

# **isc** Silicon NPN Power Transistor

### **DESCRIPTION**

- · High DC Current Gain
- Complement to type BD338
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

#### **APPLICATIONS**

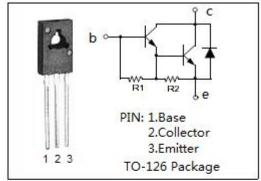
 NPN epitaxial base transistors in monolithic Darlington circuit for audio output stages and general amplifier and switching applications.

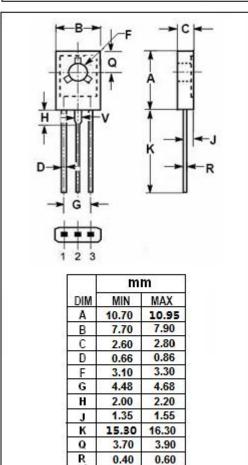
# ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

| SYMBOL           | PARAMETER                                | VALUE   | UNIT                   |
|------------------|--|---------|------------------------|
| V <sub>CBO</sub> | Collector-Base Voltage                   | 120     | V                      |
| V <sub>CEO</sub> | Collector-Emitter Voltage                | 120     | V                      |
| V <sub>EBO</sub> | Emitter-Base Voltage                     | 6       | V                      |
| Ic               | Collector Current-Continuous             | 6       | Α                      |
| I <sub>BM</sub>  | Base Current-Peak                        | 0.15    | А                      |
| Pc               | Collector Power Dissipation<br>@ Tc=25°C | 60      | W                      |
| TJ               | Junction Temperature                     | 150     | $^{\circ}$             |
| T <sub>stg</sub> | Storage Temperature Range                | -65~150 | $^{\circ}\!\mathbb{C}$ |

### THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER  | MAX  | UNIT |  |
|---------------------|--|------|------|--|
| Rth j-c             | Thermal Resistance,Junction to Case                        | 2.08 | °C/W |  |
| R <sub>th j-a</sub> | R <sub>th j-a</sub> Thermal Resistance,Junction to Ambient |      | °C/W |  |





1.17



# **isc Silicon NPN Power Transistor**

**BD337** 

### **ELECTRICAL CHARACTERISTICS**

T<sub>c</sub>=25℃ unless otherwise specified

|                       | · 0 = 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |  |     |      |            |      |  |  |  |
|-----------------------|---|--|-----|------|------------|------|--|--|--|
| SYMBOL                | PARAMETER                               | CONDITIONS   | MIN | TYP. | MAX        | UNIT |  |  |  |
| V <sub>CEO(SUS)</sub> | Collector-Emitter Sustaining Voltage    | I <sub>C</sub> = 10mA; I <sub>B</sub> = 0  | 120 |      |            | V    |  |  |  |
| V <sub>CE(sat)</sub>  | Collector-Emitter Saturation Voltage    | I <sub>C</sub> = 3A; I <sub>B</sub> = 12mA   |     |      | 2.0        | V    |  |  |  |
| V <sub>BE(on)</sub>   | Base-Emitter On Voltage                 | Ic= 3A; V <sub>CE</sub> = 3V   |     |      | 2.5        | V    |  |  |  |
| I <sub>CBO</sub>      | Collector Cutoff Current                | V <sub>CB</sub> = 120V; I <sub>E</sub> = 0<br>V <sub>CB</sub> = 120V; I <sub>E</sub> = 0,T <sub>C</sub> =150°C |     |      | 0.1<br>1.0 | mA   |  |  |  |
| I <sub>EBO</sub>      | Emitter Cutoff Current                  | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0   |     |      | 5          | mA   |  |  |  |
| h <sub>FE-1</sub> *   | DC Current Gain                         | Ic= 0.5A; V <sub>CE</sub> = 3V   |     | 1900 |            |      |  |  |  |
| h <sub>FE-2</sub> *   | DC Current Gain                         | I <sub>C</sub> = 3A; V <sub>CE</sub> =3V   | 750 |      |            |      |  |  |  |
| h <sub>FE-3</sub> *   | DC Current Gain                         | I <sub>C</sub> = 6A; V <sub>CE</sub> = 3V  |     | 3000 |            |      |  |  |  |

<sup>\*:</sup>Measured under pulse conditions:tp<300us, \u00f3<2%

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