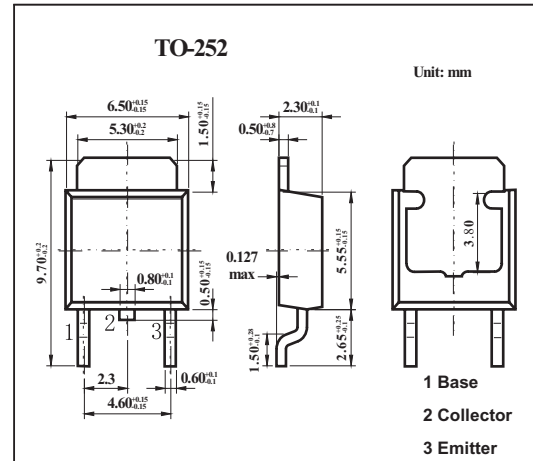


Silicon PNP Epitaxial Planar Type

2SB931



Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$.
- Satisfactory linearity of forward current transfer ratio h_{FE} .
- Large collector current I_c .

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

| Parameter | Symbol | Rating | Unit |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage | V_{CBO} | -130 | V |
| Collector-emitter voltage | V_{CEO} | -80 | V |
| Emitter-base voltage | V_{EBO} | -7 | V |
| Collector current | I_c | -3 | A |
| Peak collector current | I_{cP} | -6 | A |
| Collector power dissipation | P_c | 1.3 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|------|---------------|
| Collector-emitter voltage | V_{CEO} | $I_c = -10\text{mA}, I_B = 0$ | -80 | | | V |
| Collector-base cutoff current | I_{CBO} | $V_{CB} = -100\text{V}, I_E = 0$ | | | -10 | μA |
| Emitter-base cutoff current | I_{EBO} | $V_{EB} = -5\text{V}, I_c = 0$ | | | -50 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = -2\text{V}, I_c = -0.5\text{A}$ | 90 | | 260 | V |
| | | $V_{CE} = -2\text{V}, I_c = -0.1\text{A}$ | 45 | | | |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_c = -2\text{A}, I_B = -0.1\text{A}$ | | | -1.5 | V |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c = -2\text{A}, I_B = -0.1\text{A}$ | | | -0.5 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{V}, I_c = -0.5\text{A}, f = 10\text{MHz}$ | | 30 | | MHz |
| Turn-on time | t_{on} | $I_c = -0.5\text{A}, I_{B1} = -50\text{mA}, I_{B2} = 50\text{mA}, V_{CC} = -50\text{V}$ | | 0.3 | | μs |
| Storage time | t_{stg} | | | 1.1 | | μs |
| Fall time | t_f | | | 0.3 | | μs |

h_{FE} Classification

| Rank | Q | P |
|----------|--------|---------|
| h_{FE} | 90~180 | 130~260 |