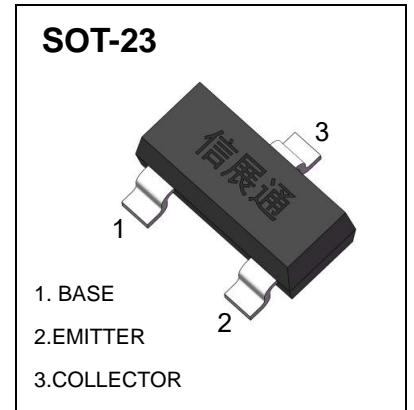




FEATURES

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BC807 (PNP)



MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------------------------|--|----------|------|
| V _{CB0} | Collector-Base Voltage | 50 | V |
| V _{CEO} | Collector-Emitter Voltage | 45 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _c | Collector Current | 500 | mA |
| P _c | Collector Power Dissipation | 300 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 417 | °C/W |
| T _J , T _{stg} | Operation Junction and Storage Temperature Range | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

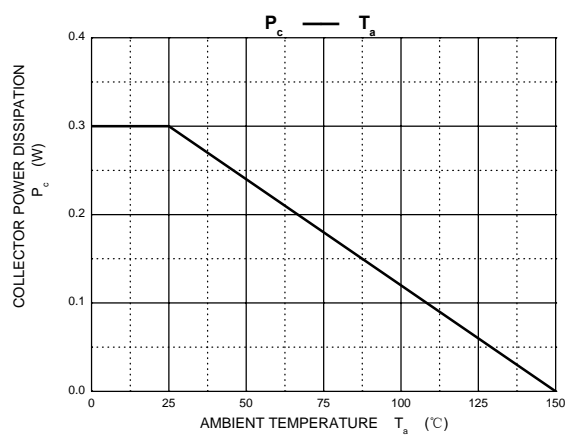
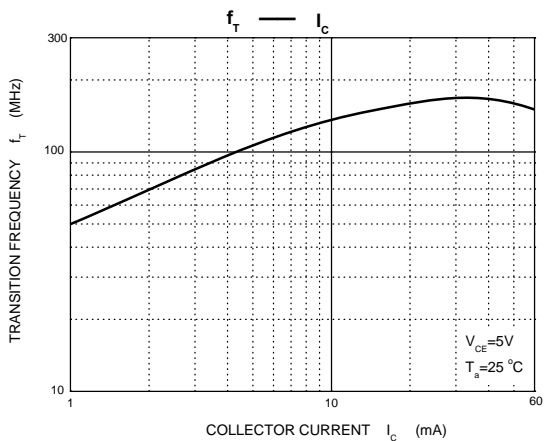
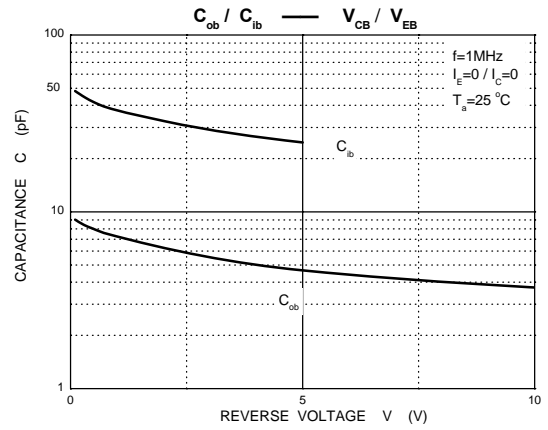
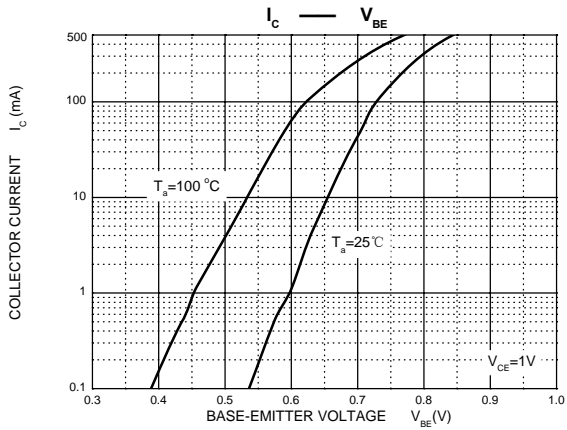
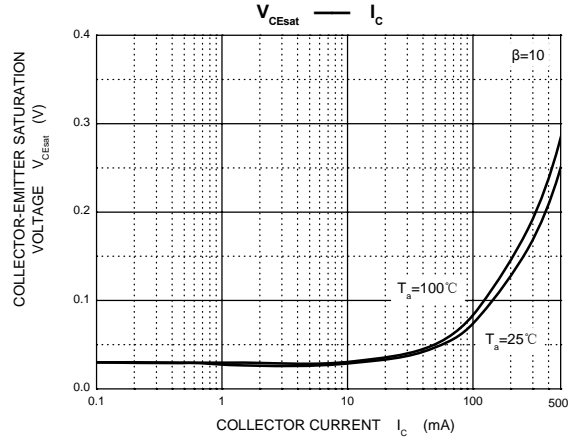
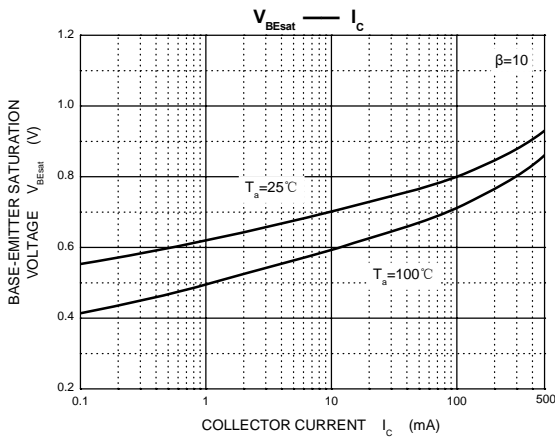
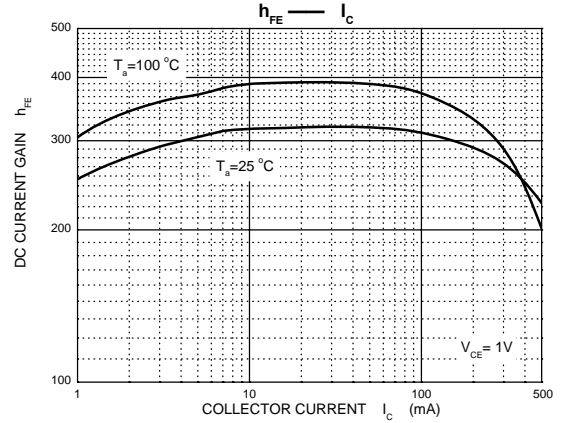
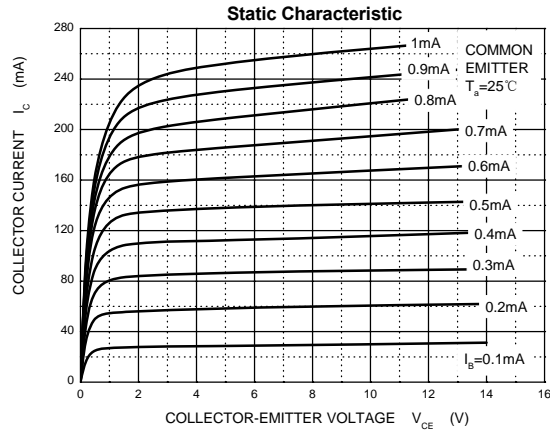
| Symbol | Parameter | Test Conditions | A in | Typ | A ax | Unit |
|----------------------|--------------------------------------|---|------|-----|------|------|
| V _{CB0} | Collector-Base Voltage | I _C = 10μA, I _E = 0 | 50 | | | V |
| V _{CEO} | Collector-Emitter Voltage | I _C = 10mA, I _B = 0 | 45 | | | V |
