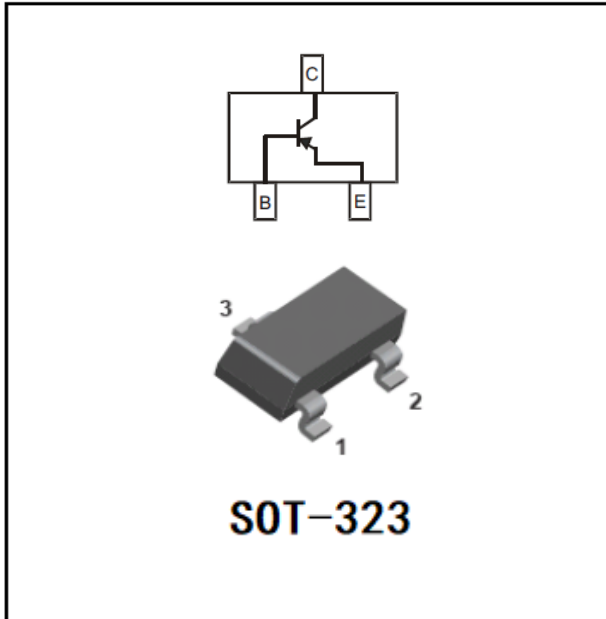


## PNP General Purpose Amplifier



### Features

- Capable of 0.2Watts( $T_A=25^{\circ}\text{C}$ ) of Power Dissipation
- Collector-current -0.5A
- Collector-base Voltage -50V
- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Device Marking:

|           |    |
|-----------|----|
| BC807-16W | 5A |
| BC807-25W | 5B |
| BC807-40W | 5C |

### ■ Maximum Ratings ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| Item  | Symbol          | Value       | Unit                        |
|---|-----------------|-------------|-----------------------------|
| Collector-Emitter Voltage                   | $V_{CEO}$       | -45         | V                           |
| Collector-Base Voltage                      | $V_{CBO}$       | -50         | V                           |
| Emitter-Base Voltage                        | $V_{EBO}$       | -5.0        | V                           |
| Collector Current                           | $I_C$           | -0.5        | A                           |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 625         | $^{\circ}\text{C}/\text{W}$ |
| Operation Junction Temperature              | $T_j$           | 150         | $^{\circ}\text{C}$          |
| Storage Temperature                         | $T_{stg}$       | -55 to +150 | $^{\circ}\text{C}$          |



# BC807-16W THRU BC807-40W

## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

| Item                                 | Symbol        | Unit            | Conditions                                      | Min  | Max  |
|--------------------------------------|---------------|-----------------|---|------|------|
| Collector-Emitter Voltage            | $V_{CE0}$     | V               | $I_C=-10\text{mAdc}$ , $I_B=0$                  | -45  |      |
| Collector-Base Voltage               | $V_{CB0}$     | V               | $I_C=-10\text{uAdc}$ , $I_E=0$                  | -50  |      |
| Emitter-Base Voltage                 | $V_{EB0}$     | V               | $I_E=-1.0\text{uAdc}$ , $I_C=0$                 | -5.0 |      |
| Emitter-base Cut-off Current         | $I_{EBO}$     | $\mu\text{Adc}$ | $V_{EB}=-4.0\text{Vdc}$ , $I_C=0$               |      | -0.1 |
| Collector -base Cut-off Current      | $I_{CBO}$     | $\mu\text{Adc}$ | $V_{CB}=-45\text{Vdc}$ , $I_E=0$                |      | -0.1 |
| Collector-emitter Cut-off Current    | $I_{CE0}$     | $\mu\text{Adc}$ | $V_{CE}=-40\text{Vdc}$ , $I_B=0$                |      | -0.2 |
| DC Current Gain                      | $h_{FE(1)}$   |                 | $I_C=-100\text{mAdc}$ , $V_{CE}=-1.0\text{Vdc}$ | 100  | 600  |
| DC Current Gain                      | $h_{FE(2)}$   |                 | $I_C=-500\text{mAdc}$ , $V_{CE}=-1.0\text{Vdc}$ | 40   |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | V               | $I_C=-500\text{mAdc}$ , $I_B=-50\text{mAdc}$    |      | -0.7 |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | V               | $I_C=-500\text{mAdc}$ , $I_B=-50\text{mAdc}$    |      | -1.2 |

## ■ Small-signal Characteristics

| Item                 | Symbol | Unit | Conditions  | Min | Max |
|----------------------|--------|------|---|-----|-----|
| Transition frequency | $f_T$  | MHz  | $I_C=-10\text{mAdc}$ , $V_{CE}=-5.0\text{Vdc}$ ,<br>$f=100\text{MHz}$ | 100 |     |

## ■ Classification of $h_{FE}$

| Rank  | BC807-16W | BC807-25W | BC807-40W |
|-------|-----------|-----------|-----------|
| Range | 100-250   | 160-400   | 250-600   |

