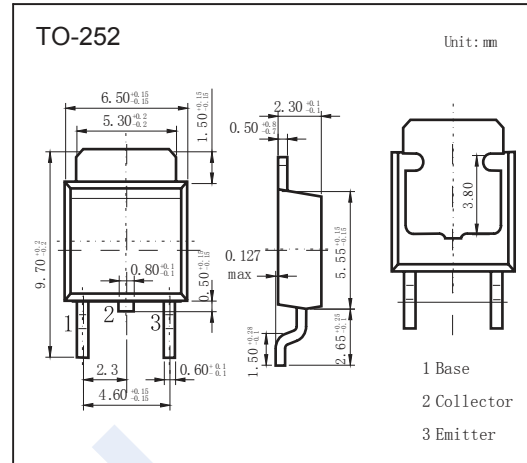


PNP Transistors

2SB1215



■ Features

- Low collector-to-emitter saturation voltage.
- High current and high fr
- Fast switching time.
- Complementary to 2SD1815

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

| Parameter | Symbol | Rating | Unit |
|--|-----------|------------|------------------|
| Collector - Base Voltage | V_{CB0} | -120 | V |
| Collector - Emitter Voltage | V_{CE0} | -100 | |
| Emitter - Base Voltage | V_{EB0} | -6 | |
| Collector Current - Continuous | I_C | -3 | A |
| Collector Current - Pulse | I_{CP} | -6 | |
| Collector Power Dissipation $T_c = 25^\circ\text{C}$ | P_C | 20 | W |
| | | 1 | |
| 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} | $I_C = -100 \mu\text{A}$, $I_E = 0$ | -120 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_C = -1 \text{ mA}$, $R_{BE} = \infty$ | -100 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = -100 \mu\text{A}$, $I_C = 0$ | -6 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = -100\text{V}$, $I_E = 0$ | | | -1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{V}$, $I_C = 0$ | | | -1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1.5 \text{ A}$, $I_B = -150\text{mA}$ | | -0.2 | -0.5 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -1.5 \text{ A}$, $I_B = -150\text{mA}$ | | -0.9 | -1.2 | |
| DC current gain | h_{FE} | $V_{CE} = -5\text{V}$, $I_C = -500 \text{ mA}$ | 70 | | 400 | |
| | | $V_{CE} = -5\text{V}$, $I_C = -2 \text{ A}$ | 40 | | | |
| Turn-ON Time | t_{on} | See specified Test Circuit | | 100 | | ns |
| Storage Time | t_{stg} | | | 800 | | |
| Fall Time | t_f | | | 50 | | |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$ | | 40 | | μF |
| Transition frequency | f_T | $V_{CE} = -10\text{V}$, $I_C = -500 \text{ mA}$ | | 130 | | MHz |

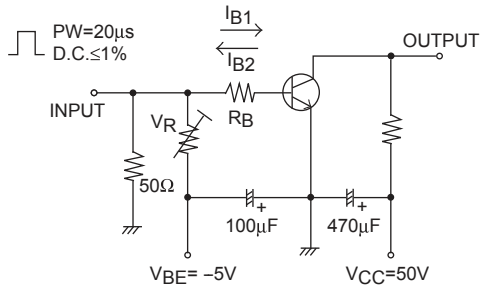
■ Classification of $h_{fe}(1)$

| Type | 2SB1215-Q | 2SB1215-R | 2SB1215-S | 2SB1215-T |
|-------|-----------|-----------|-----------|-----------|
| Range | 70-140 | 100-200 | 140-280 | 200-400 |

