

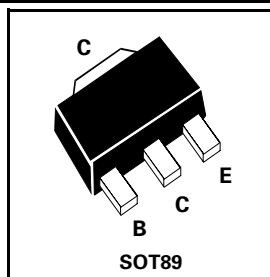
SOT89 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

ISSUE 4 – MARCH 2001

BSR33

COMPLEMENTARY TYPE – BSR43

PARTMARKING DETAILS – BR4



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | -90 | V |
| Collector-Emitter Voltage | V_{CEO} | -80 | V |
| Emitter-Base Voltage | V_{EBO} | -5 | V |
| Peak Pulse Current | I_{CM} | -2 | A |
| Continuous Collector Current | I_C | -1 | A |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{TOT} | 1 | W |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -65 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|---------------|-----------------|---------------|---------------|---|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | -90 | | V | $I_C = -100\mu A$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | -80 | | V | $I_C = -10mA$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | -5 | | V | $I_E = -10\mu A$ |
| Collector Cut-Off Current | I_{CBO} | | -100 -50 | nA μA | $V_{CB} = -60V$ $V_{CB} = -60V, T_{amb} = 125^{\circ}C$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | -0.25 -0.5 | V V | $I_C = -150mA, I_B = -15mA^*$ $I_C = -500mA, I_B = -50mA^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | -1.0 -1.2 | V V | $I_C = -150mA, I_B = -15mA^*$ $I_C = -500mA, I_B = -50mA^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 30 100 50 | 300 | | $I_C = -100\mu A, V_{CE} = -5V^*$ $I_C = -100mA, V_{CE} = -5V^*$ $I_C = -500mA, V_{CE} = -5V^*$ |
| Output Capacitance | C_{obo} | | 20 | pF | $V_{CB} = -10V, f = 1MHz$ |
| Input Capacitance | C_{ibo} | | 120 | pF | $V_{EB} = -0.5V, f = 1MHz$ |
| Transition Frequency | f_T | 100 | | MHz | $I_C = -50mA, V_{CE} = -10V$ $f = 35MHz$ |
| Turn-On Time | T_{on} | | 500 | ns | $V_{CC} = -20V, I_C = -100mA$ |
| Turn-Off Time | T_{off} | | 650 | ns | $I_{B1} = -I_{B2} = -5mA$ |

*Measured under pulsed conditions.

Spice parameter data is available upon request for this device