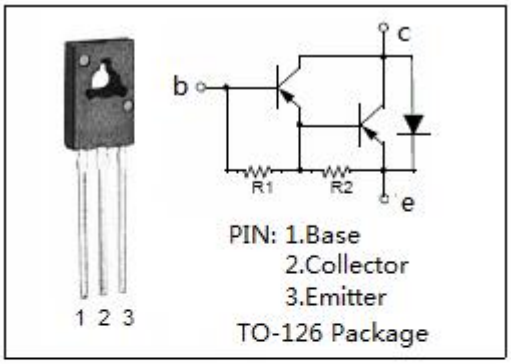
# isc Silicon PNP Power Transistor — BD338

## DESCRIPTION

- High DC Current Gain
- Complement to type BD337
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

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

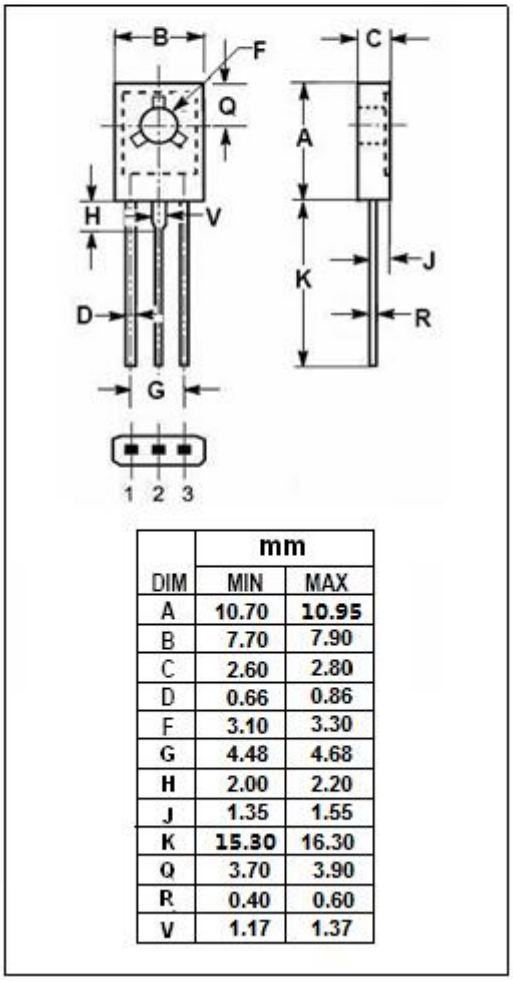



## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -120 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -120 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -6 | V |
| $I_C$ | Collector Current-Continuous | -6 | A |
| $I_{BM}$ | Base Current-Peak | -0.15 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 60 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 2.08 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 100 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 10.70 | 10.95 |
| B | 7.70 | 7.90 |
| C | 2.60 | 2.80 |
| D | 0.66 | 0.86 |
| F | 3.10 | 3.30 |
| G | 4.48 | 4.68 |
| H | 2.00 | 2.20 |
| J | 1.35 | 1.55 |
| K | 15.30 | 16.30 |
| Q | 3.70 | 3.90 |
| R | 0.40 | 0.60 |
| V | 1.17 | 1.37 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= -10mA; $I_B$= 0 | -120 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$=- 3A; $I_B$= -12mA | | | -2.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= -3A; $V_{CE}$= -3V | | | -2.5 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -120V; $I_E$= 0<br>$V_{CB}$= -120V; $I_E$= 0,$T_C$=150℃ | | | -0.1<br>-1.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -5V; $I_C$= 0 | | | -5 | mA |
| $h_{FE-1}$* | DC Current Gain | $I_C$= -0.5A; $V_{CE}$= -3V | | 2700 | | |
| $h_{FE-2}$* | DC Current Gain | $I_C$= -3A; $V_{CE}$=-3V | 750 | | | |
| $h_{FE-3}$* | DC Current Gain | $I_C$= -6A; $V_{CE}$= -3V | | 400 | | |

*:Measured under pulse conditions:tp<300us,σ<2%

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