

Silicon NPN Power Transistors

2SD1376

DESCRIPTION

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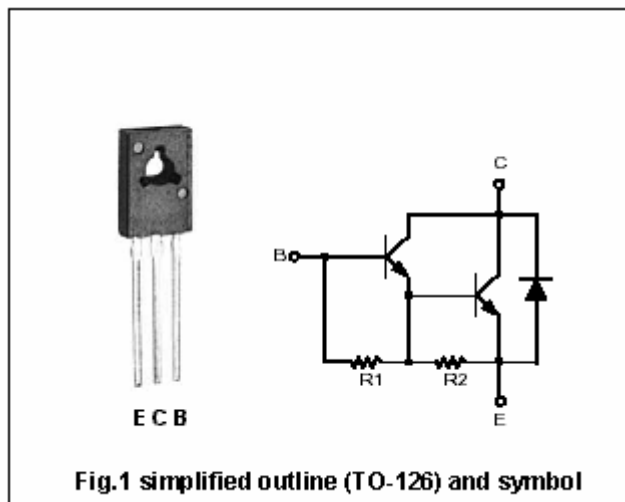
- With TO-126 package
- DARLINGTON
- Complement to type 2SB1012

APPLICATIONS

- For low frequency 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         | 120     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base            | 120     | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector       | 7       | V    |
| I <sub>C</sub>   | Collector current           |                      | 1.5     | A    |
| I <sub>CM</sub>  | Collector current-peak      |                      | 3.0     | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 20      | W    |
| T <sub>j</sub>   | Junction temperature        |                      | 150     | °C   |
| T <sub>stg</sub> | Storage temperature         |                      | -55~150 | °C   |

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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| 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> =∞                    | 120  |      |       | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =50mA ; I <sub>C</sub> =0                    | 7    |      |       | V    |
| V <sub>CEsat-1</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =1.0A ; I <sub>B</sub> =1mA                  |      |      | 1.5   | V    |
| V <sub>CEsat-2</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =1.5A ; I <sub>B</sub> =1.5mA                |      |      | 2.0   | V    |
| V <sub>BEsat-1</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =1.0A ; I <sub>B</sub> =1mA                  |      |      | 2.0   | V    |
| V <sub>BEsat-2</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =1.5A ; I <sub>B</sub> =1.5mA                |      |      | 2.5   | V    |
| I <sub>CEO</sub>     | Collector cut-off current            | V <sub>CE</sub> =100V; R <sub>BE</sub> =∞                   |      |      | 10    | μA   |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =120V; I <sub>E</sub> =0                    |      |      | 100   | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =3V                    | 2000 |      | 30000 |      |
| V <sub>D</sub>       | Diode forward voltage                | I <sub>D</sub> =1.5A  |      |      | 3.0   | V    |
| t <sub>on</sub>      | Turn-on time                         | I <sub>C</sub> =1A ; I <sub>B1</sub> =-I <sub>B2</sub> =1mA |      | 0.5  |       | μs   |
| t <sub>off</sub>     | Turn-off time                        |   |      | 2.0  |       | μs   |

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PACKAGE OUTLINE

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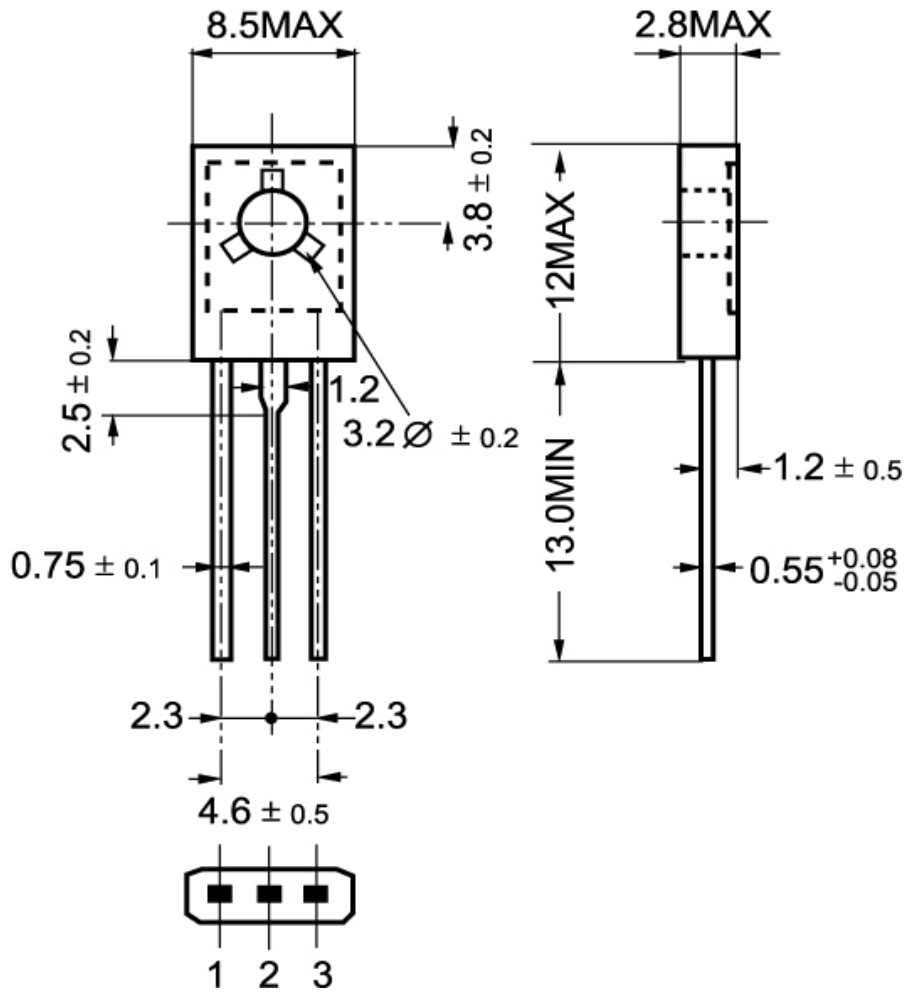


Fig.2 Outline dimensions