

Silicon NPN Power Transistors

2SD1638

DESCRIPTION

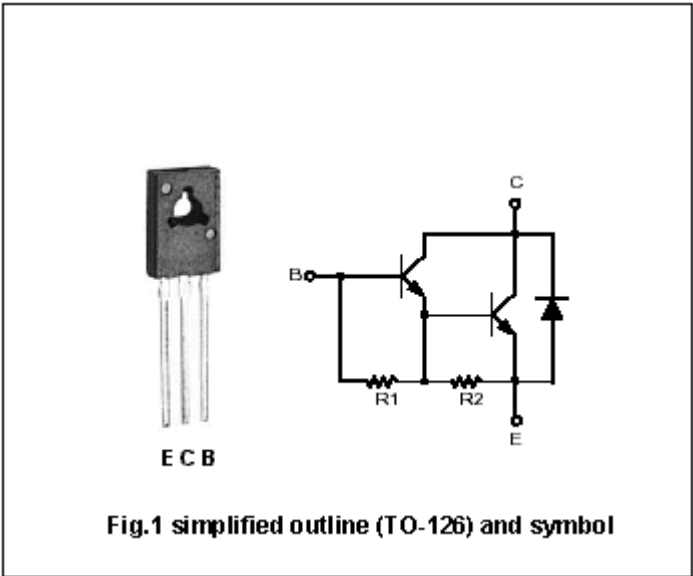
- With TO-126 package
- DARLINGTON

APPLICATIONS

- For low frequency and power amplifier applications

PINNING(see Fig.2)

| PIN | DESCRIPTION                          |
|-----|--------------------------------------|
| 1   | Emitter                              |
| 2   | Collector;connected to mounting base |
| 3   | Base                                 |



Absolute maximum ratings(Ta=25°C)

| SYMBOL           | PARAMETER                 | CONDITIONS           | VALUE   | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | Open emitter         | 100     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage | Open base            | 100     | V    |
| V <sub>EBO</sub> | Emitter-base voltage      | Open collector       | 5       | V    |
| I <sub>C</sub>   | Collector current (DC)    |                      | 2       | A    |
| P <sub>D</sub>   | Total power dissipation   | T <sub>C</sub> =25°C | 10      | W    |
| T <sub>j</sub>   | Junction temperature      |                      | 150     | °C   |
| T <sub>stg</sub> | Storage temperature       |                      | -55~150 | °C   |

**Silicon NPN Power Transistors****2SD1638****CHARACTERISTICS**T<sub>j</sub>=25°C unless otherwise specified

| SYMBOL             | PARAMETER                            | CONDITIONS                                 | MIN  | TYP. | MAX   | UNIT |
|--------------------|--------------------------------------|--------------------------------------------|------|------|-------|------|
| V <sub>CEO</sub>   | Collector-emitter breakdown voltage  | I <sub>C</sub> =25mA; I <sub>B</sub> =0    | 100  |      |       | V    |
| V <sub>CEsat</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =1.0A ; I <sub>B</sub> =1mA |      |      | 1.5   | V    |
| V <sub>BEsat</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =1.0A ; I <sub>B</sub> =1mA |      |      | 2.0   | V    |
| I <sub>CEO</sub>   | Collector cut-off current            | V <sub>CE</sub> =100V; I <sub>B</sub> =0   |      |      | 0.5   | mA   |
| I <sub>CBO</sub>   | Collector cut-off current            | V <sub>CB</sub> =100V; I <sub>E</sub> =0   |      |      | 10    | μ A  |
| I <sub>EBO</sub>   | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0     |      |      | 3     | mA   |
| h <sub>FE</sub>    | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =2V   | 1000 |      | 10000 |      |
| C <sub>OB</sub>    | Collector output capacitance         | f=0.1MHz ; V <sub>CB</sub> =10V            |      | 25   |       | pF   |

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## PACKAGE OUTLINE

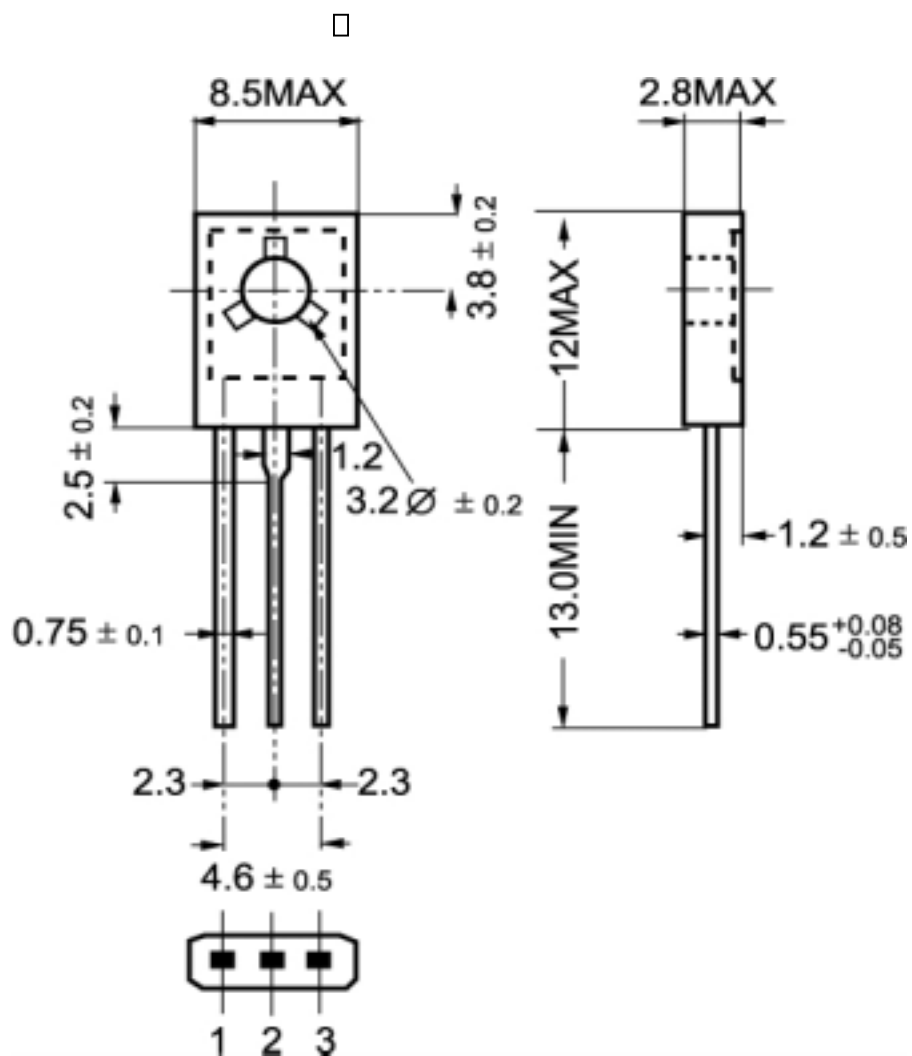


Fig.2 Outline dimensions