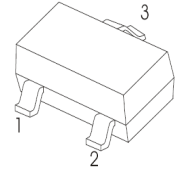


**SOT-23 Plastic-Encapsulate Transistors**

BC846 TRANSISTOR (NPN)
BC847
BC848

FEATURES

- Ideally suited for automatic insertion
- For switching and AF amplifier applications

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR

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

| Symbol | Parameter | Value | Unit |
|------------------|-------------------------------|----------|------|
| V _{CB0} | Collector-Base Voltage | BC846 | 80 |
| | | BC847 | 50 |
| | | BC848 | 30 |
| V _{CEO} | Collector-Emitter Voltage | BC846 | 65 |
| | | BC847 | 45 |
| | | BC848 | 30 |
| V _{EBO} | Emitter-Base Voltage | 6 | V |
| I _c | Collector Current –Continuous | 0.1 | A |
| P _c | Collector Power Dissipation | 200 | mW |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |

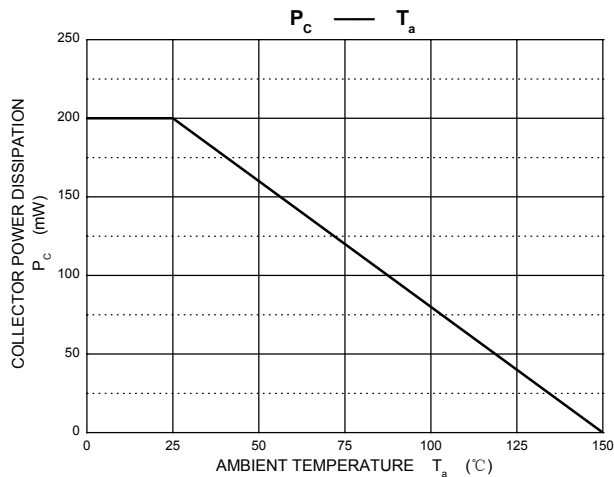
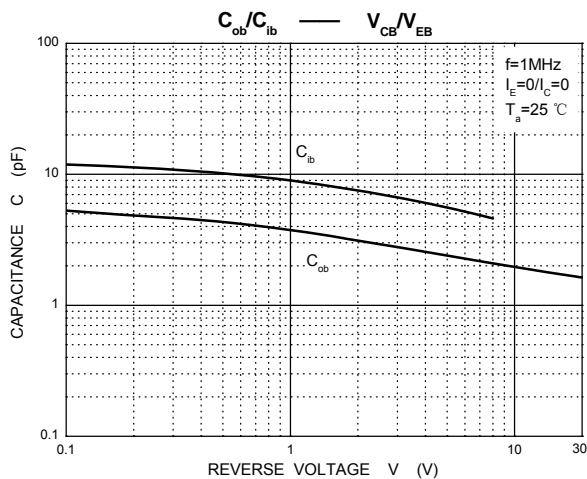
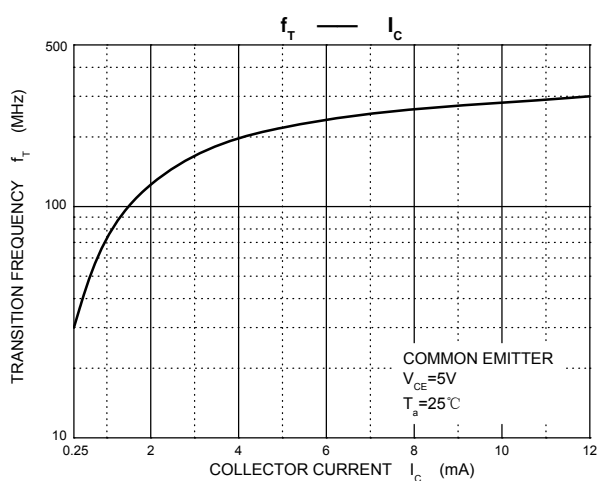
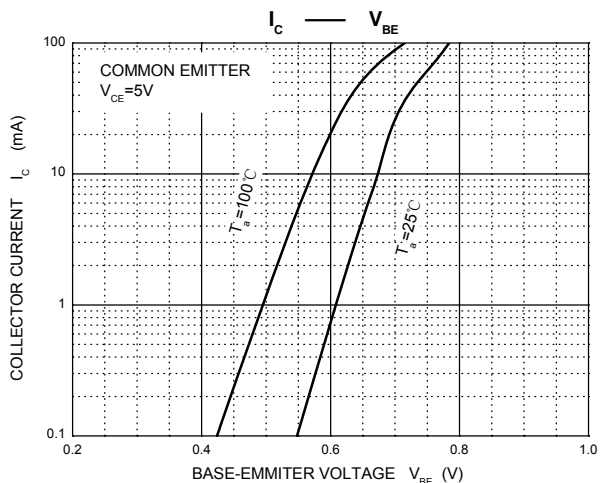
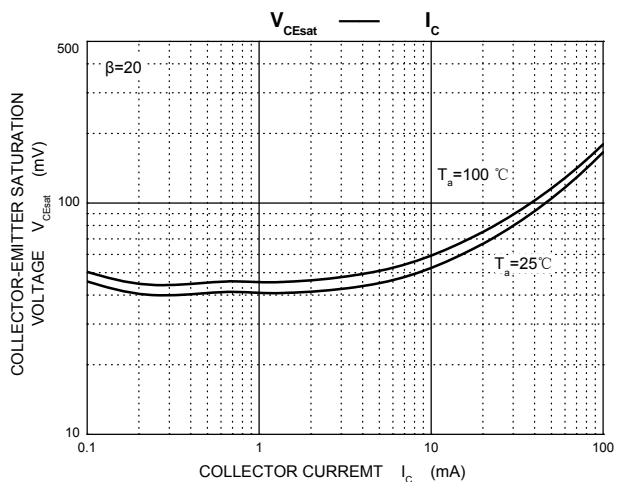
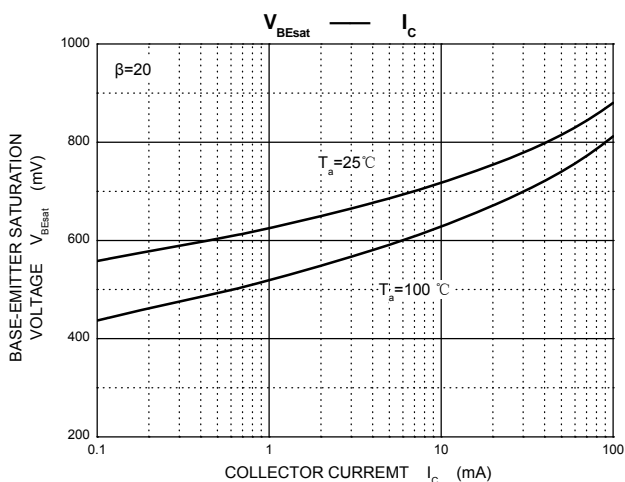
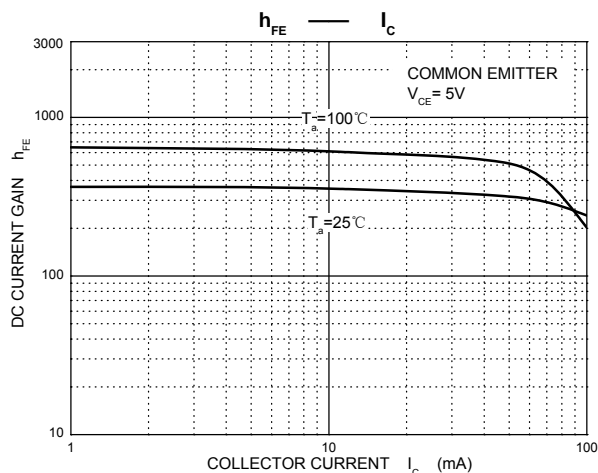
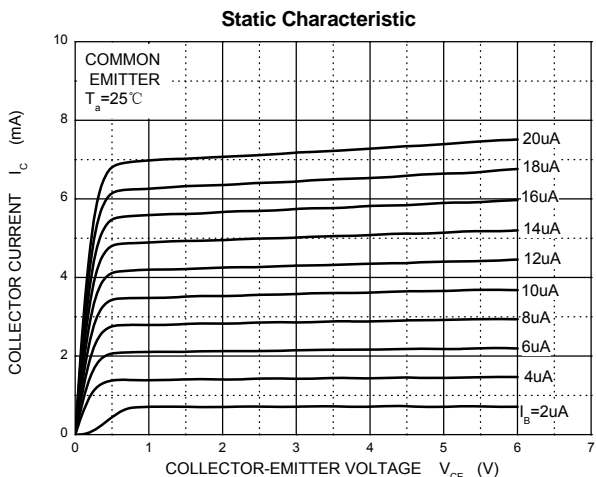
DEVICE MARKING

