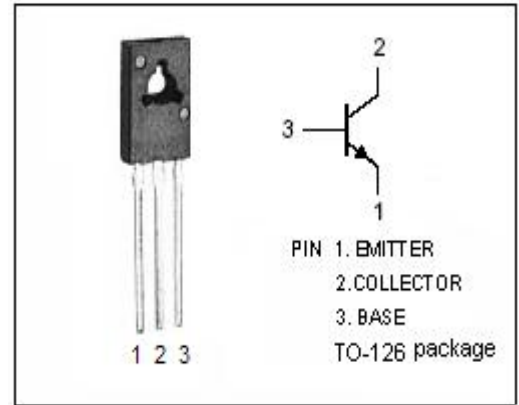


**isc Silicon NPN Power Transistor**
**BD158**
**DESCRIPTION**

- Collector–Emitter Sustaining Voltage–  
:  $V_{CEO(SUS)} = 300V(\text{Min})$
- DC Current Gain–  
:  $h_{FE} = 30\sim 240(\text{Min}) @ I_C = 50\text{mA}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

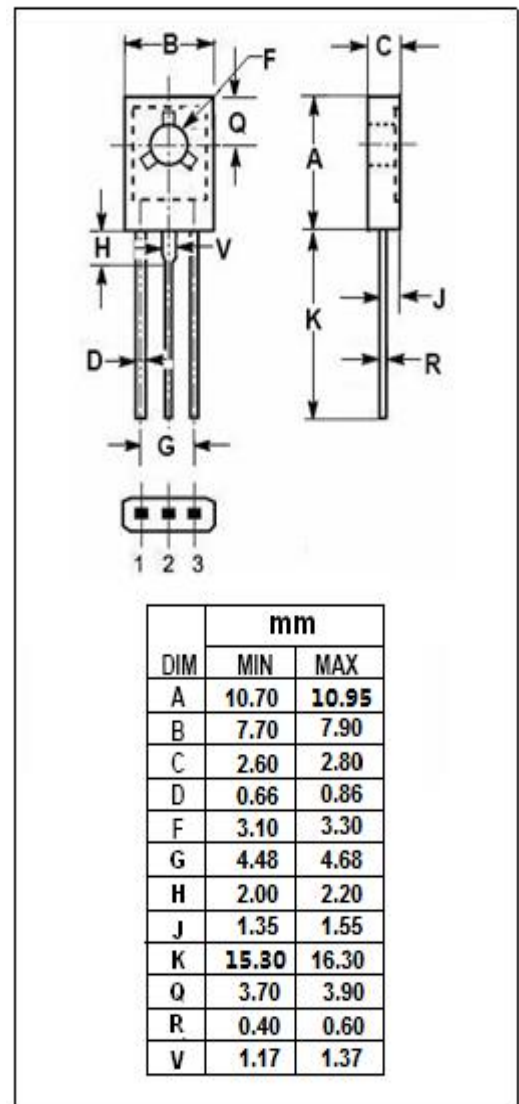
- Designed for power output stages for television, radio, phonograph and other consumer product applications.


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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                | 325     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                             | 300     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                  | 5       | V                |
| $I_C$     | Collector Current-Continuous                          | 0.5     | A                |
| $I_{CM}$  | Collector Current-Peak                                | 1.0     | A                |
| $I_B$     | Base Current-Continuous                               | 0.25    | A                |
| $P_C$     | Collector Power Dissipation<br>$T_C=25^\circ\text{C}$ | 20      | W                |
| $T_j$     | Junction Temperature                                  | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                             | -65~150 | $^\circ\text{C}$ |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX  | UNIT               |
|---------------|--------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 6.25 | $^\circ\text{C/W}$ |



## isc Silicon NPN Power Transistor

BD158

## ELECTRICAL CHARACTERISTICS

T<sub>c</sub> =25°C unless otherwise specified

| SYMBOL                | PARAMETER                            | CONDITIONS                                    | MIN | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|-----|------|
| V <sub>CE0(SUS)</sub> | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = 1.0mA; I <sub>B</sub> = 0    | 300 |     | V    |
| V <sub>(BR)CBO</sub>  | Collector-Base Breakdown Voltage     | I <sub>C</sub> = 0.1mA; I <sub>E</sub> = 0    | 325 |     | V    |
| V <sub>(BR)EBO</sub>  | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 0.1mA; I <sub>C</sub> = 0    | 5   |     | V    |
| V <sub>CE(sat)</sub>  | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 50mA; I <sub>B</sub> = 5mA   |     | 1.0 | V    |
| I <sub>CBO</sub>      | Collector Cutoff Current             | V <sub>CB</sub> = 325V; I <sub>E</sub> = 0    |     | 0.1 | mA   |
| I <sub>EBO</sub>      | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0      |     | 0.1 | mA   |
| h <sub>FE</sub>       | DC Current Gain                      | I <sub>C</sub> = 50m A; V <sub>CE</sub> = 10V | 30  | 240 |      |

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