PNP Transistors

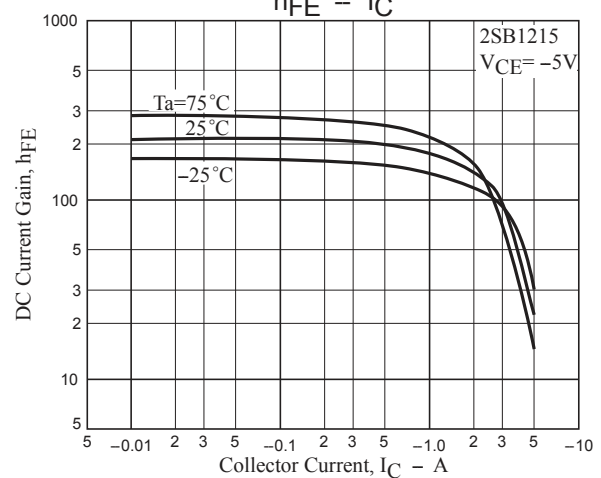
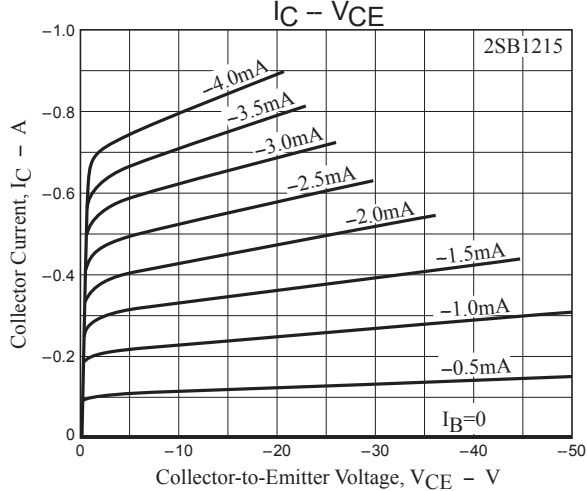
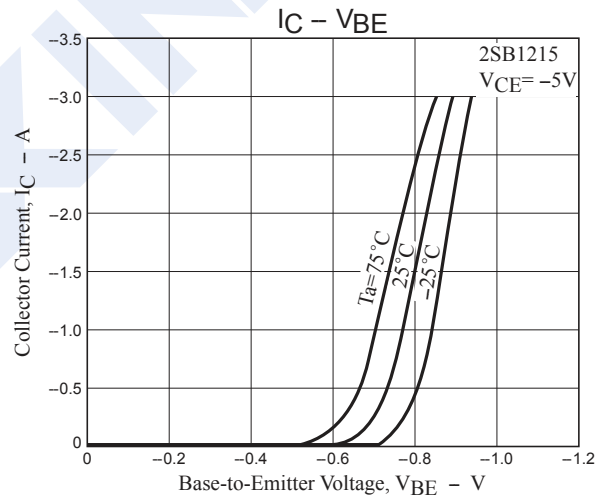
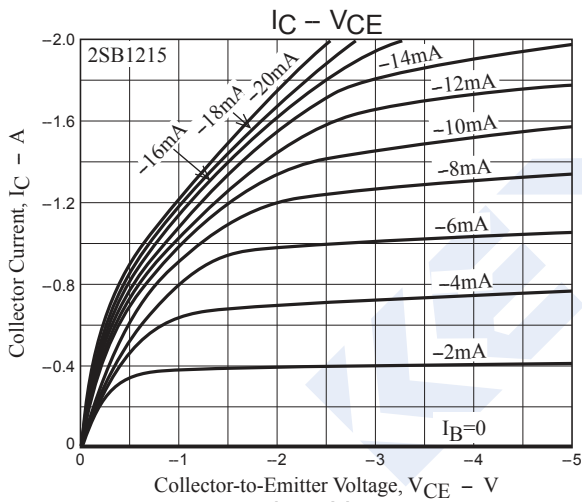
2SB1215

Switching Time Test Circuit



$I_C = 10I_{B1} = -10I_{B2} = 1.5A$
 For PNP, the polarity is reversed.

