



BC807-16-AU / BC807-25-AU / BC807-40-AU

Silicon PNP General Purpose Transistors

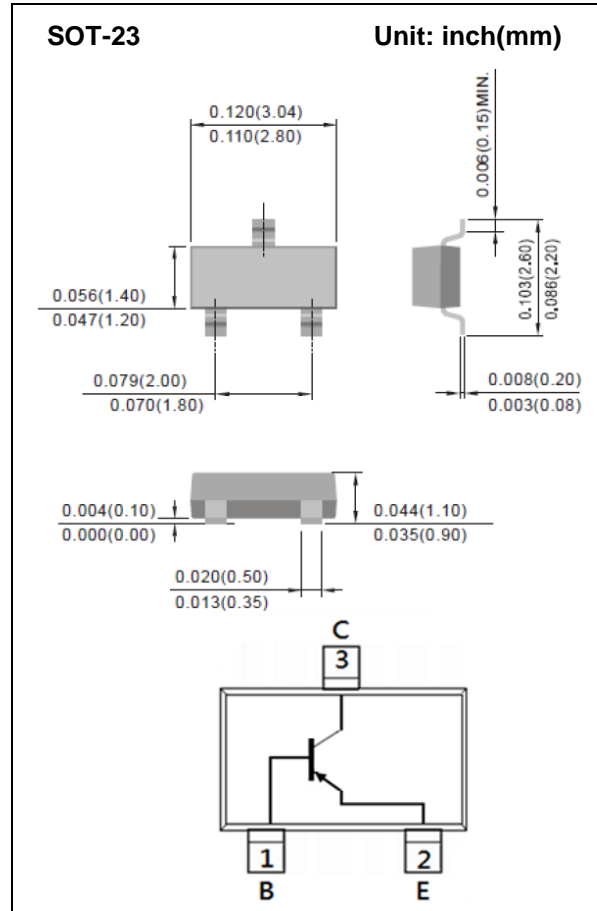
Voltage **-45V** **Current** **-500mA**

Features

- Silicon PNP Epitaxial type
- Excellent DC current gain characteristics
- General purpose amplifier application
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 Standard
- NPN complement: BC817-AU series

Mechanical Data

- Case: SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0084grams
- Marking: BC807-16-AU: 7A
BC807-25-AU: 7B
BC807-40-AU: 7C



Maximum Ratings and Thermal Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|-----------------|---------|----------------------|
| Collector-Base Voltage | V_{CBO} | -50 | V |
| Collector-Emitter Voltage | V_{CEO} | -45 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Collector Current (DC) | I_C | -500 | mA |
| Collector Current (Pulse) | I_{CP} | -1000 | mA |
| Total Power Dissipation | P_{TOT} | 330 | mW |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55~150 | $^{\circ}\text{C}$ |
| Thermal Resistance from Junction to Ambient ^(Note) | $R_{\theta JA}$ | 375 | $^{\circ}\text{C/W}$ |

Note: Mounted on minimum pad mount on FR-4 board.



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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS | |
|--------------------------------------|---------------|--|--|------|------|---------------|--|
| OFF Characteristics | | | | | | | |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = -10\text{mA}, I_B = 0\text{A}$ | -45 | - | - | V | |
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C = -10\mu\text{A}, I_E = 0\text{A}$ | -50 | - | - | V | |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E = -1\mu\text{A}, I_C = 0\text{A}$ | -5 | - | - | V | |
| Collector-Base Cutoff Current | I_{CBO} | $V_{CB} = -20\text{V}, I_E = 0\text{A}$ | - | - | -100 | nA | |
| Collector-Base Cutoff Current | I_{CBO} | $T_j = 125^{\circ}\text{C}$ | - | - | -5 | μA | |
| Emitter-Base Cutoff Current | I_{EBO} | $V_{EB} = -5\text{V}$ | - | - | -100 | nA | |
| ON characteristics | | | | | | | |
| DC Current Gain | BC807-16-AU | h_{FE} | $V_{CE} = -1\text{V}, I_C = -100\text{mA}$ | 100 | - | 250 | |
| | BC807-25-AU | | | 160 | - | 400 | |
| | BC807-40-AU | | | 250 | - | 600 | |
| DC Current Gain | | $V_{CE} = -1\text{V}, I_C = -500\text{mA}$ | 40 | - | - | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C = -500\text{mA}, I_B = -50\text{mA}$ | - | - | -0.7 | V | |
| Base-Emitter Turn-on voltage | $V_{BE(on)}$ | $I_C = -500\text{mA}, V_{CE} = -1\text{V}$ | - | - | -1.2 | V | |
| Transition Frequency | f_T | $I_C = -10\text{mA}, V_{CE} = -5\text{V}$ | 100 | - | - | MHz | |
| Collector Output Capacitance | C_{OB} | $V_{CB} = -10\text{V}, f = 1\text{MHz}$ | - | 7 | - | pF | |