## ■ Ordering Information (Example)

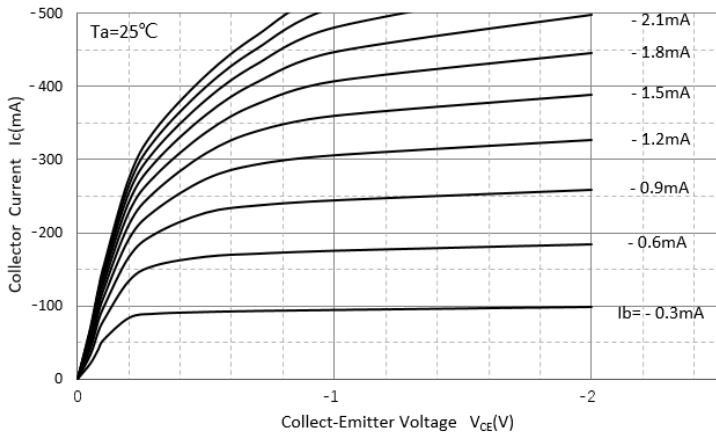
| Preferred P/N               | Packing Code | Unit Weight(G)    | Minimum Package(Pcs) | Inner Box Quantity(Pcs) | Outer Carton Quantity(Pcs) | Delivery Mode |
|-----------------------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BC807-16W THRU<br>BC807-40W | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                     | 7" reel       |



