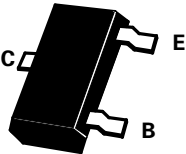


# SOT23 PNP SILICON PLANAR HIGH SPEED TRANSISTOR

ISSUE 2 - SEPTEMBER 1995

BSS65

PARTMARKING DETAIL — BSS65 - L1  
BSS65R - L5



## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -12         | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -12         | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -4          | V           |
| Peak Pulse Current                         | $I_{CM}$       | -200        | mA          |
| Continuous Collector Current               | $I_C$          | -100        | mA          |
| Base Current                               | $I_B$          | -50         | mA          |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{TOT}$      | 330         | mW          |
| Operating and Storage Temperature Range    | $t_j; t_{stg}$ | -55 to +150 | $^{\circ}C$ |

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

| PARAMETER                             | SYMBOL        | MIN.  | TYP. | MAX.  | UNIT | CONDITIONS.                                    |
|---------------------------------------|---------------|-------|------|-------|------|------------------------------------------------|
| Breakdown Voltages                    | $V_{(BR)CEO}$ | -12   |      |       | V    | $I_C = -10mA$                                  |
|                                       | $V_{(BR)CBO}$ | -12   |      |       | V    | $I_C = -10\mu A$ *                             |
|                                       | $V_{(BR)EBO}$ | -4    |      |       | V    | $I_E = -10\mu A$                               |
| Cut-Off Currents                      | $I_{CBO}$     |       |      | -100  | nA   | $V_{CB} = -6V, I_E = 0$                        |
|                                       | $I_{EBO}$     |       |      | -100  | nA   | $V_{EB} = -4V, I_C = 0$                        |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$ |       |      | -0.15 | V    | $I_C = -10mA, I_B = -1mA$                      |
|                                       |               |       |      | -0.25 | V    | $I_C = -30mA, I_B = -3mA$                      |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$ | -0.75 |      | -0.98 | V    | $I_C = -10mA, I_B = -1mA$                      |
|                                       |               | -0.82 |      | -1.20 | V    | $I_C = -30mA, I_B = -3mA$                      |
| Static Forward Current Transfer Ratio | $h_{FE}$      | 30    |      | 150   |      | $I_C = -10mA, V_{CE} = -0.3V$                  |
|                                       |               | 40    |      |       |      | $I_C = -30mA, V_{CE} = -0.5V$                  |
| Transition Frequency                  | $f_T$         | 400   |      |       | MHz  | $I_C = -30mA, V_{CE} = -10V, f = 100MHz$       |
| Collector-Base Capacitance            | $C_{obo}$     |       |      | 6     | pF   | $V_{CB} = -5V, I_E = 0, f = 1MHz$              |
| Emitter Base Capacitance              | $C_{ebo}$     |       |      | 6     | pF   | $V_{EB} = -0.5V, I_C = 0, f = 1MHz$            |
| Switching Times                       | $t_{on}$      |       | 23   | 60    | nS   | $I_C = -30mA$                                  |
|                                       | $t_{off}$     |       | 34   | 90    | nS   | $I_{B1} = -I_{B2} = -1.5mA$<br>$V_{CC} = -10V$ |