

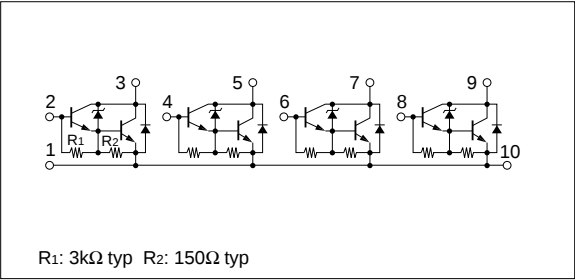
Absolute maximum ratings (T<sub>a</sub>=25°C)

| Symbol           | Ratings                                               | Unit |
|------------------|-------------------------------------------------------|------|
| V <sub>CB0</sub> | 60±10                                                 | V    |
| V <sub>CEO</sub> | 60±10                                                 | V    |
| V <sub>EBO</sub> | 6                                                     | V    |
| I <sub>C</sub>   | 6                                                     | A    |
| I <sub>B</sub>   | 1                                                     | A    |
| P <sub>T</sub>   | 4 (T <sub>a</sub> =25°C)<br>20 (T <sub>c</sub> =25°C) | W    |
| T <sub>j</sub>   | 150                                                   | °C   |
| T <sub>stg</sub> | -40 to +150                                           | °C   |

Electrical characteristics (T<sub>a</sub>=25°C)

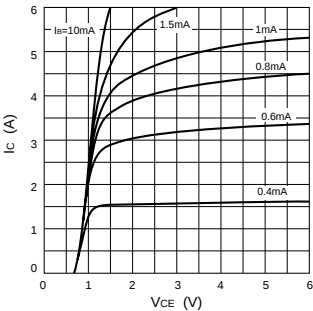
| Symbol               | Specification |     |       | Unit | Conditions                                         |
|----------------------|---------------|-----|-------|------|----------------------------------------------------|
|                      | min           | typ | max   |      |                                                    |
| I <sub>CB0</sub>     |               |     | 10    | μA   | V <sub>CB</sub> =50V                               |
| I <sub>EBO</sub>     |               |     | 10    | mA   | V <sub>EB</sub> =6V                                |
| V <sub>CEO</sub>     | 50            | 60  | 70    | V    | I <sub>C</sub> =50mA                               |
| h <sub>FE</sub>      | 2000          |     | 15000 |      | V <sub>CE</sub> =2V, I <sub>C</sub> =3A            |
| V <sub>CE(sat)</sub> |               |     | 1.5   | V    | I <sub>C</sub> =3A, I <sub>B</sub> =10mA           |
| V <sub>BE(sat)</sub> |               |     | 2.0   | V    |                                                    |
| E <sub>S/B</sub>     | 200           |     |       | mJ   | V <sub>CC</sub> =20V, L=10mH, I <sub>C</sub> =6.4A |

Equivalent circuit diagram

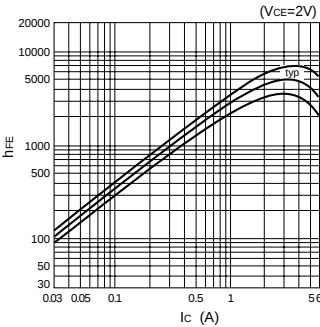


Characteristic curves

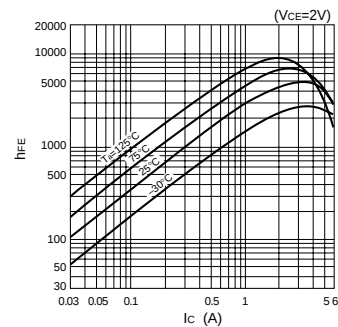
I<sub>C</sub>-V<sub>CE</sub> Characteristics (Typical)



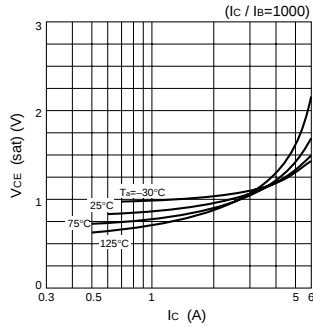
h<sub>FE</sub>-I<sub>C</sub> Characteristics (Typical)



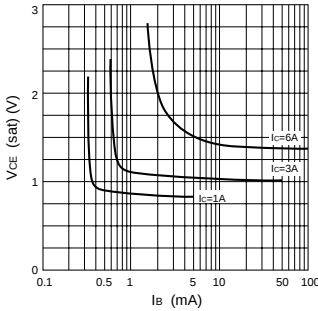
h<sub>FE</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



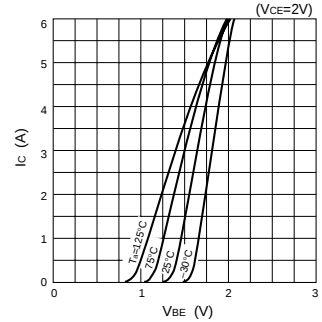
V<sub>CE(sat)</sub>-I<sub>C</sub> Temperature Characteristics (Typical)



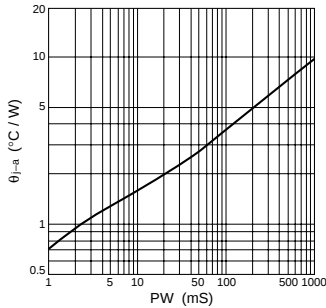
V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)



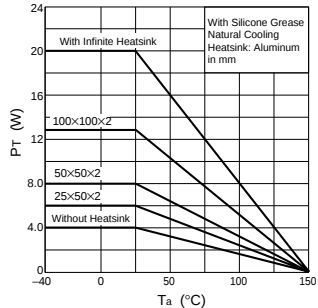
I<sub>C</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)



θ<sub>J-a</sub>-P<sub>W</sub> Characteristics



P<sub>T</sub>-T<sub>a</sub> Characteristics



Safe Operating Area (SOA)

