



BC807-16W SERIES

PNP GENERAL PURPOSE TRANSISTORS

VOLTAGE 45 Volt **POWER** 300 mWatt

FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Collector current $I_C = 500\text{mA}$
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Apporx. Weight: 0.0001 ounce, 0.005 gram
- Device Marking : BC807-16W : 7S
BC807-25W : 7V
BC807-40W : 7W

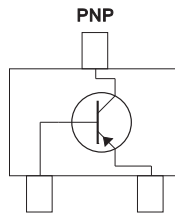
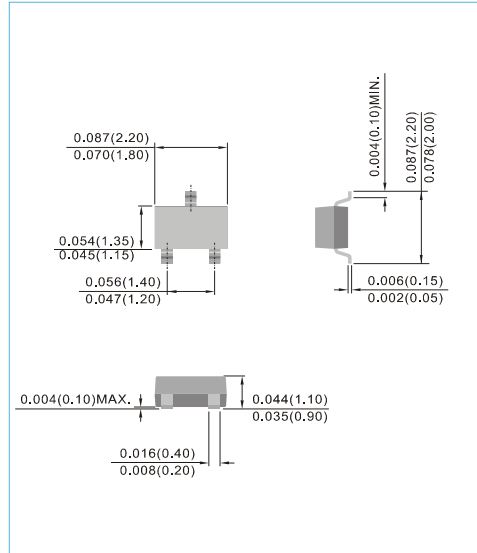


Fig.35

SOT-323 Unit : inch(mm)



MECHANICAL DATA

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|------------|------|
| Collector-Emitter Voltage | V_{CE0} | -45 | V |
| Collector-Base Voltage | V_{CB0} | -50 | V |
| Emitter-Base Voltage | V_{EB0} | -5 | V |
| Collector Current - Continuous | I_C | -500 | mA |
| Peak Collector Current | I_{CM} | -1000 | mA |
| Base Current - Peak | I_{BM} | -200 | mA |
| Total Power Dissipation (Note 1) | P_{TOT} | 300 | mW |
| Junction and Storage Temperature Range | T_J, T_{STG} | -55 to 150 | °C |

THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|-----------------|-------|------|
| Thermal Resistance Junction to Ambient (Note 1) | $R_{\theta JA}$ | 420 | °C/W |

Note 1 : Transistor mounted on FR-5 board minimum pad mounting conditions.



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ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise notes)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|--|----------------------|-----------------------|------|------|------|
| Collector-Emitter Breakdown Voltage (I _C =-10mA, I _B =0) | V _{(BR)CEO} | -45 | - | - | V |
| Collector-Base Breakdown Voltage (V _{EB} =0V, I _C =-10μA) | V _{(BR)CBO} | -50 | - | - | V |
| Emitter-Base Breakdown Voltage (I _E =-1μA, I _C =0) | V _{(BR)EBO} | -5.0 | - | - | V |
| Emitter-Base Cutoff Current (V _{EB} =-5V) | I _{EBO} | - | - | -100 | nA |
| Collector-Base Cutoff Current (V _{CB} =-20V, I _E =0) | I _{CBO} | T _J =25°C | - | -100 | nA |
| | | T _J =150°C | - | -5.0 | μA |
| DC Current Gain (I _C =-100mA, V _{CE} =-1V) | h _{FE} | BC807-16W | 100 | - | 250 |
| | | BC807-25W | 160 | - | 400 |
| (I _C =-500mA, V _{CE} =-1V) | h _{FE} | BC807-40W | 250 | - | 600 |
| | | | 40 | - | - |
| Collector-Emitter Saturation Voltage (I _C =-500mA, I _B =-50mA) | V _{CE(SAT)} | - | - | -0.7 | V |
| Base-Emitter Voltage (I _C =-500mA, V _{CE} =-1.0V) | V _{BE(ON)} | - | - | -1.2 | V |
| Collector-Base Capacitance (V _{CB} =-10V, I _E =0, f=1MHz) | C _{CBO} | - | 7.0 | - | pF |
| Current Gain-Bandwidth Product (I _C =-10mA, V _{CE} =-5V, f=100MHz) | f _T | 100 | - | - | MHz |



