

## Absolute maximum ratings

(Ta=25°C)

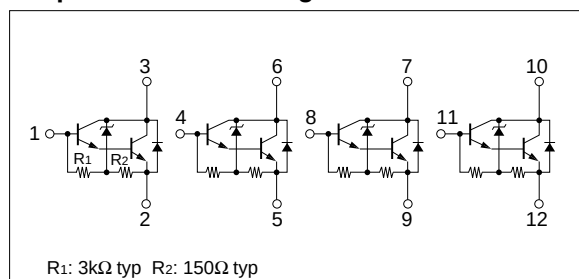
| Symbol           | Ratings                     | Unit |
|------------------|-----------------------------|------|
| V <sub>CB0</sub> | 60±10                       | V    |
| V <sub>CEO</sub> | 60±10                       | V    |
| V <sub>EB0</sub> | 6                           | V    |
| I <sub>C</sub>   | 4                           | A    |
| I <sub>CP</sub>  | 6 (PW≤10ms, Du≤50%)         | A    |
| I <sub>B</sub>   | 0.5                         | A    |
| P <sub>T</sub>   | 5 (Ta=25°C)<br>40 (Tc=25°C) | W    |
| T <sub>j</sub>   | 150                         | °C   |
| T <sub>stg</sub> | -40 to +150                 | °C   |

## Electrical characteristics

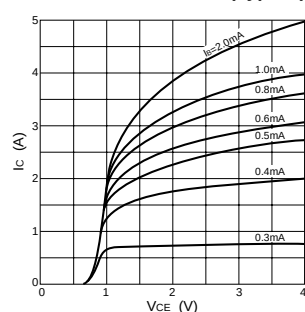
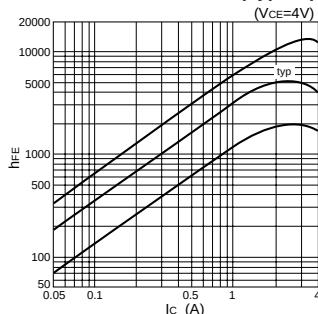
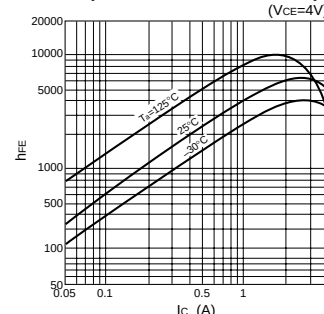
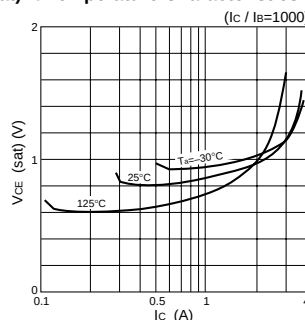
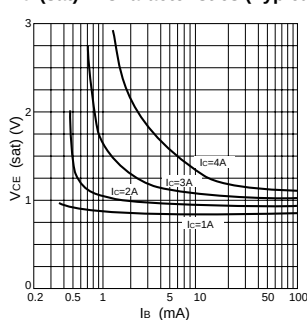
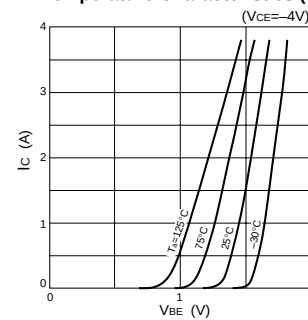
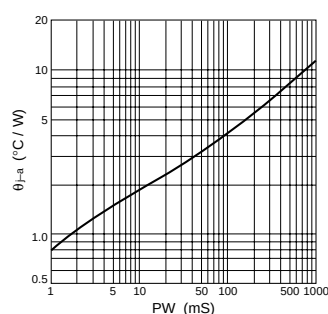
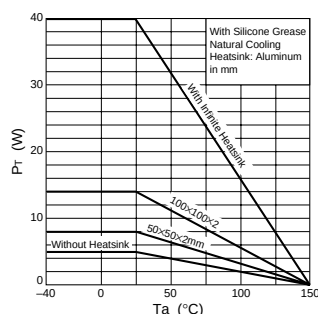
(Ta=25°C)

| Symbol               | Specification |     |     | unit | Conditions                               |
|----------------------|---------------|-----|-----|------|------------------------------------------|
|                      | min           | typ | max |      |                                          |
| I <sub>CB0</sub>     |               |     | 10  | μA   | V <sub>CB</sub> =50V                     |
| I <sub>EB0</sub>     |               |     | 10  | mA   | V <sub>EB</sub> =6V                      |
| V <sub>CEO</sub>     | 50            | 60  | 70  | V    | I <sub>C</sub> =10mA                     |
| h <sub>FE</sub>      | 2000          |     |     |      | V <sub>CE</sub> =4V, I <sub>C</sub> =3A  |
| V <sub>CE(sat)</sub> |               |     | 1.5 | V    | I <sub>C</sub> =3A, I <sub>B</sub> =10mA |

## Equivalent circuit diagram



## Characteristic curves

I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)V<sub>CE(sat)</sub>-I<sub>C</sub> Temperature Characteristics (Typical)V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)θ<sub>JA</sub>-PW CharacteristicsP<sub>T</sub>-T<sub>a</sub> Characteristics

Safe Operating Area (SOA)

