

#### Absolute maximum ratings

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

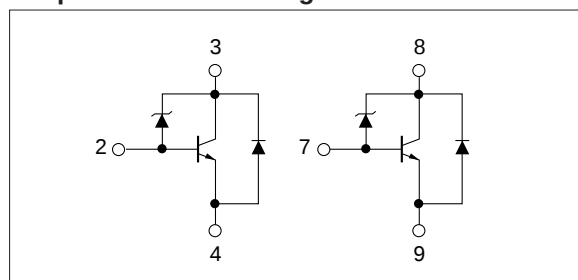
| Symbol    | Ratings                                           | Unit             |
|-----------|---------------------------------------------------|------------------|
| $V_{CBO}$ | $60\pm 10$                                        | V                |
| $V_{CEO}$ | $60\pm 10$                                        | V                |
| $V_{EBO}$ | 6                                                 | V                |
| $I_C$     | $\pm 6$                                           | A                |
| $I_{CP}$  | $\pm 10$ ( $PW\leq 1\text{ms}$ , $D_u\leq 50\%$ ) | A                |
| $P_T$     | 3.2 ( $T_a=25^\circ\text{C}$ )                    | W                |
|           | 18 ( $T_c=25^\circ\text{C}$ )                     |                  |
| $T_j$     | 150                                               | $^\circ\text{C}$ |
| $T_{stg}$ | -40 to +150                                       | $^\circ\text{C}$ |

#### Electrical characteristics

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

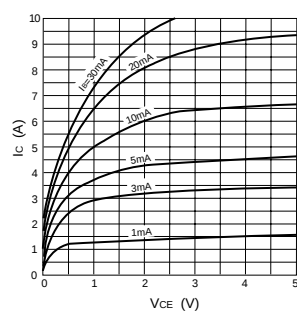
| Symbol        | Specification |      |      | Ratings       | Unit                                  |
|---------------|---------------|------|------|---------------|---------------------------------------|
|               | min           | typ  | max  |               |                                       |
| $I_{CBO}$     |               |      | 10   | $\mu\text{A}$ | $V_{CB}=50\text{V}$                   |
| $I_{EBO}$     |               |      | 10   | $\mu\text{A}$ | $V_{EB}=6\text{V}$                    |
| $V_{CEO}$     | 50            | 60   | 70   | V             | $I_C=50\text{mA}$                     |
| $h_{FE}$      | 700           | 1500 | 3000 |               | $V_{CE}=1\text{V}$ , $I_C=1\text{A}$  |
| $V_{CE(sat)}$ |               | 0.09 | 0.15 | V             | $I_C=1.5\text{A}$ , $I_B=15\text{mA}$ |
| $V_{FEC}$     |               | 1.25 | 1.5  | V             | $I_{FEC}=6\text{A}$                   |
| $E_S/B$       | 200           |      |      | mJ            | $L=10\text{mH}$ , Single pulse        |

#### Equivalent circuit diagram

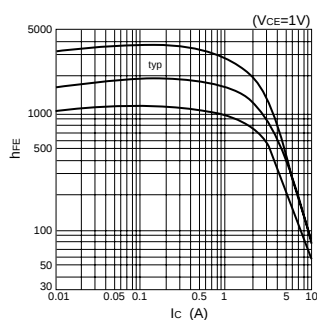


#### Characteristic curves

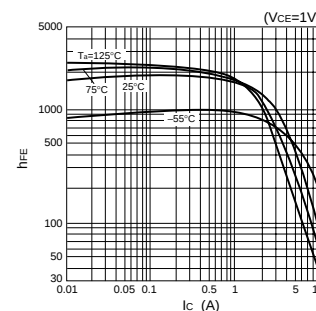
$I_C$ - $V_{CE}$  Characteristics (Typical)



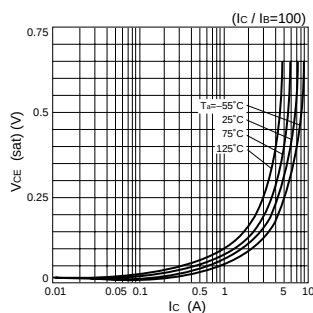
$h_{FE}$ - $I_C$  Characteristics (Typical)



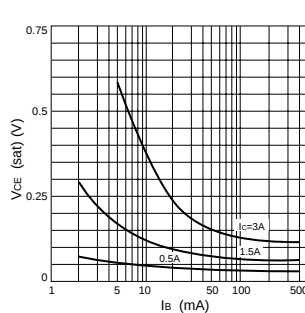
$h_{FE}$ - $I_C$  Temperature Characteristics (Typical)



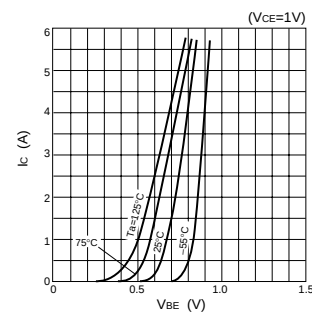
$V_{CE(sat)}$ - $I_C$  Temperature Characteristics (Typical)



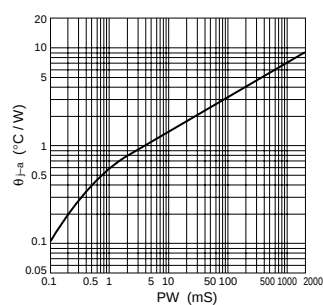
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



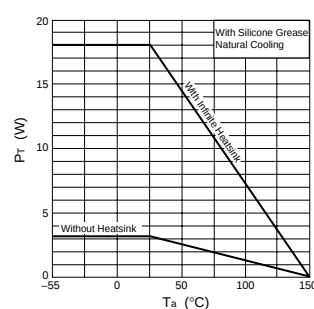
$I_C$ - $V_{BE}$  Temperature Characteristics (Typical)



$\theta_{JA}$ - $PW$  Characteristics



$P_T$ - $T_a$  Characteristics



Safe Operating Area (SOA)

