

# isc Silicon PNP Power Transistor

## 2SB1186

### DESCRIPTION

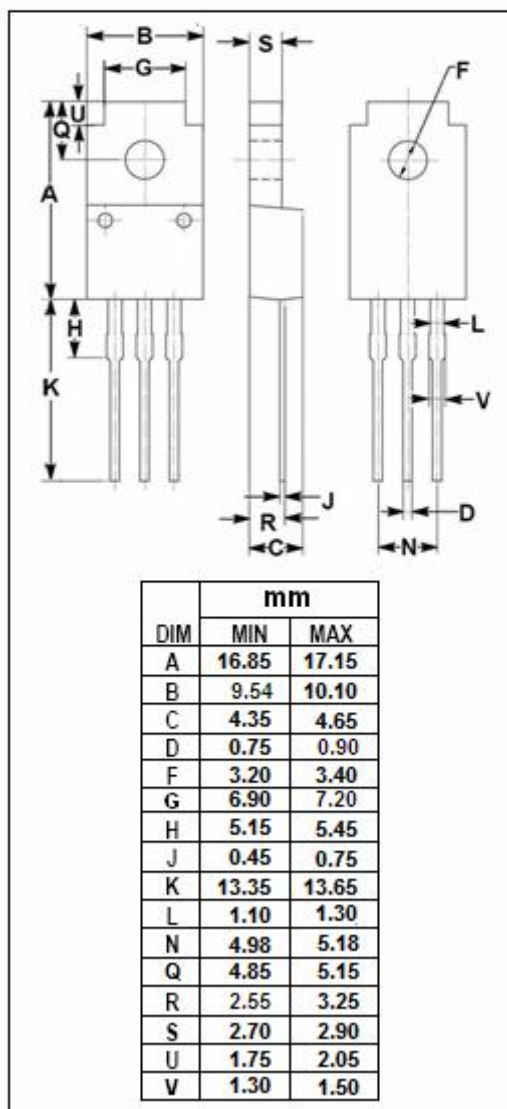
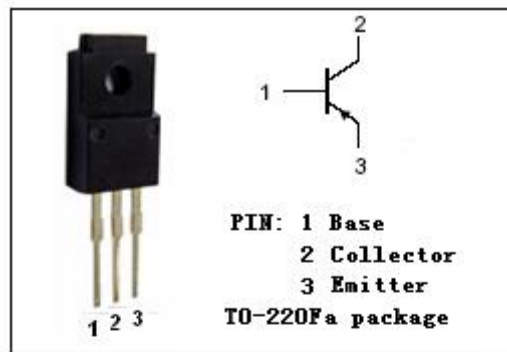
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -120V(\text{Min.})$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SD1763
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Power amplifier applications.
- Driver stage amplifier applications.

### ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | -120    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | -120    | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | -5      | V                |
| $I_C$     | Collector Current-Continuous                            | -1.5    | A                |
| $I_{CM}$  | Collector Current-Peak                                  | -3      | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_a=25^\circ\text{C}$ | 2       | W                |
|           | Collector Power Dissipation<br>@ $T_c=25^\circ\text{C}$ | 20      |                  |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~150 | $^\circ\text{C}$ |



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                                                        | MIN  | TYP. | MAX  | UNIT          |
|---------------|--------------------------------------|-------------------------------------------------------------------|------|------|------|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C = -1\text{mA}; I_B = 0$                                      | -120 |      |      | V             |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage     | $I_C = -50\text{ }\mu\text{A}; I_E = 0$                           | -120 |      |      | V             |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage       | $I_E = -50\text{ }\mu\text{A}; I_C = 0$                           | -5   |      |      | V             |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -1\text{A}; I_B = -0.1\text{A}$                            |      |      | -2.0 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C = -1\text{A}; I_B = -0.1\text{A}$                            |      |      | -1.5 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB} = -100\text{V}; I_E = 0$                                  |      |      | -1   | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB} = -4\text{V}; I_C = 0$                                    |      |      | -1   | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $I_C = -0.1\text{A}; V_{CE} = -5\text{V}$                         | 100  |      | 320  |               |
| $C_{OB}$      | Output Capacitance                   | $I_E = 0; V_{CB} = -10\text{V}; f_{test} = 1\text{MHz}$           |      | 30   |      | pF            |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_E = 0.1\text{A}; V_{CE} = -5\text{V}; f_{test} = 30\text{MHz}$ |      | 50   |      | MHz           |

◆  $h_{FE}$  Classifications

| E       | F       |
|---------|---------|
| 100-200 | 160-320 |

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