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TYPICAL CHARACTERISTIC CURVES

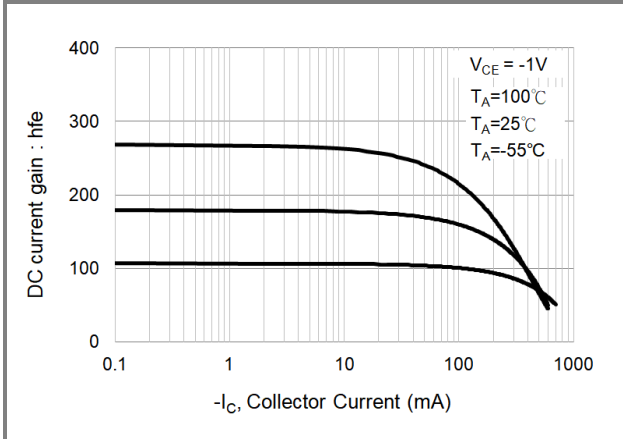


Fig.1 DC Current Gain(-16)

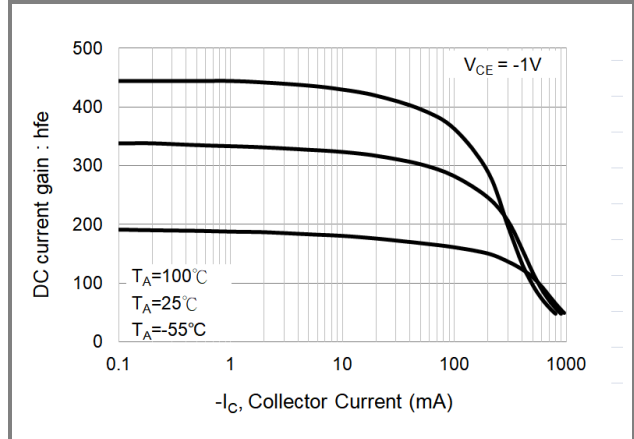


Fig.2 DC Current Gain (-25)

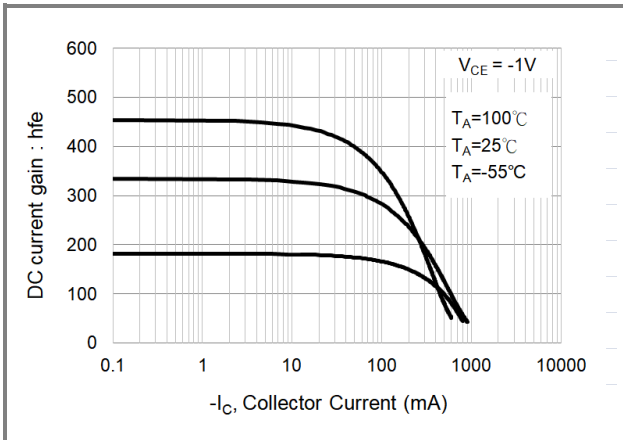


Fig.3 DC Current Gain (-40)

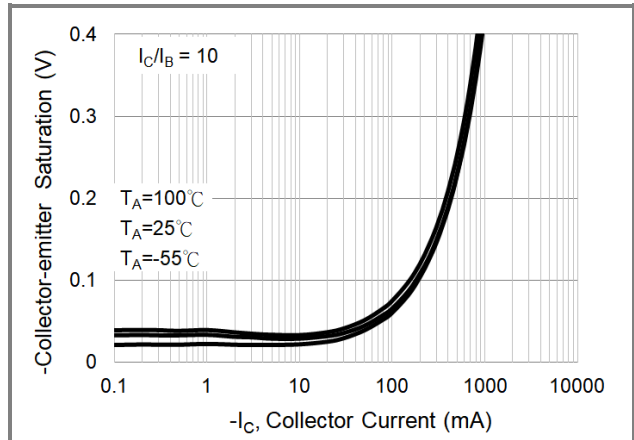


Fig.4 Collector-Emitter Saturation Voltage (-16)

