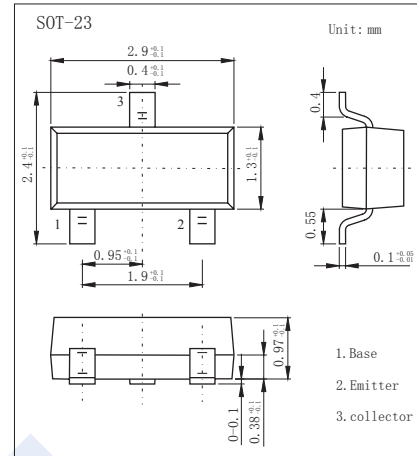


NPN Transistors

BC817 (KC817)

■ Features

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

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CB0} | 50 | V |
| Collector - Emitter Voltage | V_{CE0} | 45 | |
| Emitter - Base Voltage | V_{EB0} | 5 | |
| Collector Current - Continuous | I_C | 0.5 | A |
| Collector Power Dissipation | P_C | 0.3 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to 150 | |

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

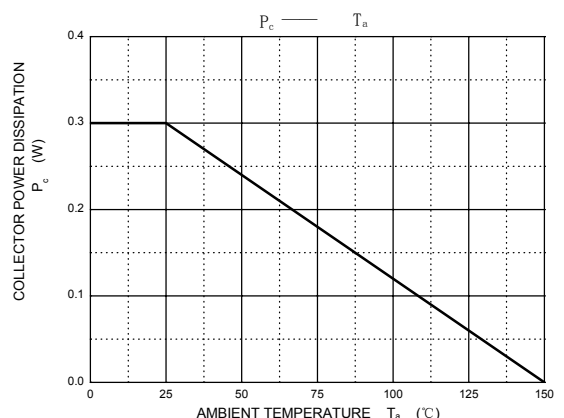
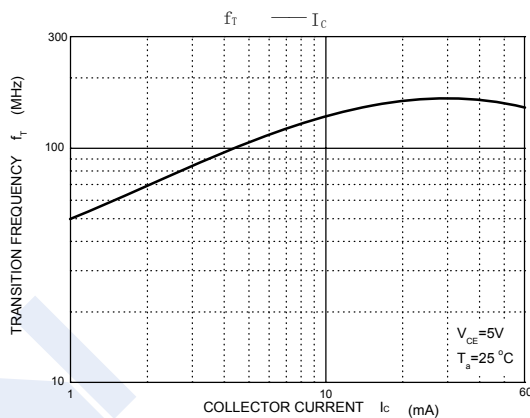
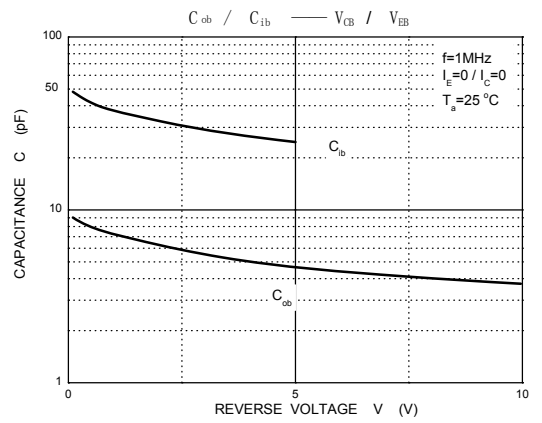
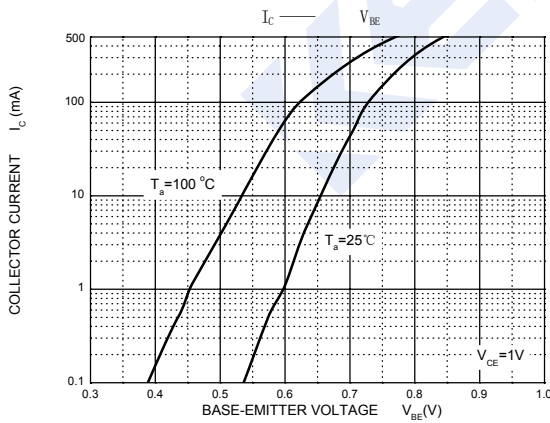
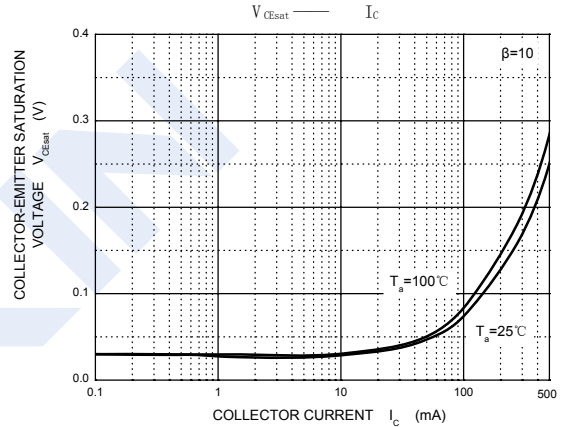
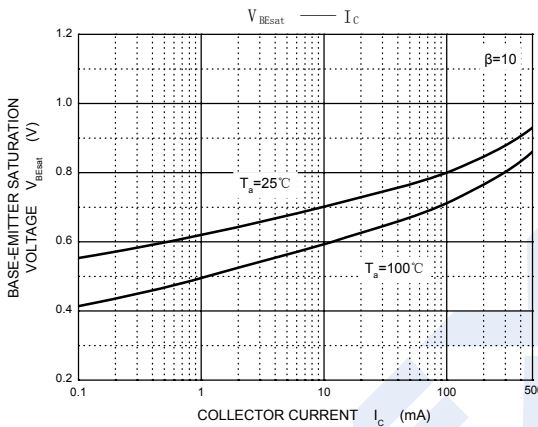
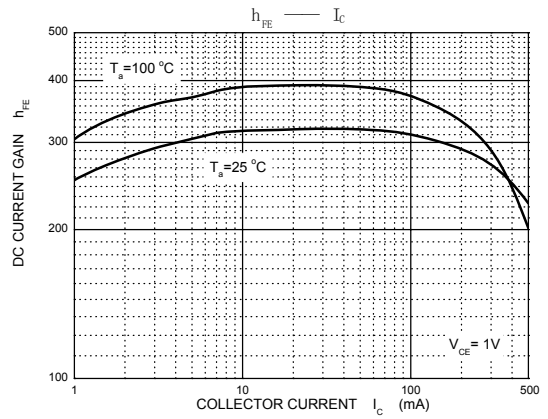
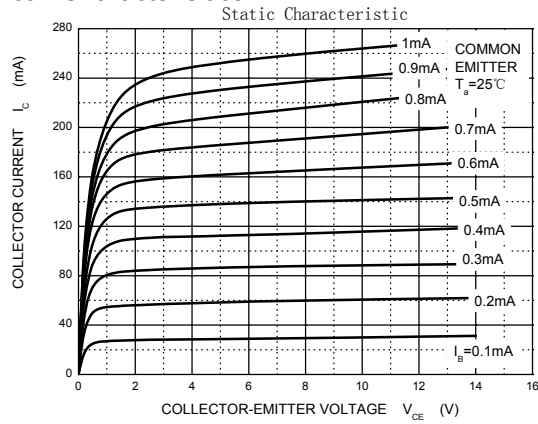
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = 100 \mu\text{A}$, $I_E = 0$ | 50 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = 10 \text{ mA}$, $I_B = 0$ | 45 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = 100 \mu\text{A}$, $I_C = 0$ | 5 | | | |
