

# SOT223 PNP SILICON PLANAR HIGH VOLTAGE TRANSISTOR

ISSUE 3 – FEBRUARY 1996

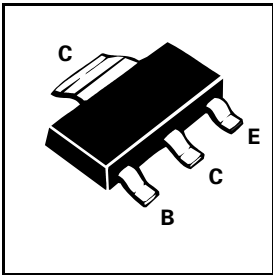
## FEATURES

- \* High  $V_{CE0}$
- \* Low saturation voltage

COMPLEMENTARY TYPE: – BSP20

PARTMARKING DETAIL: – BSP15

**BSP15**



## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL         | VALUE       | UNIT        |
|--------------------------------------------|----------------|-------------|-------------|
| Collector-Base Voltage                     | $V_{CBO}$      | -200        | V           |
| Collector-Emitter Voltage                  | $V_{CEO}$      | -200        | V           |
| Emitter-Base Voltage                       | $V_{EBO}$      | -5          | V           |
| Peak Pulse Current                         | $I_{CM}$       | -1          | A           |
| Continuous Collector Current               | $I_C$          | -0.5        | A           |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 2           | W           |
| Operating and Storage Temperature Range    | $T_j, T_{stg}$ | -55 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      | $V_{(BR)CBO}$ | -200 |               | V       | $I_C = -100\mu A$                                          |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$ | -200 |               | V       | $I_C = -10mA^*$                                            |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$ | -5   |               | V       | $I_E = -100\mu A$                                          |
| Collector Cut-Off Current             | $I_{CBO}$     |      | -1            | $\mu A$ | $V_{CB} = -175V$                                           |
| Emitter Cut-Off Current               | $I_{EBO}$     |      | -20           | $\mu A$ | $V_{EB} = -4V$                                             |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$ |      | - 2.0<br>-0.5 | V<br>V  | $I_C = -50mA, I_B = -5mA^*$<br>$I_C = -30mA, I_B = -3mA^*$ |
| Static Forward Current Transfer Ratio | $h_{FE}$      | 30   | 150           |         | $I_C = -50mA, V_{CE} = -10V^*$                             |
| Transition Frequency                  | $f_T$         | 15   |               | MHz     | $I_C = -10mA, V_{CE} = -20V^*$<br>$f = 20MHz$              |
| Output Capacitance                    | $C_{obo}$     |      | 15            | pF      | $V_{CB} = -10V, f = 1MHz$                                  |

\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
For typical characteristics graphs see FMMTA92 datasheet.