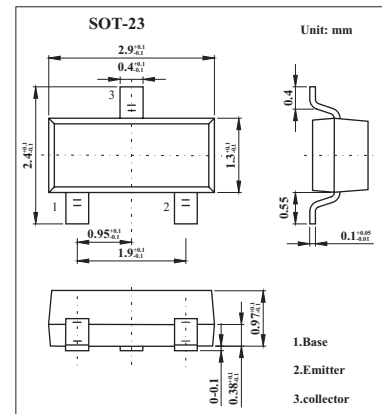


## PNP High-Voltage Transistors

## BF821, BF823

## ■ Features

- Low current (max. 50 mA)
- High voltage (max. 300 V).

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

| Parameter                                     | Symbol        | Rating      | Unit             |
|---|---------------|-------------|------------------|
| Collector-base voltage                        | BF821         | -300        | V                |
|   | BF823         | -250        | V                |
| Collector-emitter voltage                     | BF821         | -300        | V                |
|   | BF823         | -250        | V                |
| Emitter-base voltage                          | $V_{EBO}$     | -5          | V                |
| Collector current                             | $I_C$         | -50         | mA               |
| Peak collector current                        | $I_{CM}$      | -100        | mA               |
| Peak base current                             | $I_{BM}$      | -50         | mA               |
| Total power dissipation *                     | $P_{tot}$     | 250         | mW               |
| Storage temperature                           | $T_{stg}$     | -65 to +150 | $^\circ\text{C}$ |
| Junction temperature                          | $T_j$         | 150         | $^\circ\text{C}$ |
| Operating ambient temperature                 | $R_{amb}$     | -65 to +150 | $^\circ\text{C}$ |
| Thermal resistance from junction to ambient * | $R_{th\ j-a}$ | 500         | K/W              |

\* Transistor mounted on an FR4 printed-circuit board.

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

| Parameter                            | Symbol      | Testconditions   | Min | Typ | Max  | Unit          |
|--------------------------------------|-------------|--|-----|-----|------|---------------|
| Collector cutoff current             | $I_{CBO}$   | $I_E = 0; V_{CB} = -200\text{ V}$                                |     |     | -10  | nA            |
|                                      |             | $I_E = 0; V_{CB} = -200\text{ V}; T_j = 150^\circ\text{C}$       |     |     | -10  | $\mu\text{A}$ |
| Emitter cutoff current               | $I_{EBO}$   | $I_C = 0; V_{EB} = -5\text{ V}$                                  |     |     | -50  | nA            |
| DC current gain                      | $h_{FE}$    | $I_C = -25\text{ mA}; V_{CE} = -20\text{ V}$                     | 50  |     |      |               |
| collector-emitter saturation voltage | $V_{CEsat}$ | $I_C = -30\text{ mA}; I_B = -5\text{ mA}$                        |     |     | -800 | mV            |
| Feedback capacitance                 | $C_{re}$    | $I_C = I_E = 0; V_{CB} = -30\text{ V}; f = 1\text{ MHz}$         |     |     | 1.6  | pF            |
| Transition frequency                 | $f_T$       | $I_C = -10\text{ mA}; V_{CE} = -10\text{ V}; f = 100\text{ MHz}$ | 60  |     |      | MHz           |

■  $h_{FE}$  Classification

| TYPE    | BF821 | BF823 |
|---------|-------|-------|
| Marking | 1W    | 1Y    |