

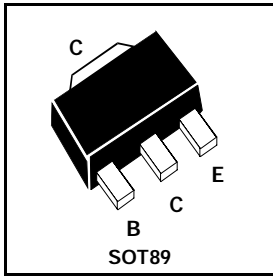
SOT89 NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

**BSR41
BSR43**

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COMPLEMENTARY TYPES – BSR43 - BSR33
BSR41 - BSR31

PARTMARKING DETAIL – BSR43 - AR4
BSR41 - AR2



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | BSR41 | BSR43 | UNIT |
|--|----------------|-------------|-------|-------------|
| Collector-Base Voltage | V_{CBO} | 70 | 90 | V |
| Collector-Emitter Voltage | V_{CEO} | 60 | 80 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | | V |
| Peak Pulse Current | I_{CM} | 2 | | A |
| Continuous Collector Current | I_C | 1 | | A |
| Base Current | I_B | 100 | | mA |
| 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 70 | | V | $I_C=100\mu A$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 80 60 | | 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 | | $I_C = 100\mu A, V_{CE} = 5V$ $I_C = 100mA, V_{CE} = 5V$ $I_C = 500mA, V_{CE} = 5V$ |
| Collector Capacitance | C_c | | 12 | pF | $V_{CB} = 10V, f = 1MHz$ |
| Emitter Capacitance | C_e | | 90 | 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} | | 250 | ns | $V_{CC} = 20V, I_C = 100mA$ |
| Turn-Off Time | T_{off} | | 1000 | ns | $I_{B1} = I_{B2} = 5mA$ |

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
For typical characteristics graphs see FMMT493 datasheet.