

## Silicon PNP Power Transistor

**2SB1160**

### DESCRIPTION

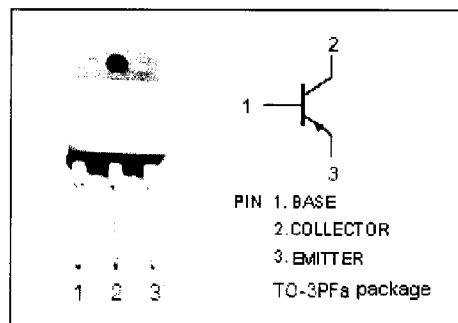
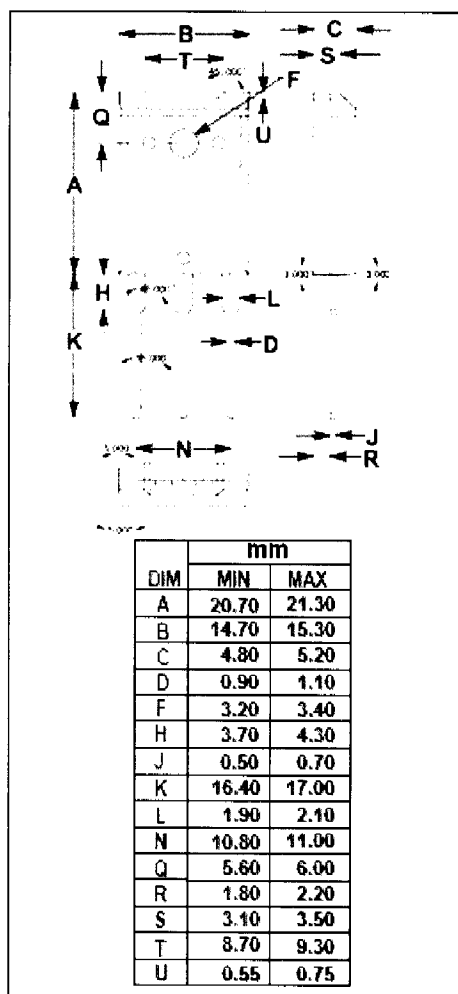
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -150V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Wide Area of Safe Operation
- Complement to Type 2SD1715

### APPLICATIONS

- Designed for high power amplifier applications

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

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | -150    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | -150    | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | -5      | V                |
| $I_C$     | Collector Current-Continuous                            | -9      | A                |
| $I_{CP}$  | Collector Current-Pulse                                 | -15     | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^\circ\text{C}$ | 100     | W                |
|           | Collector Power Dissipation<br>@ $T_a=25^\circ\text{C}$ | 3       |                  |
| $T_J$     | 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          |
|---------------|--------------------------------------|-----------------------------------------------------------|-----|------|------|---------------|
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -7\text{A}; I_B = -0.7\text{A}$                    |     |      | -2.0 | V             |
| $V_{BE(on)}$  | Base -Emitter On Voltage             | $I_C = -7\text{A}; V_{CE} = -5\text{V}$                   |     |      | -1.8 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB} = -150\text{V}; I_E = 0$                          |     |      | -50  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB} = -3\text{V}; I_C = 0$                            |     |      | -50  | $\mu\text{A}$ |
| $h_{FE-1}$    | DC Current Gain                      | $I_C = -20\text{mA}; V_{CE} = -5\text{V}$                 | 20  |      |      |               |
| $h_{FE-2}$    | DC Current Gain                      | $I_C = -1\text{A}; V_{CE} = -5\text{V}$                   | 60  |      | 200  |               |
| $h_{FE-3}$    | DC Current Gain                      | $I_C = -7\text{A}; V_{CE} = -5\text{V}$                   | 20  |      |      |               |
| $C_{OB}$      | Output Capacitance                   | $I_E = 0; V_{CB} = -10\text{V}; f_{test} = 1.0\text{MHz}$ |     | 330  |      | pF            |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C = -0.5\text{A}; V_{CE} = -5\text{V}$                 |     | 20   |      | MHz           |

### ◆ $h_{FE-2}$ Classifications

| Q      | S      | P       |
|--------|--------|---------|
| 60-120 | 80-160 | 100-200 |