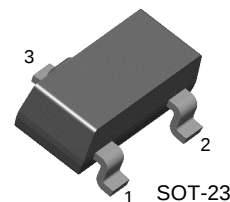


## BC807/BC808

### Switching and Amplifier Applications

- Suitable for AF-Driver stages and low power output stages
- Complement to BC817/BC818



1. Base 2. Emitter 3. Collector

### 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   |           |                  |
|           | : BC807                     | -50       | V                |
|           | : BC808                     | -30       | V                |
| $V_{CEO}$ | Collector-Emitter Voltage   |           |                  |
|           | : BC807                     | -45       | V                |
|           | : BC808                     | -25       | V                |
| $V_{EBO}$ | Emitter-Base Voltage        | -5        | V                |
| $I_C$     | Collector Current (DC)      | -800      | mA               |
| $P_C$     | Collector Power Dissipation | -310      | mW               |
| $T_J$     | Junction Temperature        | 150       | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature         | -65 ~ 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  | $I_C = -10\text{mA}, I_B = 0$                                   |      |      |      |       |
|                      | : BC807                              |                                                                 | -45  |      |      | V     |
|                      | : BC808                              |                                                                 | -25  |      |      | V     |
| $BV_{CES}$           | Collector-Emitter Breakdown Voltage  | $I_C = -0.1\text{mA}, V_{BE} = 0$                               |      |      |      |       |
|                      | : BC807                              |                                                                 | -50  |      |      | V     |
|                      | : BC808                              |                                                                 | -30  |      |      | V     |
| $BV_{EBO}$           | Emitter-Base Breakdown Voltage       | $I_E = -0.1\text{mA}, I_C = 0$                                  | -5   |      |      | V     |
| $I_{CES}$            | Collector Cut-off Current            | $V_{CE} = -25\text{V}, V_{BE} = 0$                              |      |      | -100 | nA    |
| $I_{EBO}$            | Emitter Cut-off Current              | $V_{EB} = -4\text{V}, I_C = 0$                                  |      |      | -100 | nA    |
| $h_{FE1}$            | DC Current Gain                      | $V_{CE} = -1\text{V}, I_C = -100\text{mA}$                      | 100  |      | 630  |       |
| $h_{FE2}$            |                                      | $V_{CE} = -1\text{V}, I_C = -300\text{mA}$                      | 60   |      |      |       |
| $V_{CE}(\text{sat})$ | 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       | $V_{CE} = -5\text{V}, I_C = -10\text{mA}$<br>$f = 50\text{MHz}$ |      | 100  |      | MHz   |
| $C_{ob}$             | Output Capacitance                   | $V_{CB} = -10\text{V}, f = 1\text{MHz}$                         |      |      | 12   | pF    |

### **$h_{FE}$ Classification**

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

### **Marking Code**

| Type    | 807-16 | 807-25 | 807-40 | 808-16 | 808-25 | 808-40 |
|---------|--------|--------|--------|--------|--------|--------|
| Marking | 9FA    | 9FB    | 9FC    | 9GA    | 9GB    | 9GC    |

