# Silicon PNP Power Transistors 2SB511

## DESCRIPTION

·With TO-220C package
·Complement to type 2SD325
·Low collector saturation voltage

## APPLICATIONS

·Designed for use in low frequency power amplifier applications

**PINNING**

| PIN | DESCRIPTION |
|---|---|
| 1 | Emitter |
| 2 | Collector;connected to mounting base |
| 3 | Base |

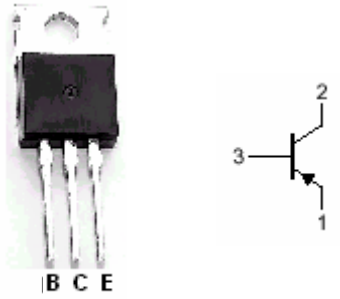


**Fig.1 simplified outline (TO-220) and symbol**

## Absolute maximum ratings(Ta=25□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | -35 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | -35 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | -5 | V |
| $I_C$ | Collector current (DC) | | -1.5 | A |
| $I_{CM}$ | Collector current -peak | | -3.0 | A |
| $P_C$ | Collector dissipation | $T_a$=25□ | 1.75 | W |
| | | $T_C$=25□ | 10 | |
| $T_j$ | Junction temperature | | 150 | □ |
| $T_{stg}$ | Storage temperature | | -50~150 | □ |

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## CHARACTERISTICS

**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C$=-10mA; $I_B$=0 | -35 | | | V |
| $V_{CEsat}$ | Collector-emitter saturation voltage | $I_C$=-1.5A; $I_B$=-0.15A | | | -1.0 | V |
| $V_{BE}$ | Base-emitter on voltage | $I_C$=-1A ; $V_{CE}$=-5V | | | -1.5 | V |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=-20V; $I_E$=0 | | | -0.1 | mA |
| $I_{EBO}$ | Emitter cut-off current | $V_{EB}$=-5V; $I_C$=0 | | | -0.1 | mA |
| $h_{FE-1}$ | DC current gain | $I_C$=-1A ; $V_{CE}$=-2V | 40 | | 320 | |
| $h_{FE-2}$ | DC current gain | $I_C$=-0.1A ; $V_{CE}$=-2V | 35 | | | |
| $f_T$ | Transition frequency | $I_C$=-0.5A ; $V_{CE}$=-5V | | 8 | | MHz |

◆ **$h_{FE-1}$ Classifications**

| C | D | E | F |
|---|---|---|---|
| 40-80 | 60-120 | 100-200 | 160-320 |

**PACKAGE OUTLINE**

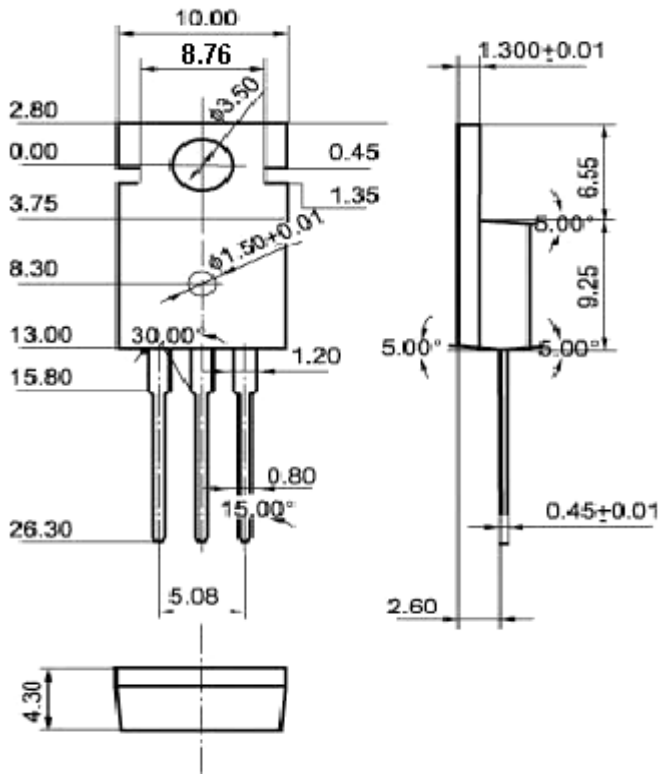


**Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)**