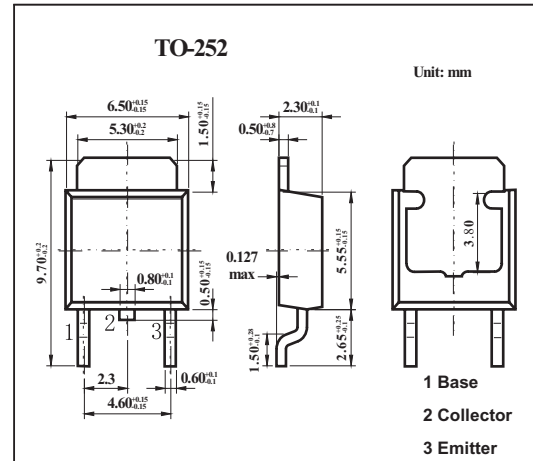


Silicon PNP Epitaxial Planar Type

2SB1172A



■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity.
- Low collector-emitter saturation voltage $V_{CE(sat)}$.

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

| Parameter | Symbol | Rating | Unit |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage | V_{CBO} | -80 | V |
| Collector-emitter voltage | V_{CEO} | -80 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -3 | A |
| Peak collector current | I_{CP} | -5 | 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} | $I_C = -30\text{ mA}, I_B = 0$ | -80 | | | V |
| Base to emitter voltage | V_{BE} | $V_{CE} = -4\text{ V}, I_C = -3\text{ A}$ | | | -1.8 | V |
| Collector-emitter cutoff current | I_{CES} | $V_{CE} = -80\text{ V}, V_{BE} = 0$ | | | -200 | μA |
| Collector-emitter cutoff current | I_{CEO} | $V_{CE} = -60\text{ V}, I_B = 0$ | | | -300 | μA |
| Emitter-base cutoff current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | | | -1 | mA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = -4\text{ V}, I_C = -1\text{ A}$ | 70 | | 250 | V |
| | | $V_{CE} = -4\text{ V}, I_C = -3\text{ A}$ | 10 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -3\text{ A}, I_B = -0.375\text{ A}$ | | | 1.2 | 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} | $I_C = -1\text{ A}, I_{B1} = -0.1\text{ A}, I_{B2} = 0.1\text{ A}, V_{CC} = -50\text{ V}$ | | 0.5 | | μs |
| Storage time | t_{stg} | | | 1.2 | | μs |
| Fall time | t_f | | | 0.3 | | μs |

■ h_{FE} Classification

| Rank | Q | P |
|----------|--------|---------|
| h_{FE} | 70~150 | 120~250 |