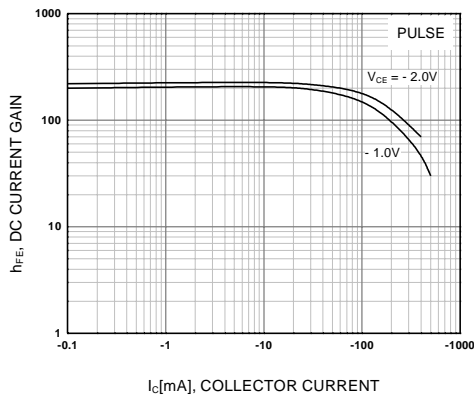


Figure 3. DC current Gain



Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

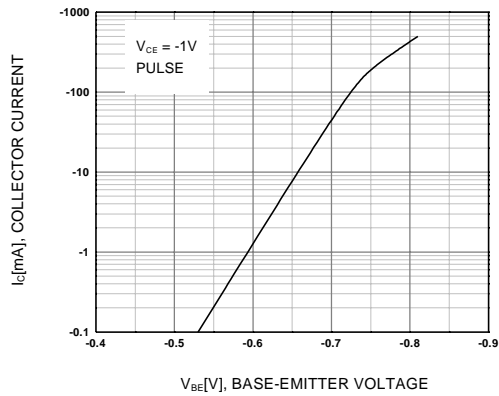


Figure 5. Base-Emitter On Voltage



Figure 6. Gain Bandwidth Product

Typical Characteristics (Continued)

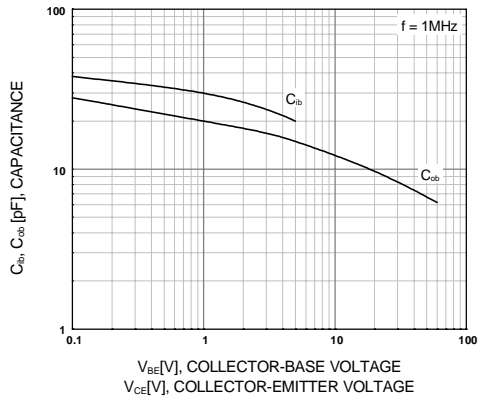


Figure 7. Input and Output Capacitance vs. Reverse Voltage



Figure 8. Safe Operating Area



Figure 9. Power Derating

Package Dimensions

TO-92



Dimensions in Millimeters

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| E ² CMOS™ | PowerTrench® | VCX™ |
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