BC846A=1A; BC846B=1B;
BC847A=1E; BC847B=1F; BC847C=1G;
BC848A=1J; BC848B=1K; BC848C=1L

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

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|------------------|---|-------------------------|-----|-----|---------|
| Collector-base breakdown voltage | BC846 | $I_C = 10\mu A, I_E = 0$ | 80 | | | V |
| | BC847 | | 50 | | | |
| | BC848 | | 30 | | | |
| Collector-emitter breakdown voltage | BC846 | $I_C = 10mA, I_B = 0$ | 65 | | | V |
| | BC847 | | 45 | | | |
| | BC848 | | 30 | | | |
| Emitter-base breakdown voltage | | $I_E = 10\mu A, I_C = 0$ | 6 | | | V |
| Collector cut-off current | BC846 | $V_{CB} = 70V, I_E = 0$ | | | | μA |
| | BC847 | | $V_{CB} = 50V, I_E = 0$ | | 0.1 | |
| | BC848 | | $V_{CB} = 30V, I_E = 0$ | | | |
| Collector cut-off current | BC846 | $V_{CE} = 60V, I_B = 0$ | | | | μA |
| | BC847 | | $V_{CE} = 45V, I_B = 0$ | | 0.1 | |
| | BC848 | | $V_{CE} = 30V, I_B = 0$ | | | |
| Emitter cut-off current | | $V_{EB} = 5V, I_C = 0$ | | | 0.1 | μA |
| DC current gain | BC846A,847A,848A | $V_{CE} = 5V, I_C = 2mA$ | 110 | | 220 | |
| | BC846B,847B,848B | | 200 | | 450 | |
| | BC847C,BC848C | | 420 | | 800 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 100mA, I_B = 5mA$ | | | 0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 100mA, I_B = 5mA$ | | | 1.1 | V |
| Transition frequency | f_T | $V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$ | 100 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10V, f = 1MHz$ | | | 4.5 | pF |

Typical Characteristics BC846/BC847/BC848



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