

## isc Silicon NPN Power Transistor

2SD1437

## DESCRIPTION

- Collector-Emitter Breakdown Voltage  
:  $V_{(BR)CEO} = 60V(\text{Min})$
- Complement to Type 2SB1033
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

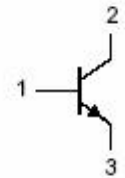
- Designed for low frequency power amplification.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                              | 80      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                           | 60      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                | 5       | V                |
| $I_C$     | Collector Current-Continuous                        | 3       | A                |
| $P_C$     | Total Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 40      | W                |
| $T_J$     | Junction Temperature                                | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                           | -55~150 | $^\circ\text{C}$ |



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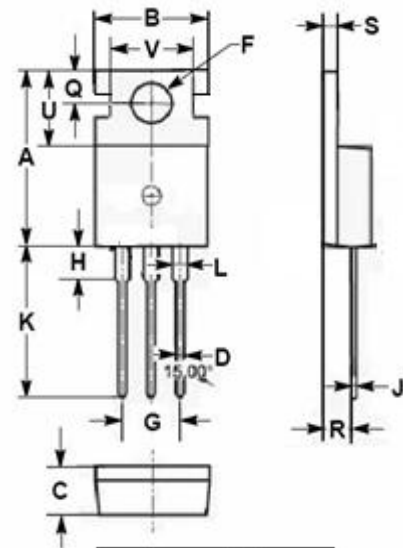


PIN 1. BASE

2. COLLECTOR

3. EMITTER

TO-220C package



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 15.50 | 15.90 |
| B   | 9.80  | 10.20 |
| C   | 4.20  | 4.50  |
| D   | 0.70  | 0.90  |
| F   | 3.40  | 3.70  |
| G   | 4.98  | 5.18  |
| H   | 2.68  | 2.90  |
| J   | 0.44  | 0.60  |
| K   | 12.80 | 13.40 |
| L   | 1.20  | 1.45  |
| O   | 2.70  | 2.90  |
| R   | 2.30  | 2.70  |
| S   | 1.29  | 1.35  |
| U   | 6.45  | 6.65  |
| V   | 8.66  | 8.86  |

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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> = 10mA ; I <sub>B</sub> = 0                          | 60  |      |     | V    |
| V <sub>(BR)CBO</sub> | Collector-Base Breakdown Voltage     | I <sub>C</sub> = 0.1mA ; I <sub>E</sub> = 0                         | 80  |      |     | 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> = 2A; I <sub>B</sub> = 0.2A                          |     |      | 1.0 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 2A; I <sub>B</sub> = 0.2A                          |     |      | 1.5 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = 60V ; I <sub>E</sub> = 0                          |     |      | 10  | μ A  |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0                            |     |      | 10  | μ A  |
| h <sub>FE</sub>      | DC Current Gain                      | I <sub>C</sub> = 1A ; V <sub>CE</sub> = 5V                          | 60  | 120  | 320 |      |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product       | I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V                        |     | 8    |     | MHz  |
| C <sub>OB</sub>      | Output Capacitance                   | I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1MHz |     | 90   |     | pF   |

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