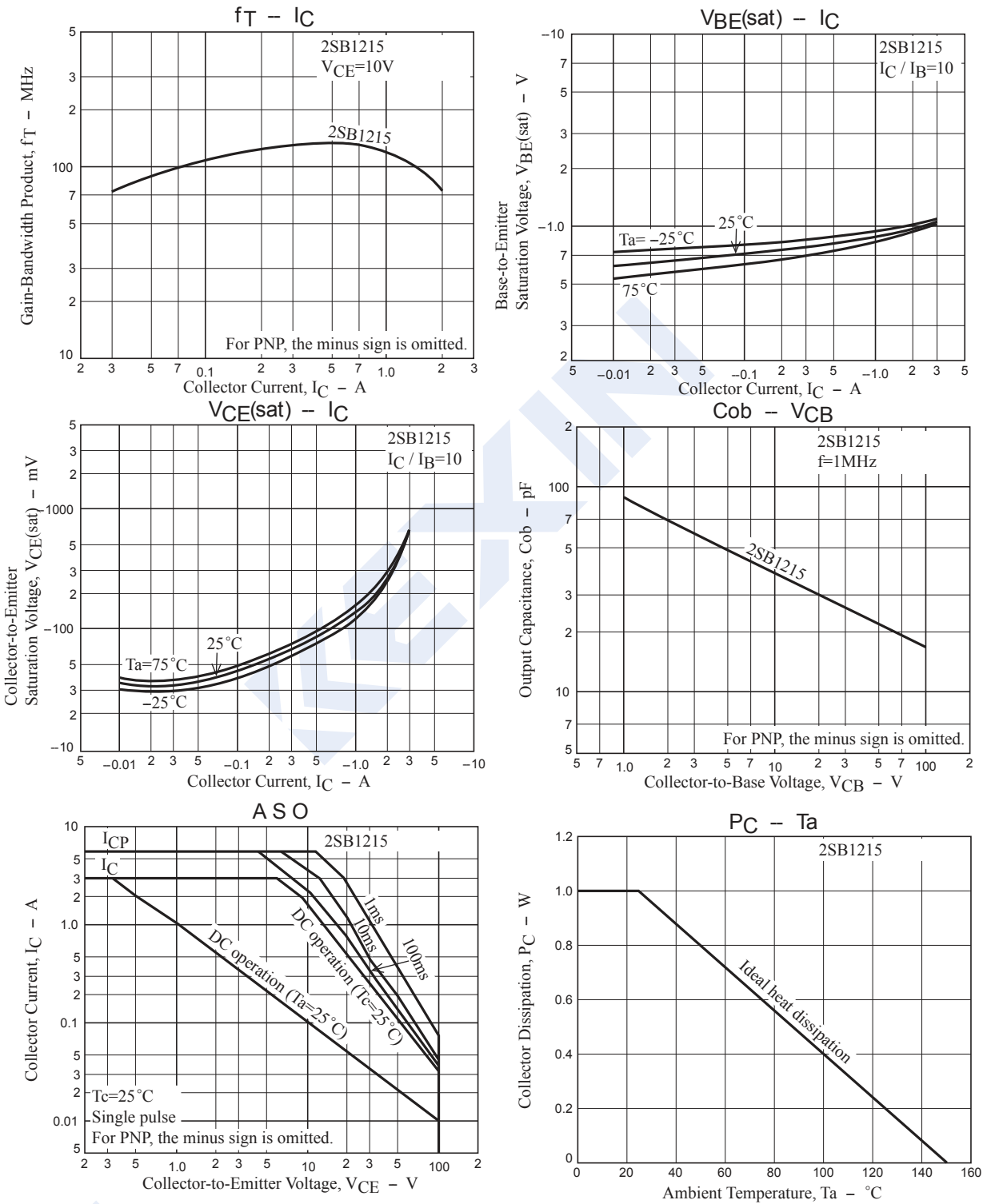
■ Typical Characteristics



PNP Transistors

2SB1215

Typical Characteristics



PNP Transistors

2SB1215

■ Typical Characteristics

