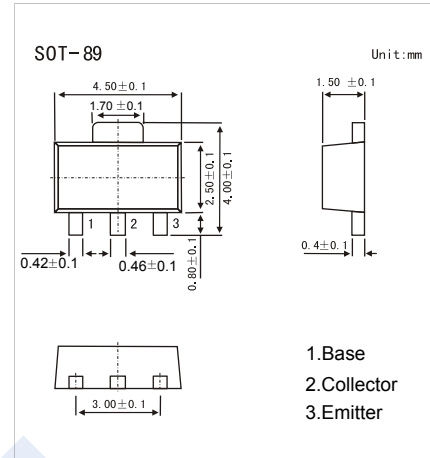


PNP Transistors

2SB1123

■ Features

- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.
- Complementary to 2SD1623



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

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage | V_{CB0} | -60 | V |
| Collector - Emitter Voltage | V_{CE0} | -50 | |
| Emitter - Base Voltage | V_{EB0} | -6 | |
| Collector Current - Continuous | I_C | -2 | A |
| Collector current -Pulse | I_{CP} | -4 | |
| Collector Power Dissipation | P_C | 0.5 | W |
| (Note.1) | | 1.3 | |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature range | T_{stg} | -55 to 150 | |

Note.1: Mounted on ceramic board (250mm² × 0.8mm)

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|------|------|---------------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = -100 \mu\text{A}$, $I_E = 0$ | -60 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = -1 \text{ mA}$, $R_{BE} = \infty$ | -50 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = -100 \mu\text{A}$, $I_C = 0$ | -6 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = -50\text{V}$, $I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{V}$, $I_C = 0$ | | | -0.1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1 \text{ A}$, $I_B = -50\text{mA}$ | | -0.3 | -0.7 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -1 \text{ A}$, $I_B = -50\text{mA}$ | | -0.9 | -1.2 | |
| DC current gain | h_{FE} | $V_{CE} = -2\text{V}$, $I_C = -100 \text{ mA}$ | 100 | | 560 | |
| | | $V_{CE} = -2\text{V}$, $I_C = -1.5 \text{ A}$ | 40 | | | |
| Turn-ON Time | t_{on} | See specified Test Circuit. | | 60 | | ns |
| Storage Time | t_{stg} | | | 450 | | |
| Fall Time | t_f | | | 30 | | |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$ | | 22 | | μF |
| Transition frequency | f_T | $V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$ | | 150 | | MHz |