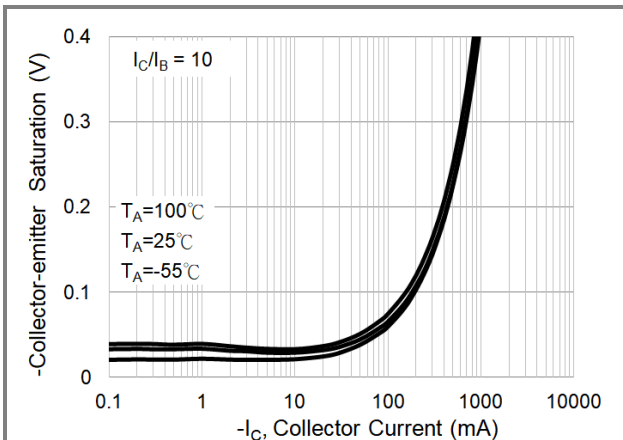


Fig.5 Collector-Emitter Saturation Voltage (-25)

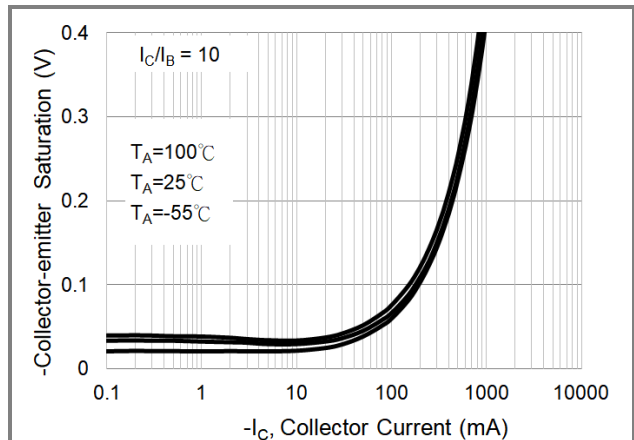


Fig.6 Collector-Emitter Saturation Voltage (-40)



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TYPICAL CHARACTERISTIC CURVES

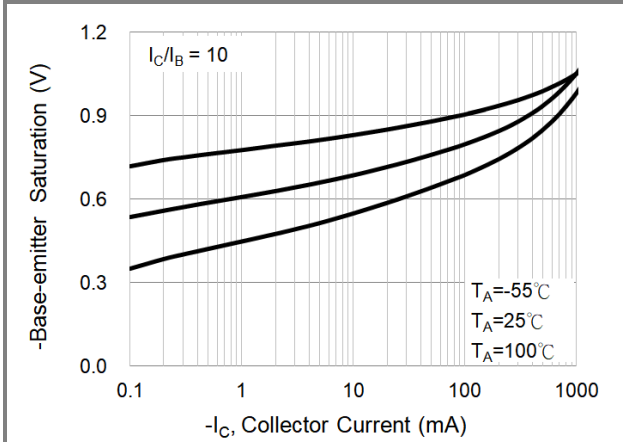


Fig.7 Base-Emitter Saturation Voltage (-16)

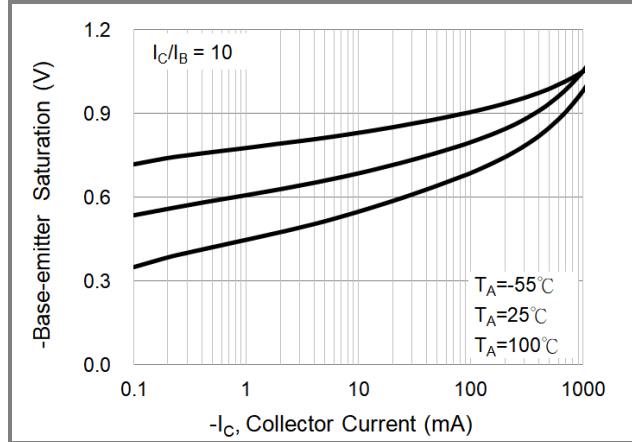


Fig.8 Base-Emitter Saturation Voltage (-25)