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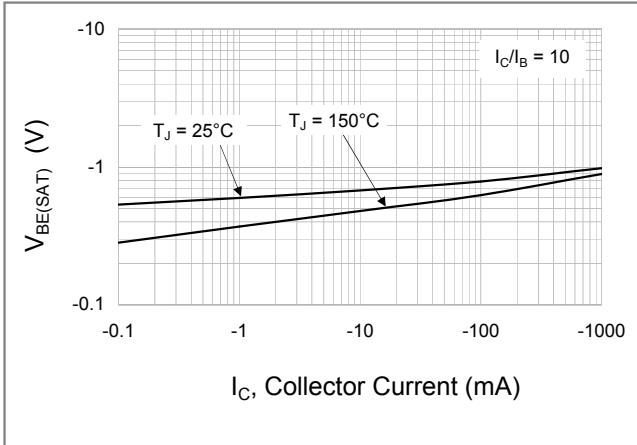


Fig.1 Base-Emitter Saturation Voltage

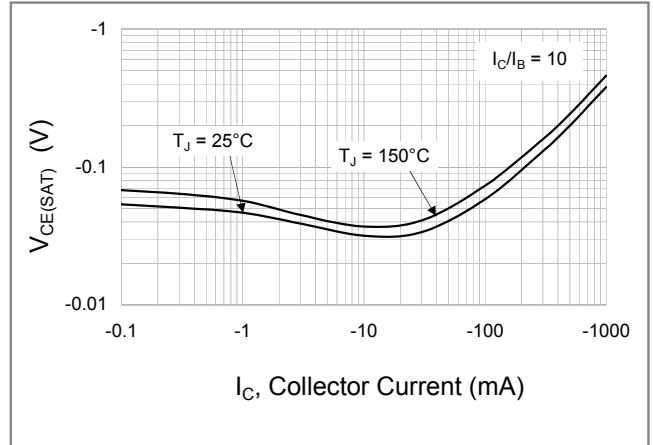


Fig.2 Collector-Emitter Saturation Voltage

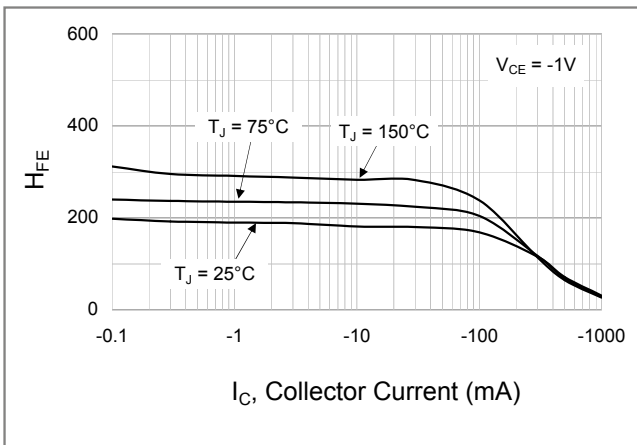


Fig.3 BC807-16W: Typical DC Current Gain

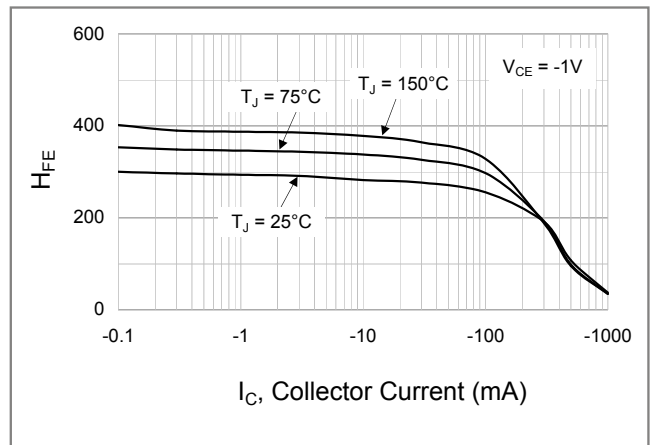


Fig.4 BC807-25W: Typical DC Current Gain

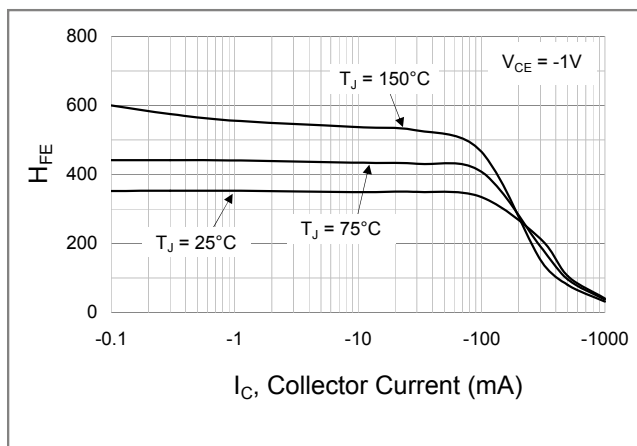


Fig.5 BC807-40W: DC Current Gain