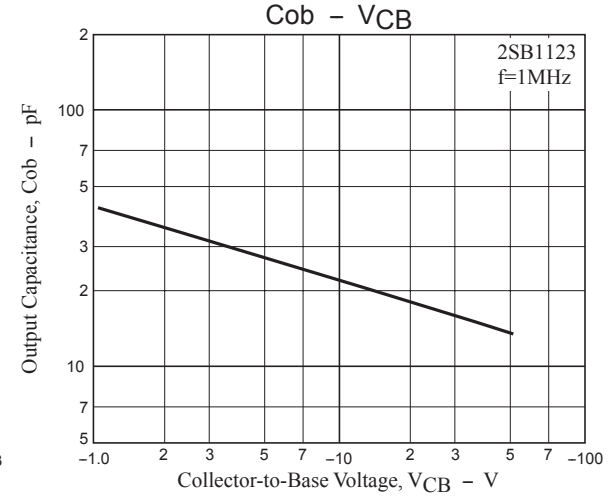
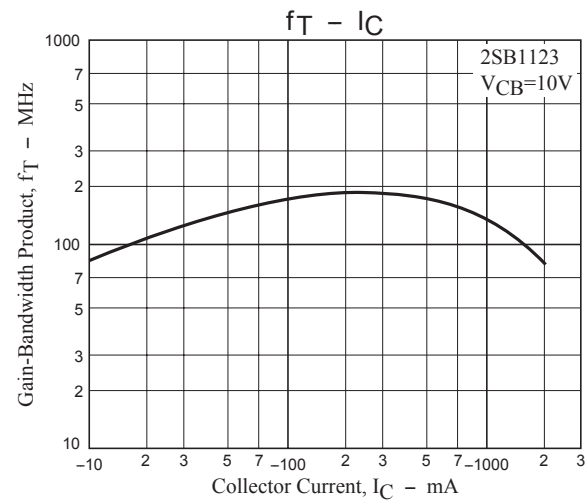
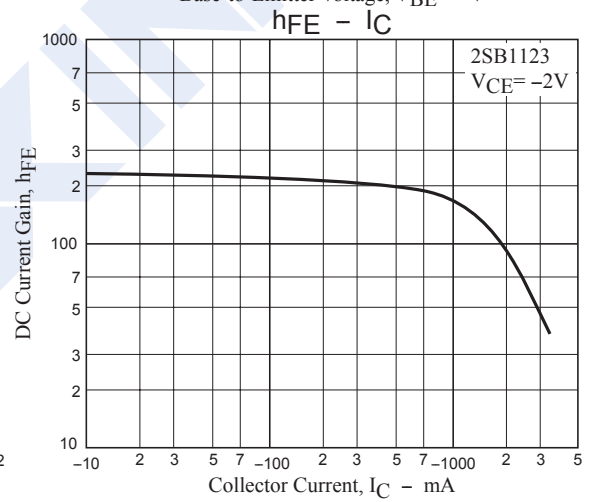
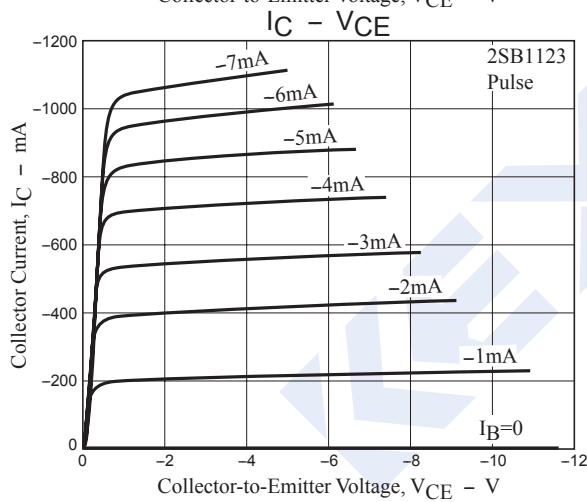
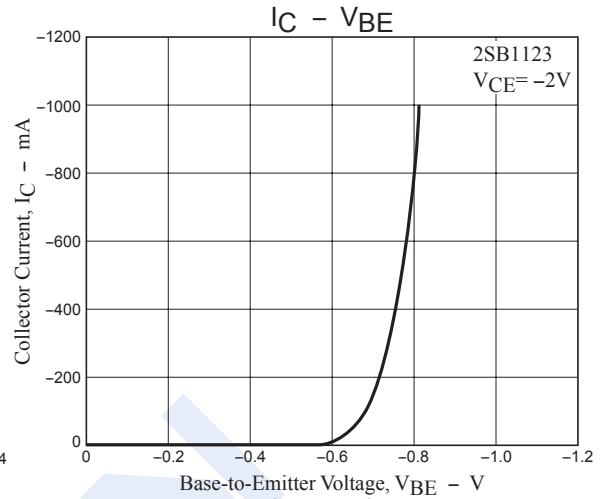
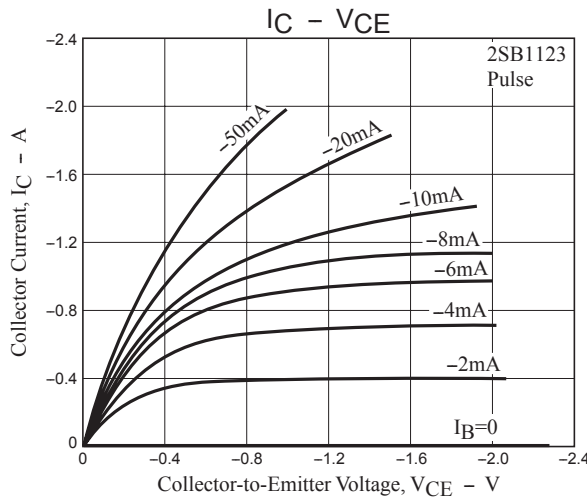
■ Classification of $h_{FE}(1)$

| Type | 2SB1123-R | 2SB1123-S | 2SB1123-T | 2SB1123-U |
|---------|-----------|-----------|-----------|-----------|
| Range | 100-200 | 140-280 | 200-400 | 280-560 |
| Marking | BF R* | BF S* | BF T* | BF U* |

PNP Transistors

2SB1123

Typical Characteristics



PNP Transistors

2SB1123

■ Typical Characteristics