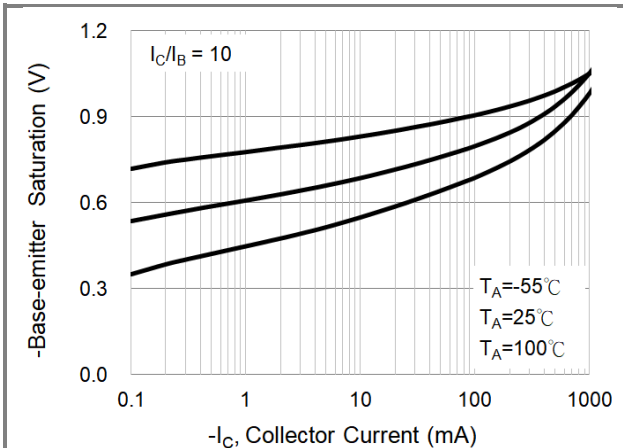


Fig.9 Base-Emitter Saturation Voltage (-40)

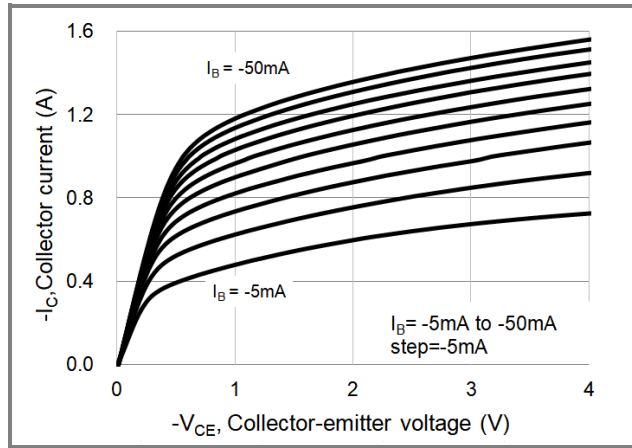


Fig.10 Collector Current (-16)

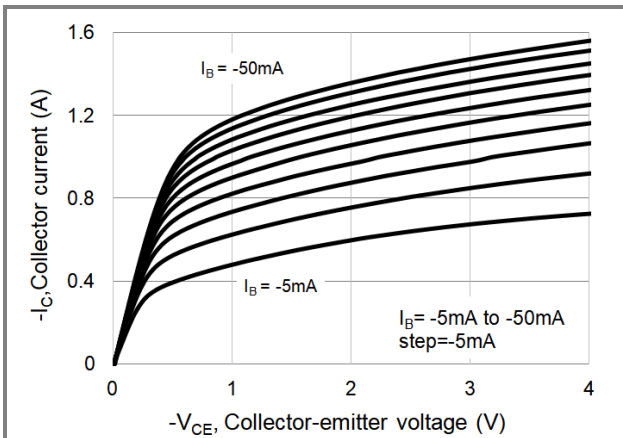


Fig.11 Collector Current (-25)

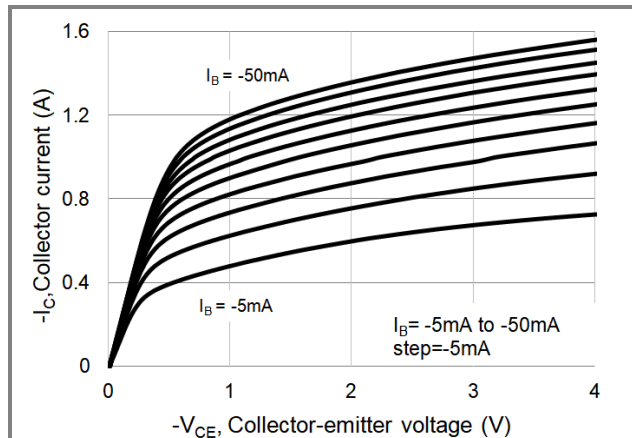


Fig.12 Collector Current (-40)



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PART NO PACKING CODE VERSION

| Part No Packing Code | Package Type | Packing type | Marking | Version |
|----------------------|--------------|------------------|---------|--------------|
| BC807-16-AU_R1_000A1 | SOT-23 | 3K pcs / 7" reel | 7A | Halogen free |
| BC807-25-AU_R1_000A1 | SOT-23 | 3K pcs / 7" reel | 7B | Halogen free |
| BC807-40-AU_R1_000A1 | SOT-23 | 3K pcs / 7" reel | 7C | Halogen free |

MOUNTING PAD LAYOUT