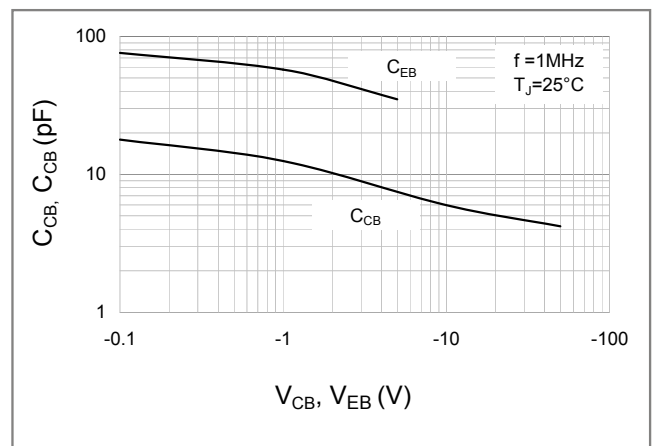
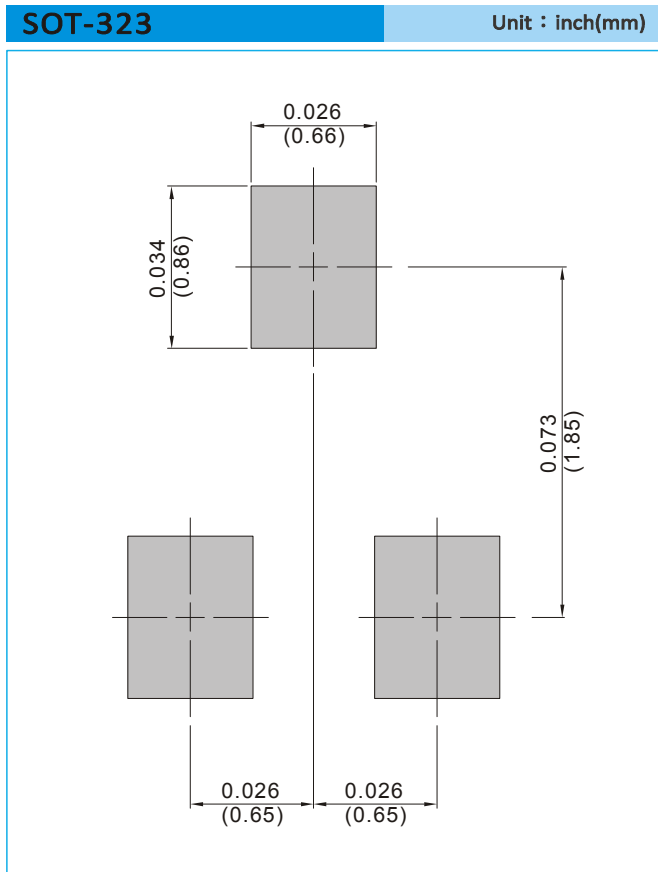


Fig.6 Typical Capacitance



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 12K per 13" plastic Reel
T/R - 3K per 7" plastic Reel



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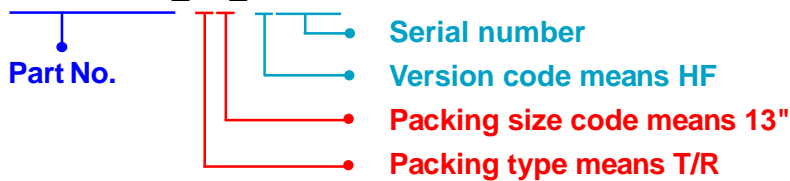
Part No_packing code_Version

BC807-16W_R1_00001

BC807-16W_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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