## Typical Characteristics

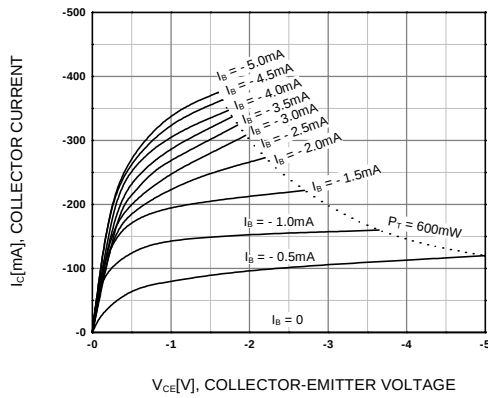


Figure 1. Static Characteristic

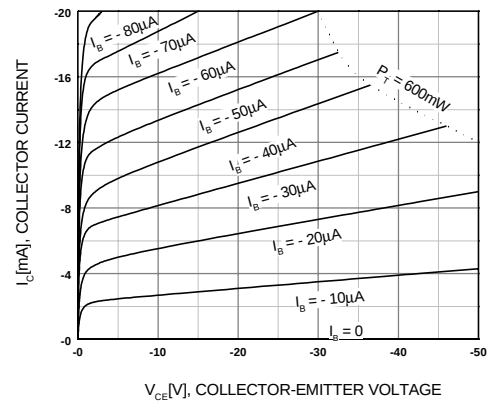


Figure 2. Static Characteristic

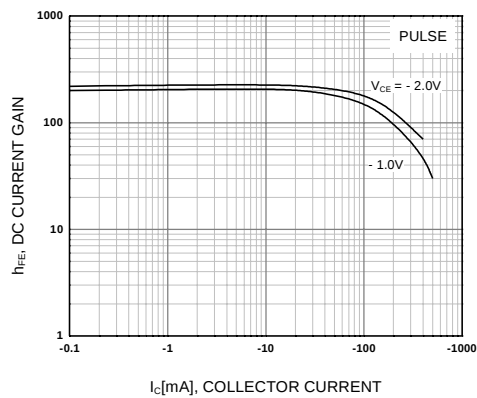


Figure 3. DC current Gain

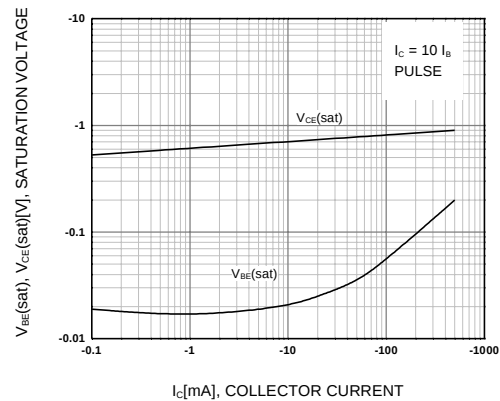
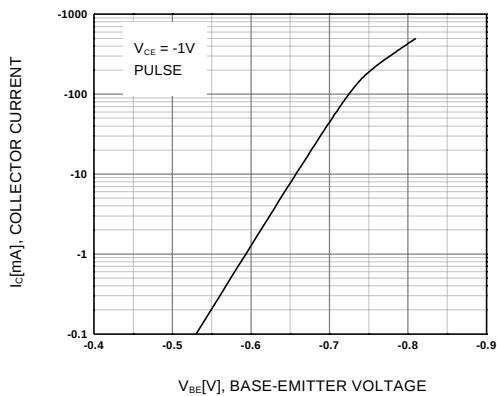
Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

Figure 5. Base-Emitter On Voltage

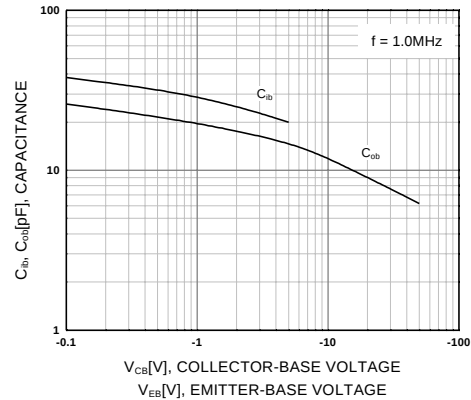


Figure 6. Input Output Capacitance

# Typical Characteristics (Continued)

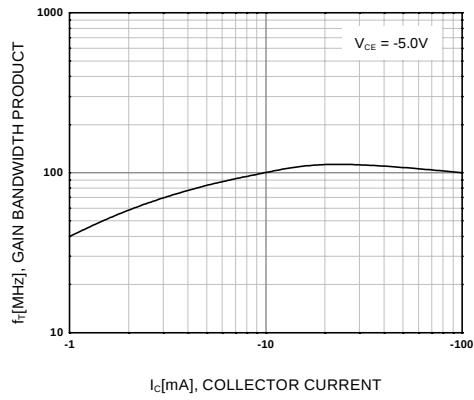
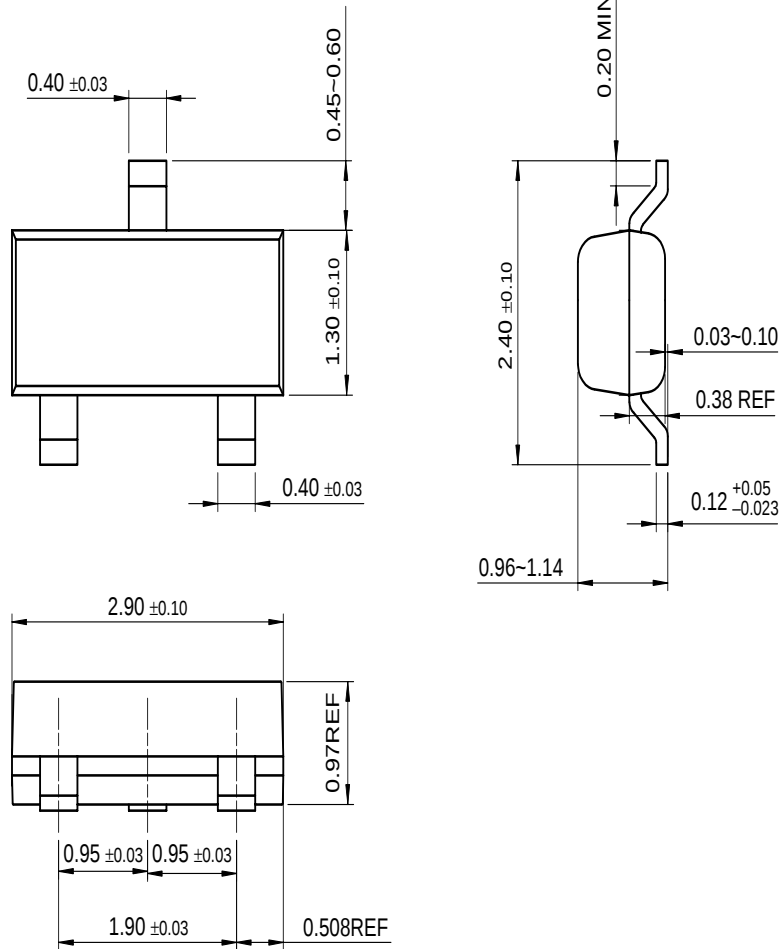


Figure 7. Current Gain Bandwidth Product

# Package Dimensions

## SOT-23



Dimensions in Millimeters

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| Bottomless <sup>™</sup>                          | FAST <sup>®</sup>               | LittleFET <sup>™</sup>         | Power247 <sup>™</sup>           | SuperSOT <sup>™</sup> -3    |
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| CROSSVOLT <sup>™</sup>                           | FRFET <sup>™</sup>              | MicroPak <sup>™</sup>          | QFET <sup>™</sup>               | SuperSOT <sup>™</sup> -8    |
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| The Power Franchise <sup>™</sup>                 |                                 | OPTOLOGIC <sup>®</sup>         | SILENT SWITCHER <sup>®</sup>    | VCX <sup>™</sup>            |
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|--------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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