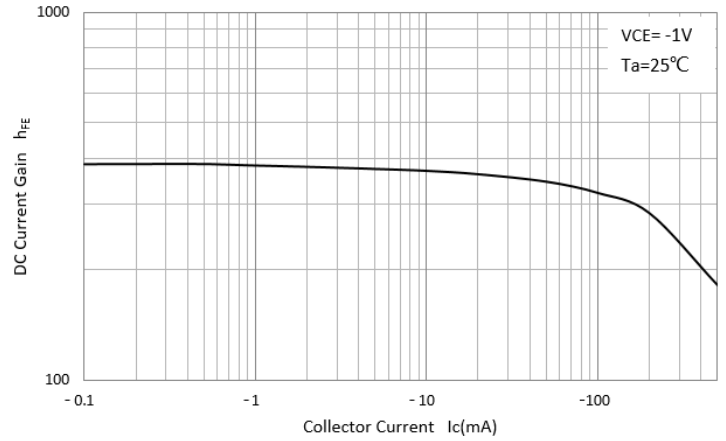
# BC807-16W THRU BC807-40W

## ■ Characteristics (Typical)

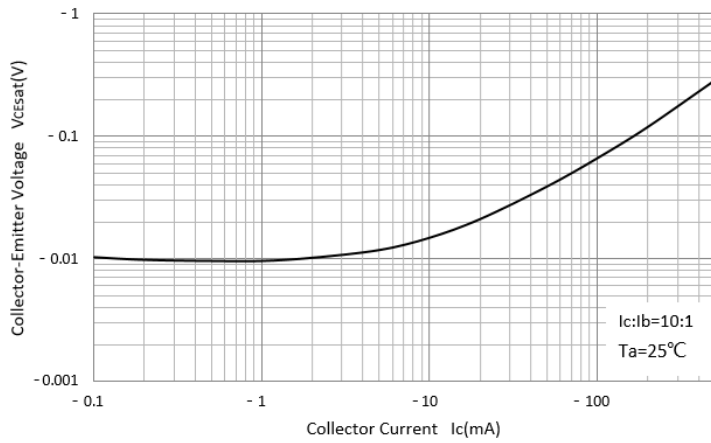
Static Characteristic



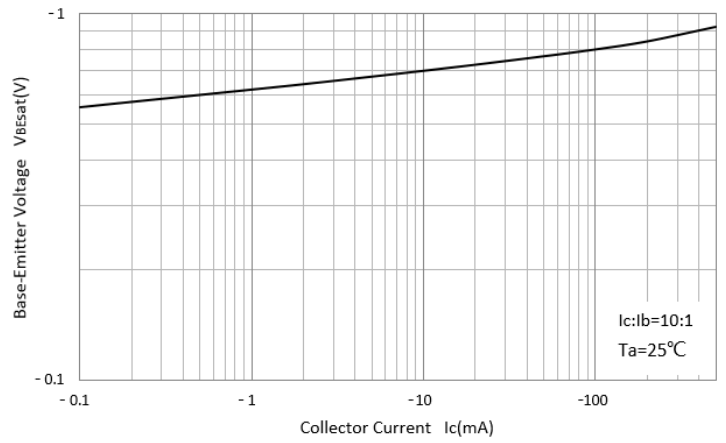
DC Current Gain



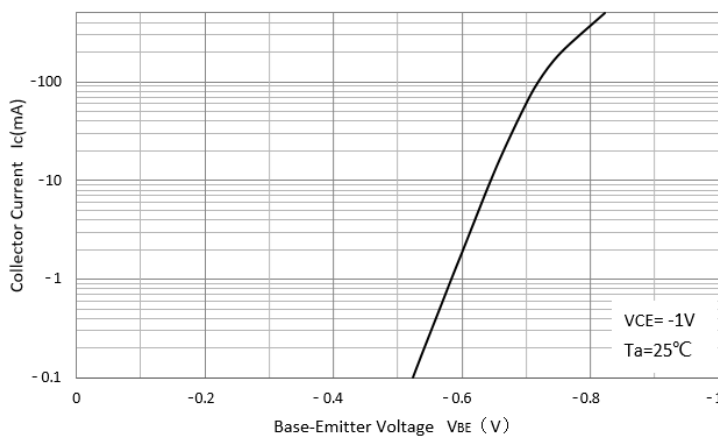
Collector-Emittor Saturation Voltage



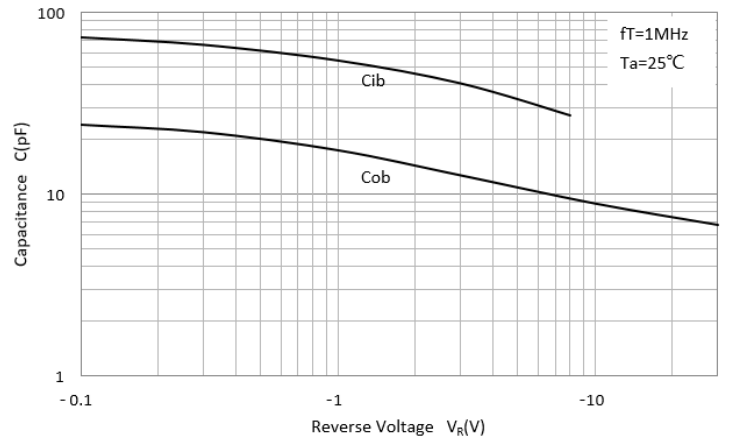
Base-Emittor Saturation Voltage



Base-Emittor On Voltage



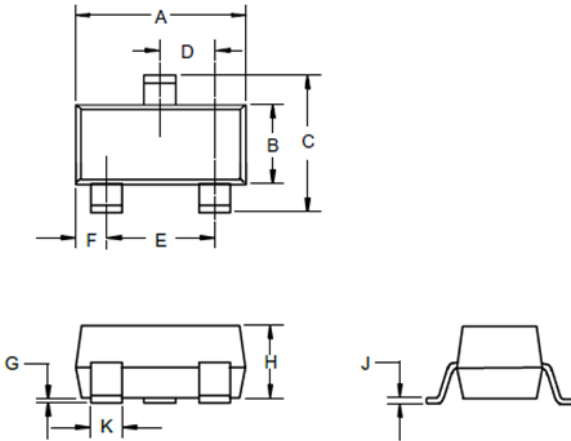
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$





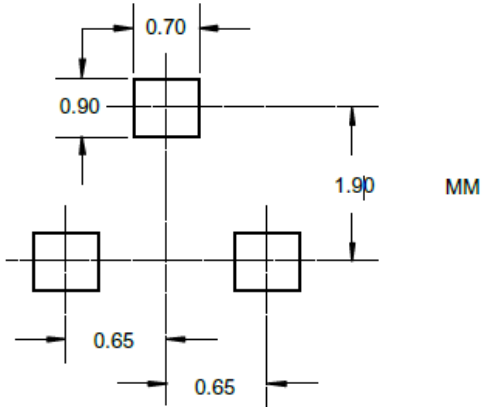
# BC807-16W THRU BC807-40W

## ■ SOT-323 Package Outline Dimensions



| DIMENSIONS |              |      |             |      |      |
|------------|--------------|------|-------------|------|------|
| DIM        | INCHES       |      | MM          |      | NOTE |
|            | MIN          | MAX  | MIN         | MAX  |      |
| A          | .071         | .087 | 1.80        | 2.20 |      |
| B          | .045         | .053 | 1.15        | 1.35 |      |
| C          | .083         | .096 | 2.10        | 2.45 |      |
| D          | .026 Nominal |      | 0.65Nominal |      |      |
| E          | .047         | .055 | 1.20        | 1.40 |      |
| F          | .012         | .016 | .30         | .40  |      |
| G          | .000         | .004 | .000        | .100 |      |
| H          | .035         | .039 | .90         | 1.00 |      |
| J          | .004         | .010 | .100        | .250 |      |
| K          | .006         | .016 | .15         | .40  |      |

## ■ SOT-323 Soldering Footprint





## BC807-16W THRU BC807-40W

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