

## isc Silicon NPN Power Transistor

## 2SD1763

## DESCRIPTION

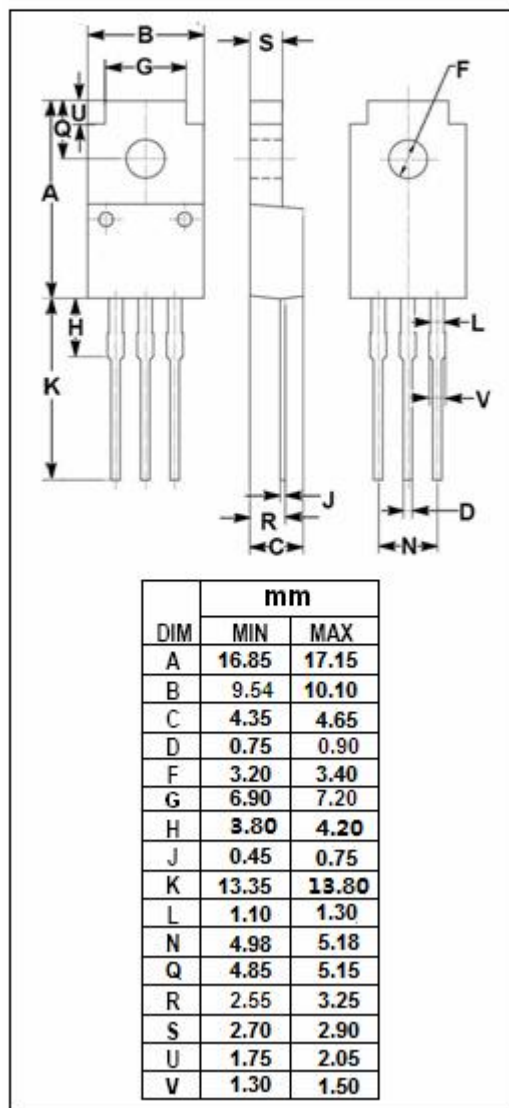
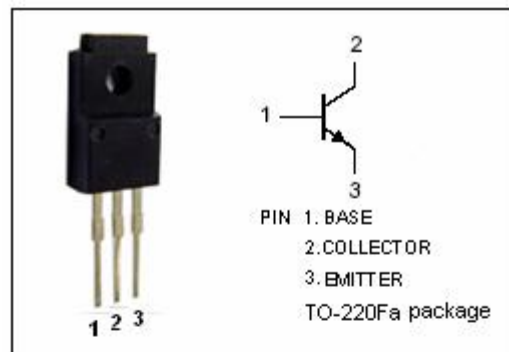
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 120V(\text{Min.})$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SB1186
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## 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                            | 2       | A                |
| $I_{CM}$  | Collector Current-Peak                                  | 3       | 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                               | -55~150 | $^\circ\text{C}$ |



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## 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> = 1mA; I <sub>B</sub> = 0                                | 120 |      |     | V    |
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage     | I <sub>C</sub> = 50 μA; I <sub>E</sub> = 0                              | 120 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 50 μA; I <sub>C</sub> = 0                              | 5   |      |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 1A; I <sub>B</sub> = 0.1A                              |     |      | 0.4 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = 100V; I <sub>E</sub> = 0                              |     |      | 1   | μA   |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 4V; I <sub>C</sub> = 0                                |     |      | 1   | μA   |
| h <sub>FE</sub>      | DC Current Gain                      | I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 5V                             | 100 |      | 320 |      |
| C <sub>OB</sub>      | Output Capacitance                   | I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> =1MHz      |     | 20   |     | pF   |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product       | I <sub>E</sub> = -0.1A; V <sub>CE</sub> = 5V; f <sub>test</sub> = 30MHz |     | 80   |     | MHz  |

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