

## Absolute maximum ratings

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

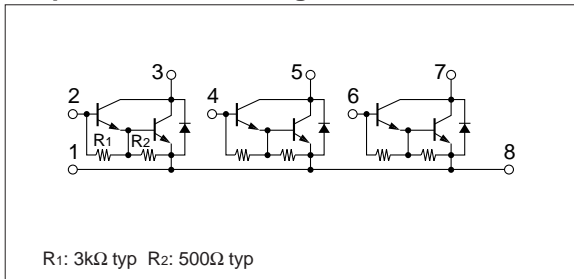
| Symbol    | Ratings                           | Unit             |
|-----------|-----------------------------------|------------------|
| $V_{CB0}$ | 120                               | V                |
| $V_{CEO}$ | 100                               | V                |
| $V_{EBO}$ | 6                                 | V                |
| $I_c$     | 4                                 | A                |
| $I_{CP}$  | 8 (PW $\leq$ 10ms, $D_u\leq$ 50%) | A                |
| $P_T$     | 3 ( $T_a=25^\circ\text{C}$ )      | W                |
|           | 15 ( $T_c=25^\circ\text{C}$ )     |                  |
| $T_j$     | 150                               | $^\circ\text{C}$ |
| $T_{stg}$ | -40 to +150                       | $^\circ\text{C}$ |

## Electrical characteristics

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

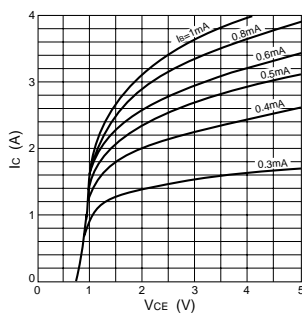
| Symbol        | Specification |     |     | Unit          | Conditions   |
|---------------|---------------|-----|-----|---------------|--|
|               | min           | typ | max |               |  |
| $I_{CB0}$     |               |     | 100 | $\mu\text{A}$ | $V_{CB}=120\text{V}$   |
| $I_{EBO}$     |               |     | 10  | mA            | $V_{EB}=6\text{V}$   |
| $V_{CEO}$     | 100           |     |     | V             | $I_c=10\text{mA}$  |
| $h_{FE}$      | 1000          |     |     |               | $V_{CE}=4\text{V}$ , $I_c=2\text{A}$   |
| $V_{CE(sat)}$ |               |     | 2.0 | V             | $I_c=2\text{A}$ , $I_B=10\text{mA}$  |
| $t_{on}$      |               | 0.8 |     | $\mu\text{s}$ | $V_{CC}\doteq 40\text{V}$ ,<br>$I_c=2\text{A}$ ,<br>$I_{B1}=-I_{B2}=10\text{mA}$ |
| $t_{stg}$     |               | 5.0 |     | $\mu\text{s}$ |  |
| $t_f$         |               | 2.0 |     | $\mu\text{s}$ |  |

## Equivalent circuit diagram

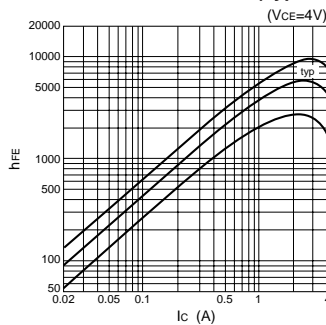


## Characteristic curves

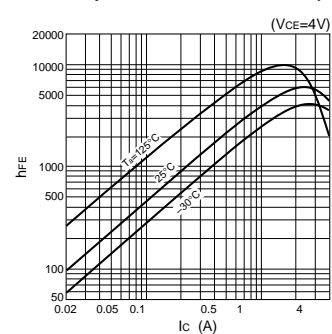
$I_c$ - $V_{CE}$  Characteristics (Typical)



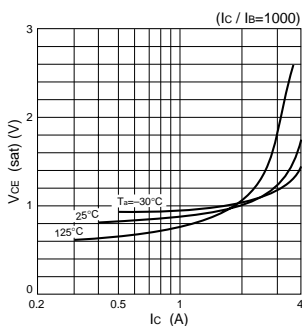
$h_{FE}$ - $I_c$  Characteristics (Typical)



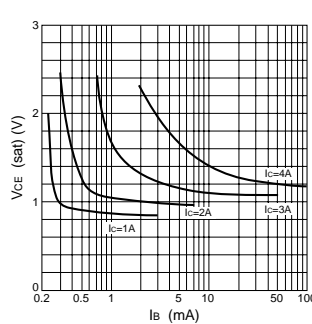
$h_{FE}$ - $I_c$  Temperature Characteristics (Typical)



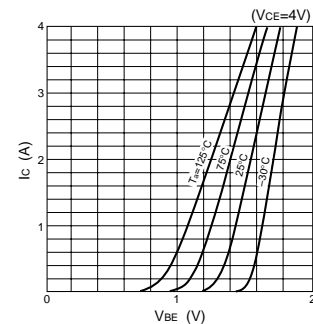
$V_{CE(sat)}$ - $I_c$  Temperature Characteristics (Typical)



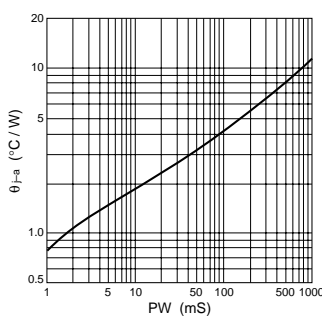
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



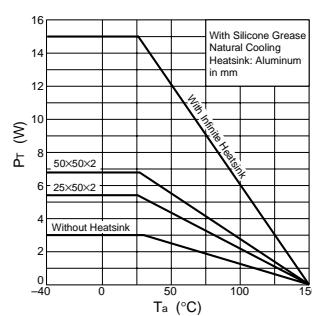
$I_c$ - $V_{BE}$  Temperature Characteristics (Typical)



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



$P_T$ - $T_a$  Characteristics



Safe Operating Area (SOA)

