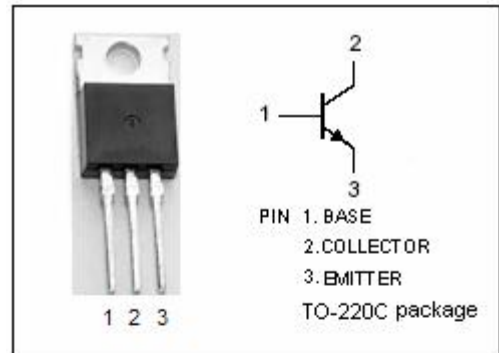


**isc Silicon NPN Power Transistors**
**DS15**
**DESCRIPTION**

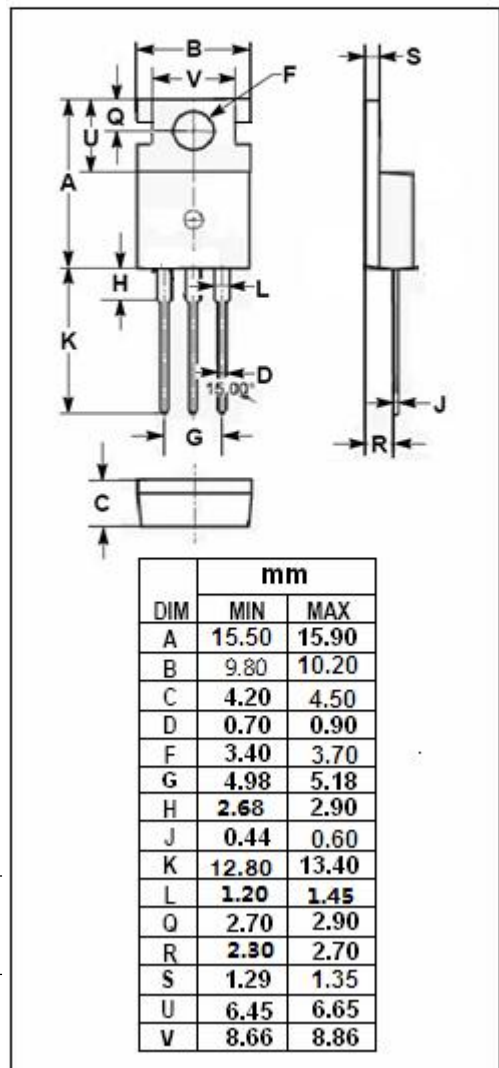
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 100V(\text{Min})$
- Fast Switching Speeds
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifier.


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

| SYMBOL    | PARAMETER                                                 | VALUE   | UNIT             |
|-----------|-----------------------------------------------------------|---------|------------------|
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 100     | V                |
| $V_{CBO}$ | Collector-Base Voltage                                    | 200     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 5       | V                |
| $I_C$     | Collector Current-Continuous                              | 1.5     | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C = 25^\circ\text{C}$ | 65      | W                |
| $T_J$     | Junction Temperature                                      | -55~150 | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^\circ\text{C}$ |


**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX  | UNIT               |
|---------------|--------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.92 | $^\circ\text{C/W}$ |

## isc Silicon NPN Power Transistors

## DS15

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL               | PARAMETER                            | CONDITIONS                                     | MIN | TYP | MAX | UNIT |
|----------------------|--------------------------------------|------------------------------------------------|-----|-----|-----|------|
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage  | I <sub>C</sub> = 10mA; I <sub>B</sub> = 0      | 100 |     |     | V    |
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage     | I <sub>C</sub> = 1mA; I <sub>E</sub> = 0       | 200 |     |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 0.2A ; I <sub>B</sub> = 0.02A |     |     | 1   | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> =0.2A ; I <sub>B</sub> = 0.02 A |     |     | 1.5 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> =50 , I <sub>E</sub> = 0       |     |     | 0.1 | mA   |
| I <sub>CEO</sub>     | Emitter Cutoff Current               | V <sub>CE</sub> = 50V; I <sub>C</sub> = 0      |     |     | 0.5 | mA   |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V    | 35  |     | 320 |      |

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