| Collector-base cut-off current | I_{CB0} | $V_{CB} = 45 \text{ V}$, $I_E = 0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EB0} | $V_{EB} = 4 \text{ V}$, $I_C = 0$ | | | 0.1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500 \text{ mA}$, $I_B = 50 \text{ mA}$ | | | 0.7 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 500 \text{ mA}$, $I_B = 50 \text{ mA}$ | | | 1.2 | |
| Base - emitter voltage | V_{BE} | $V_{CE} = 1 \text{ V}$, $I_C = 500 \text{ mA}$ | | | 1.2 | |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = 1 \text{ V}$, $I_C = 100 \text{ mA}$ | 100 | | 630 | |
| | $h_{FE(2)}$ | $V_{CE} = 1 \text{ V}$, $I_C = 500 \text{ mA}$ | 40 | | | |
| Collector output capacitance | C_{ob} | $V_{CB} = 10 \text{ V}$, $f = 1 \text{ MHz}$ | | 10 | | pF |
| Transition frequency | f_T | $V_{CE} = 5 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 100 \text{ MHz}$ | 100 | | | MHz |

■ Classification of $h_{FE(1)}$

| Type | BC817-16 | BC817-25 | BC817-40 |
|---------|----------|----------|----------|
| Range | 100-250 | 160-400 | 250-630 |
| Marking | 6A | 6B | 6C |

BC817 (KC817)

Typical Characteristics



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