

## isc Silicon NPN Power Transistor

2SD437

## DESCRIPTION

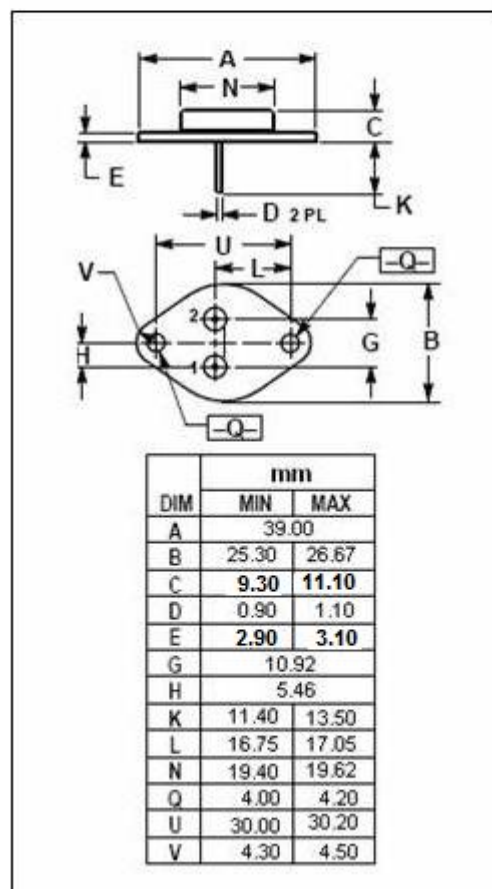
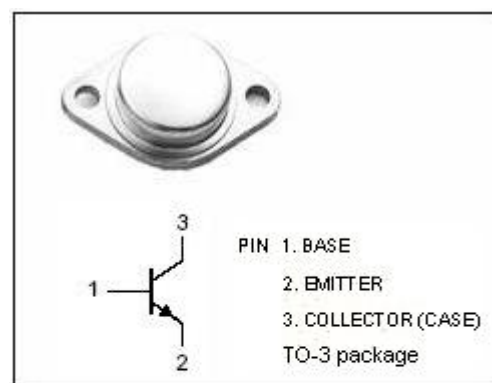
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 350V$  (Min)
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for use in power amplifier and switching regulator applications.

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

| SYMBOL    | PARAMETER                                          | MAX     | UNIT        |
|-----------|----------------------------------------------------|---------|-------------|
| $V_{CBO}$ | Collector-Base Voltage                             | 600     | V           |
| $V_{CEO}$ | Collector-Emitter Voltage                          | 350     | V           |
| $V_{EBO}$ | Emitter-Base Voltage                               | 6       | V           |
| $I_C$     | Collector Current-Continuous                       | 10      | A           |
| $I_{CM}$  | Collector Current-Peak                             | 15      | A           |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^{\circ}C$ | 80      | W           |
| $T_j$     | Junction Temperature                               | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                          | -65~150 | $^{\circ}C$ |



**isc Silicon NPN Power Transistor****2SD437****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; R <sub>BE</sub> = ∞ | 350 |      |     | V    |
| V <sub>(BR)CBO</sub>   | Collector-Base Breakdown Voltage     | I <sub>C</sub> = 1mA; I <sub>E</sub> = 0   | 600 |      |     | V    |
| V <sub>(BR)EBO</sub>   | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0   | 6   |      |     | V    |
| V <sub>CE(sat)-1</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 5A; I <sub>B</sub> = 1A   |     |      | 1.5 | V    |
| V <sub>CE(sat)-2</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 8A; I <sub>B</sub> = 2.5A |     |      | 3.0 | V    |
| V <sub>BE(sat)-1</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 5A; I <sub>B</sub> = 1A   |     |      | 1.4 | V    |
| V <sub>BE(sat)-2</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 8A; I <sub>B</sub> = 2.5A |     |      | 1.8 | V    |
| I <sub>CBO</sub>       | Collector Cutoff Current             | V <sub>CB</sub> = 600V; 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-1</sub>      | DC Current Gain                      | I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V  | 15  |      | 50  |      |
| h <sub>FE-2</sub>      | DC Current Gain                      | I <sub>C</sub> = 6A; V <sub>CE</sub> = 5V  | 10  |      |     |      |

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