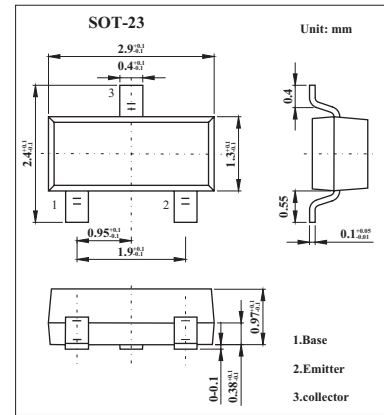


PNP Silicon Switching Transistors

BSS80,BSS82

■ Features

- High DC current gain: 0.1mA to 500 mA.
- Low collector-emitter saturation voltage.

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

| Parameter | Symbol | BSS80 | BSS82 | Unit |
|---|------------|-------------|-------|------------------|
| Collector-emitter voltage | V_{CE0} | 40 | 60 | V |
| Collector-base voltage | V_{CB0} | 60 | | V |
| Emitter-base voltage | V_{EB0} | 5 | | V |
| Collector current | I_C | 800 | | mA |
| Peak collector current | I_{CM} | 1 | | A |
| Base current | I_B | 100 | | mA |
| Peak base current | I_{BM} | 200 | | mA |
| Total power dissipation, $T_s = 77^\circ\text{C}$ | P_{tot} | 330 | | mW |
| Junction temperature | T_j | 150 | | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -65 to +150 | | $^\circ\text{C}$ |
| Junction - soldering point | R_{thJS} | ≤ 220 | | K/W |

BSS80, BSS82■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--|---------------|--|-----|-----|-----|---------------|
| Collector-emitter breakdown voltage | BSS80 | $I_C = 10\text{ mA}, I_B = 0$ | 40 | | | V |
| | BSS82 | | | | | |
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = 10\text{ }\mu\text{A}, I_E = 0$ | 60 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 10\text{ }\mu\text{A}, I_C = 0$ | 5 | | | V |
| Collector cutoff current | I_{CBO} | $V_{CB} = 50\text{ V}, I_E = 0$ | | | 10 | nA |
| | | $V_{CB} = 50\text{ V}, I_E = 0, T_A = 150^\circ\text{C}$ | | | 10 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 3\text{ V}, I_C = 0$ | | | 10 | nA |
| DC current gain * | BSS80/82B | $I_C = 100\text{ }\mu\text{A}, V_{CE} = 10\text{ V}$ | 40 | | | |
| | BSS80/82C | | | | | |
| | BSS80/82B | $I_C = 1\text{ mA}, V_{CE} = 10\text{ V}$ | 40 | | | |
| | BSS80/82C | | | | | |
| | BSS80/82B | $I_C = 10\text{ mA}, V_{CE} = 10\text{ V}$ | 40 | | | |
| | BSS80/82C | | | | | |
| | BSS80/82B | $I_C = 150\text{ mA}, V_{CE} = 10\text{ V}$ | 40 | | 120 | |
| | BSS80/82C | | | | | |
| | BSS80/82B | $I_C = 500\text{ mA}, V_{CE} = 10\text{ V}$ | 40 | | | |
| | BSS80/82C | | | | | |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C = 150\text{ mA}, I_B = 15\text{ mA}$ | | | 0.4 | V |
| | | $I_C = 500\text{ mA}, I_B = 50\text{ mA}$ | | | 1.6 | |
| Base-emitter saturation voltage * | $V_{BE(sat)}$ | $I_C = 150\text{ mA}, I_B = 15\text{ mA}$ | | | 1.3 | V |
| | | $I_C = 500\text{ mA}, I_B = 50\text{ mA}$ | | | 2.6 | |
| Transition frequency | f_T | $I_C = 20\text{ mA}, V_{CE} = 20\text{ V}, f = 100\text{ MHz}$ | | 250 | | MHz |
| Collector-base capacitance | C_{cb} | $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$ | | 6 | | pF |
| Delay time | t_d | $V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = 15\text{ mA}, V_{BE(off)} = 0.5\text{ V}$ | | | 10 | ns |
| Rise time | t_r | $V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = 15\text{ mA}, V_{BE(off)} = 0.5\text{ V}$ | | | 40 | ns |
| Storage time | t_{stg} | $V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = I_{B2} = 15\text{ mA}$ | | | 80 | ns |
| Fall time | t_f | $V_{CC} = 30\text{ V}, I_C = 150\text{ mA}, I_{B1} = I_{B2} = 15\text{ mA}$ | | | 30 | ns |

* Pulse test: $t \leq 300\mu\text{s}, D = 2\%$.

■ hFE Classification

| TYPE | BSS80 | |
|---------|-------|-----|
| Rank | B | C |
| Marking | CHs | CJs |

| TYPE | BSS82 | |
|---------|-------|-----|
| Rank | B | C |
| Marking | CLs | CMs |