

### Absolute maximum ratings

( $T_a=25^\circ\text{C}$ )

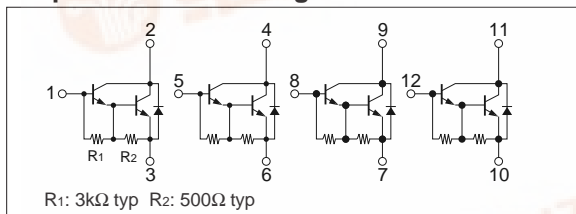
| Symbol         | Specification                       | Unit               |
|----------------|-------------------------------------|--------------------|
| $V_{CB0}$      | 120                                 | V                  |
| $V_{CEO}$      | 100                                 | V                  |
| $V_{EBO}$      | 6                                   | V                  |
| $I_c$          | 4                                   | A                  |
| $I_{CP}$       | 6 (PW $\leq$ 1ms, Du $\leq$ 50%)    | A                  |
| $I_B$          | 0.5                                 | A                  |
| $P_T$          | 5 ( $T_a=25^\circ\text{C}$ )        | W                  |
|                | 25 ( $T_c=25^\circ\text{C}$ )       |                    |
| $V_{ISO}$      | 1000 (Between fin and lead pin, AC) | V <sub>rms</sub>   |
| $T_j$          | 150                                 | $^\circ\text{C}$   |
| $T_{stg}$      | -40 to +150                         | $^\circ\text{C}$   |
| $\theta_{j-c}$ | 5                                   | $^\circ\text{C/W}$ |

### Electrical characteristics

( $T_a=25^\circ\text{C}$ )

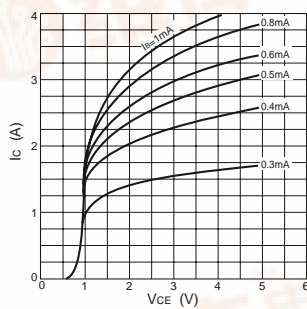
| Symbol        | Specification |     |     | Unit          | Conditions                        |
|---------------|---------------|-----|-----|---------------|-----------------------------------|
|               | min           | typ | max |               |                                   |
| $I_{CB0}$     |               |     | 10  | $\mu\text{A}$ | $V_{CB}=120\text{V}$              |
| $I_{EBO}$     |               |     | 10  | mA            | $V_{EB}=6\text{V}$                |
| $V_{CEO}$     | 100           |     |     | V             | $I_c=10\text{mA}$                 |
| $h_{FE}$      | 2000          |     |     |               | $V_{CE}=4\text{V}; I_c=2\text{A}$ |
| $V_{CE(sat)}$ |               |     | 1.5 | V             | $I_c=2\text{A}, I_B=10\text{mA}$  |

### Equivalent circuit diagram

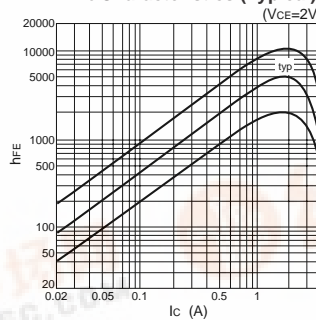


### Characteristic curves

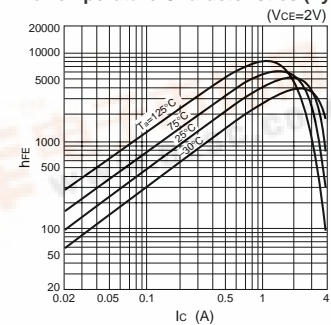
$I_c$ - $V_{CE}$  Characteristics (Typical)



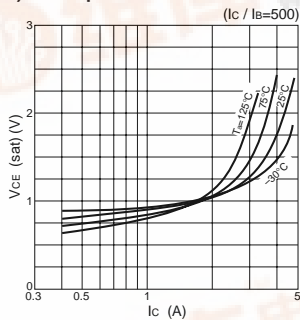
$h_{FE}$ - $I_c$  Characteristics (Typical)



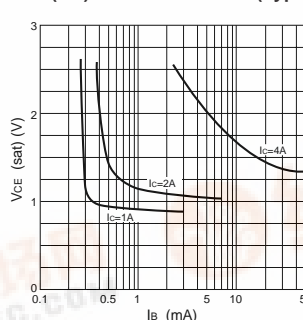
$h_{FE}$ - $I_c$  Temperature Characteristics (Typical)



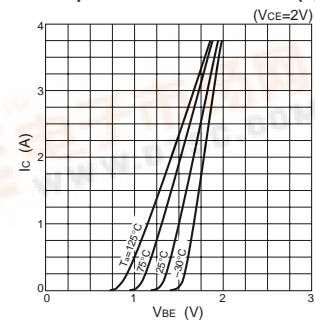
$V_{CE(sat)}$ - $I_c$  Temperature Characteristics (Typical)



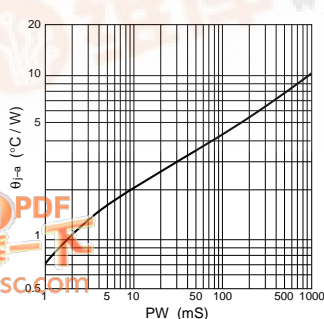
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



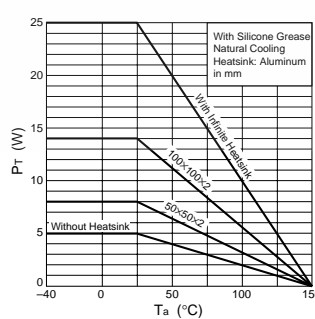
$I_c$ - $V_{BE}$  Temperature Characteristics (Typical)



$\theta_{j-a}$ -PW Characteristics



$P_T$ - $T_a$  Characteristics



Safe Operating Area (SOA)

