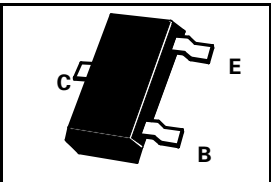


SOT23 NPN SILICON PLANAR MEDIUM POWER SWITCHING TRANSISTORS

BSS66 BSS67

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PARTMARKING DETAILS — BSS66 - M6
 BSS67 - M7
 BSS66R - M8
 BSS67R - M9



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|------------------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 40 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Peak Pulse Current | I_{CM} | 200 | mA |
| Continuous Collector Current | I_C | 100 | mA |
| Base Current | I_B | 50 | mA |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ | P_{TOT} | 330 | mW |
| Operating and Storage Temperature Range | $t_j; t_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

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

| PARAMETER | SYMBOL | MIN. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|-------------------------|-----------------------------|--------------|------------|--|
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 40 | | V | $I_C=1\text{mA}$ |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | | V | $I_C=10\mu\text{A}$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 6 | | V | $I_E=10\mu\text{A}$ |
| Collector- Emitter Cut-off Current | I_{CES} | | 50 | nA | $V_{CES}=30\text{V}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 0.20 0.30 | V V | $I_C=10\text{mA}, I_B=1\text{mA}$ $I_C=50\text{mA}, I_B=5\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | 0.65 | 0.85 0.95 | V V | $I_C=10\text{mA}, I_B=1\text{mA}$ $I_C=50\text{mA}, I_B=5\text{mA}^*$ |
| Static Forward Current Transfer Ratio | BSS66 h_{FE} | 20 35 50 30 15 | 150 | | $I_C=100\mu\text{A}, I_C=1\text{mA}, I_C=10\text{mA}, V_{CE}=1\text{V}, I_C=50\text{mA}^*, I_C=100\text{mA}^*$ |
| Static Forward Current Transfer Ratio | BSS67 h_{FE} | 40 70 100 60 30 | 300 | | $I_C=100\mu\text{A}, I_C=1\text{mA}, I_C=10\text{mA}, V_{CE}=1\text{V}, I_C=50\text{mA}^*, I_C=100\text{mA}^*$ |
| Transition Frequency | BSS66 BSS67 f_T | 250 300 | | MHz MHz | $I_C=10\text{mA}, V_{CE}=20\text{V}, f=100\text{MHz}$ |
| Collector-Base Capacitance | C_{obo} | | 4 | pF | $V_{CB}=5\text{V}, f=100\text{kHz}$ |
| Emitter-Base Capacitance | C_{ibo} | | 8 | pF | $V_{EB}=0.5\text{V}, f=100\text{kHz}$ |
| Noise Figure | N | Typ. 6 | | dB | $I_C=100\mu\text{A}, V_{CE}=5\text{V}, R_S=1\text{k}\Omega, f=10\text{Hz to }15.7\text{ kHz}$ |
| Switching times: Delay; Rise | $t_d; t_r$ | | 35 | ns | $V_{CC}=3\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=1\text{mA}$ |
| Storage Time | t_s | | 200 | ns | |
| Fall Time | t_f | | 50 | ns | |

* Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$