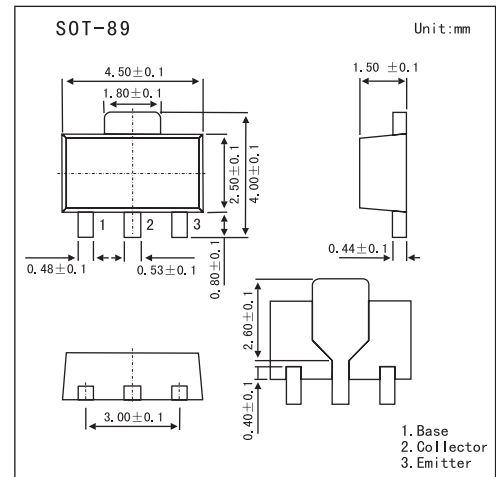


## Silicon PNP Epitaxial Planar

## 2SB1571

## ■ Features

- Low  $V_{CE(sat)}$ :  $V_{CE(sat)} \leq -0.35\text{ V}$

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

| Parameter                    | Symbol         | Rating      | Unit             |
|------------------------------|----------------|-------------|------------------|
| Collector to Base Voltage    | $V_{CBO}$      | -50         | V                |
| Collector to Emitter Voltage | $V_{CEO}$      | -30         | V                |
| Emitter to Base Voltage      | $V_{EBO}$      | -6          | V                |
| Collector Current (DC)       | $I_{C(DC)}$    | -5          | A                |
| Collector Current (pulse) *  | $I_{C(Pulse)}$ | -8          | A                |
| Base Current (DC)            | $I_{B(DC)}$    | -0.2        | A                |
| Base Current (pulse) *       | $I_{B(Pulse)}$ | -0.4        | A                |
| Total Power Dissipation *    | $P_T$          | 2           | W                |
| Junction Temperature         | $T_j$          | 150         | $^\circ\text{C}$ |
| Storage temperature          | $T_{stg}$      | -55 to +150 | $^\circ\text{C}$ |

\*  $PW \leq 10\text{ ms}$ , Duty Cycle  $\leq 50\%$

## 2SB1571

## ■ Electrical Characteristics Ta = 25°C

| Parameter                      | Symbol                | Testconditons   | Min  | Typ    | Max   | Unit |
|--------------------------------|-----------------------|---|------|--------|-------|------|
| Collector Cut-off Current      | IcBO                  | V <sub>CB</sub> = -50 V, I <sub>E</sub> = 0   |      |        | -100  | nA   |
| Emitter Cut-off Current        | I <sub>EBO</sub>      | V <sub>EB</sub> = -6.0 V, I <sub>C</sub> = 0  |      |        | -100  | nA   |
| DC Current Gain *              | h <sub>FE1</sub>      | V <sub>CE</sub> = -1.0 V, I <sub>C</sub> = -1.0 A   | 80   |        |       |      |
|                                | h <sub>FE2</sub>      | V <sub>CE</sub> = -1.0 V, I <sub>C</sub> = -2.0 A   | 100  | 200    | 400   |      |
| Base to Emitter Voltage *      | V <sub>BE</sub>       | V <sub>CE</sub> = -1.0 V, I <sub>C</sub> = -0.1 A   | -0.6 | -0.665 | -0.7  | V    |
| Collector Saturation Voltage * | V <sub>CE(sat)1</sub> | I <sub>C</sub> = -3.0 A, I <sub>B</sub> = -0.15 A   |      | -0.17  | -0.35 | V    |
| Collector Saturation Voltage * | V <sub>CE(sat)2</sub> | I <sub>C</sub> = -5.0 A, I <sub>B</sub> = -0.25 A   |      | -0.28  | -0.55 | V    |
| Base Saturation Voltage *      | V <sub>BE(sat)</sub>  | I <sub>C</sub> = -3.0 A, I <sub>B</sub> = -0.15 A   |      | -0.89  | -1.2  | V    |
| Gain Bandwidth Product         | f <sub>T</sub>        | V <sub>CE</sub> = -10 V, I <sub>E</sub> = 0.5 A   |      | 150    |       | MHz  |
| Output Capacitance             | C <sub>ob</sub>       | V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1.0 MHz  |      | 100    |       | pF   |
| Turn-on Time                   | t <sub>on</sub>       | I <sub>C</sub> = -2.0 A, V <sub>CC</sub> = -10 V, R <sub>L</sub> = 5.0Ω, I <sub>B1</sub> = -I <sub>B2</sub> = -0.1 A, |      | 265    |       | ns   |
| Storage Time                   | t <sub>stg</sub>      |   |      | 350    |       | ns   |
| Fall Time                      | t <sub>f</sub>        |   |      | 50     |       | ns   |

\* Pulsed: PW ≤ 350 μs, Duty Cycle ≤ 2%.

## ■ hFE Classification

| Marking | HX      | HY      | HZ      |
|---------|---------|---------|---------|
| hFE     | 100~200 | 160~320 | 200~400 |