| V _{EBO} | Emitter-Base Voltage | I _E = 1μA, I _C = 0 | 5 | | | V |
| I _{CB0} | Collector-Base Current | V _{CB} = 45V, I _E = 0 | | | 0.1 | μA |
| I _{EBO} | Emitter-Base Current | V _{EB} = 4V, I _C = 0 | | | 0.1 | μA |
| h _{FE(1)} | DC Current Gain | V _{CE} = 1V, I _C = 100mA | 100 | | 600 | |
| h _{FE(2)} | DC Current Gain | V _{CE} = 1V, I _C = 500mA | 40 | | | |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 500mA, I _B = 50mA | | | 0.7 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 500mA, I _B = 50mA | | | 1.2 | V |
| V _{BE} | Base-Emitter Voltage | V _{CE} = 1V, I _C = 500mA | | | 1.2 | V |
| C _{ob} | Output Capacitance | V _{CB} = 10V, f = 1MHz | | 10 | | pF |
| f _T | Transition Frequency | V _{CE} = 5V, I _C = 10mA, f = 100MHz | 100 | | | MHz |

CLASSIFICATION OF h_{FE(1)}

| Symbol | 67, %±! | 67, %±!& | 67, %±!(\$ |
|----------------------|-------------|--------------|--------------|
| V _{CE(sat)} | \$\$\$!& \$ | % \$!(\$ \$ | & \$!* \$ \$ |
| A U _F]b[| *5 | *6 | *7 |

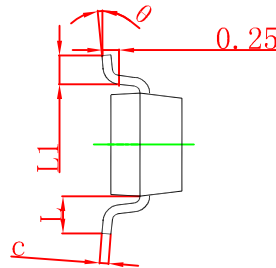


Typical Characteristics



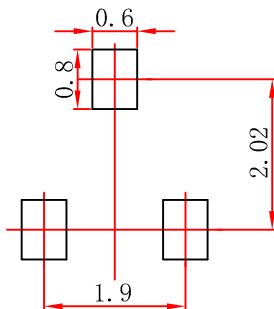


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

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