

SavantIC Semiconductor

Product Specification

Silicon PNP Power Transistors

BD676A/678A/680A/682

DESCRIPTION

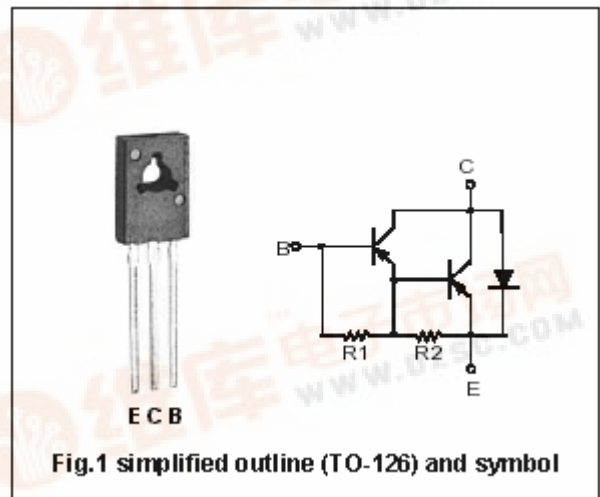
- With TO-126 package
- Complement to type BD675A/677A/679A/681
- DARLINGTON
- High DC current gain

APPLICATIONS

- For medium power linear and switching applications

PINNING

| 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         | BD676A  | -45  | V |
|                  |                             |                      | BD678A  | -60  |   |
|                  |                             |                      | BD680A  | -80  |   |
|                  |                             |                      | BD682   | -100 |   |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base            | BD676A  | -45  | V |
|                  |                             |                      | BD678A  | -60  |   |
|                  |                             |                      | BD680A  | -80  |   |
|                  |                             |                      | BD682   | -100 |   |
| V <sub>EBO</sub> | Emitter -base voltage       | Open collector       | -5      | V    |   |
| I <sub>C</sub>   | Collector current           |                      | -4      | A    |   |
| I <sub>CM</sub>  | Collector current-Peak      |                      | -6      | A    |   |
| I <sub>B</sub>   | Base current                |                      | -0.1    | A    |   |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 40      | W    |   |
| T <sub>j</sub>   | Junction temperature        |                      | 150     | °C   |   |
| T <sub>stg</sub> | Storage temperature         |                      | -65~150 | °C   |   |

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## BD676A/678A/680A/682

## CHARACTERISTICS

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

| SYMBOL               | PARAMETER                               |                  | CONDITIONS   | MIN  | TYP. | MAX          | UNIT |
|----------------------|---|------------------|--|------|------|--------------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter<br>breakdown voltage  | BD676A           | I <sub>C</sub> =-50mA; I <sub>B</sub> =0   | -45  |      |              | V    |
|                      |   | BD678A           |  | -60  |      |              |      |
|                      |   | BD680A           |  | -80  |      |              |      |
|                      |   | BD682            |  | -100 |      |              |      |
| V <sub>CEsat</sub>   | Collector-emitter<br>saturation voltage | BD676A/678A/680A | I <sub>C</sub> =-2A; I <sub>B</sub> =-40mA   |      |      | -2.8         | V    |
|                      |   | BD682            | I <sub>C</sub> =-1.5A; I <sub>B</sub> =-30mA   |      |      | -2.5         |      |
| V <sub>BE(on)</sub>  | Emitter-base<br>voltage                 | BD676A/678A/680A | I <sub>C</sub> =-2A; V <sub>CE</sub> =-3V  |      |      | -2.5         | V    |
|                      |   | BD682            | I <sub>C</sub> =-1.5A; V <sub>CE</sub> =-3V  |      |      |              |      |
| I <sub>CBO</sub>     | Collector<br>cut-off current            |                  | V <sub>CB</sub> =rated BV <sub>CEO</sub> ; I <sub>E</sub> =0<br>T <sub>a</sub> =100 °C |      |      | -0.2<br>-2.0 | mA   |
| I <sub>CEO</sub>     | Collector<br>cut-off current            |                  | V <sub>CE</sub> =1/2rated BV <sub>CEO</sub> ; I <sub>B</sub> =0                        |      |      | -0.5         | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current                 |                  | V <sub>EB</sub> =-5V; I <sub>C</sub> =0  |      |      | -2.0         | mA   |
| h <sub>FE</sub>      | DC current gain                         | BD676A/678A/680A | I <sub>C</sub> =-2A; V <sub>CE</sub> =-3V  | 750  |      |              |      |
|                      |   | BD682            | I <sub>C</sub> =-1.5A; V <sub>CE</sub> =-3V  | 750  |      |              |      |

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PACKAGE OUTLINE

