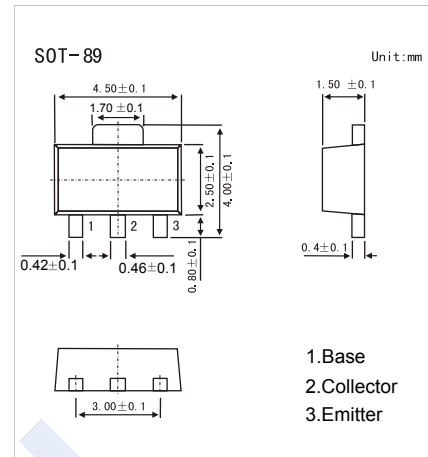


## PNP Transistors

## 2SB1589

## ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Large collector power dissipation  $P_c$ .
- For low-frequency output amplification

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

| Parameter                      | Symbol    | Rating     | Unit             |
|--------------------------------|-----------|------------|------------------|
| Collector - Base Voltage       | $V_{CBO}$ | -10        | V                |
| Collector - Emitter Voltage    | $V_{CEO}$ | -10        |                  |
| Emitter - Base Voltage         | $V_{EBO}$ | -7         |                  |
| Collector Current - Continuous | $I_c$     | -1.5       | A                |
| Collector Current - Pulse      | $I_{CP}$  | -2         |                  |
| Collector Power Dissipation    | $P_c$     | 1          | 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    | $V_{CBO}$     | $I_c = -100\ \mu\text{A}$ , $I_E = 0$                               | -10 |       |       | V             |
| Collector- emitter breakdown voltage | $V_{CEO}$     | $I_c = -1\ \text{mA}$ , $I_B = 0$                                   | -10 |       |       |               |
| Emitter - base breakdown voltage     | $V_{EBO}$     | $I_E = -100\ \mu\text{A}$ , $I_C = 0$                               | -7  |       |       |               |
| Collector-base cut-off current       | $I_{CBO}$     | $V_{CB} = -7\text{V}$ , $I_E = 0$                                   |     |       | -1    | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -6\text{V}$ , $I_C = 0$                                   |     |       | -0.1  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1\ \text{A}$ , $I_B = -25\ \text{mA}$                       |     | -0.24 | -0.35 | V             |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_C = -1\ \text{A}$ , $I_B = -25\ \text{mA}$                       |     |       | -1.2  |               |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -1\text{V}$ , $I_C = -400\ \text{mA}$                     | 200 |       | 700   |               |
| Forward voltage                      | $V_F$         | $I_F = -500\text{mA}$                                               |     |       | -1.3  | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$              |     | 65    |       | pF            |
| Transition frequency                 | $f_T$         | $V_{CE} = -6\text{V}$ , $I_E = 50\ \text{mA}$ , $f = 200\text{MHz}$ |     | 190   |       | MHz           |

## ■ Marking

|         |    |
|---------|----|
| Marking | 1U |
|---------|----|

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## ■ Typical Characteristics

