

### Absolute maximum ratings

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

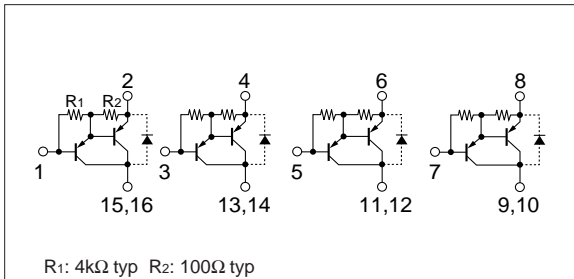
| Symbol         | Ratings                             | Unit                      |
|----------------|-------------------------------------|---------------------------|
| $V_{CB0}$      | -60                                 | V                         |
| $V_{CE0}$      | -60                                 | V                         |
| $V_{EB0}$      | -6                                  | V                         |
| $I_c$          | -1.5                                | A                         |
| $I_{cP}$       | -2.5 (PW $\leq$ 1ms, Du $\leq$ 10%) | A                         |
| $I_B$          | -0.1                                | A                         |
| $P_T$          | 3 ( $T_a=25^\circ\text{C}$ )        | W                         |
| $T_j$          | 150                                 | $^\circ\text{C}$          |
| $T_{stg}$      | -40 to +150                         | $^\circ\text{C}$          |
| $\theta_{j-a}$ | 41.6                                | $^\circ\text{C}/\text{W}$ |

### Electrical characteristics

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

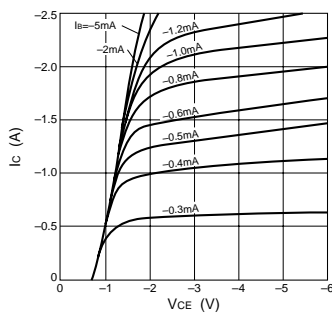
| Symbol        | Specification |     |       | Unit          | Conditions                             |
|---------------|---------------|-----|-------|---------------|--|
|               | min           | typ | max   |               |  |
| $I_{CB0}$     |               |     | -10   | $\mu\text{A}$ | $V_{CB}=-60\text{V}$                   |
| $I_{EB0}$     |               |     | -3    | mA            | $V_{EB}=-6\text{V}$                    |
| $V_{CE0}$     | -60           |     |       | V             | $I_c=-10\text{mA}$                     |
| $h_{FE}$      | 2000          |     | 12000 |               | $V_{CE}=-4\text{V}$ , $I_c=-1\text{A}$ |
| $V_{CE(sat)}$ |               |     | -1.4  | V             | $I_c=-1\text{A}$ , $I_B=-2\text{mA}$   |
| $V_{BE(sat)}$ |               |     | -2.2  | V             |  |

### Equivalent circuit diagram

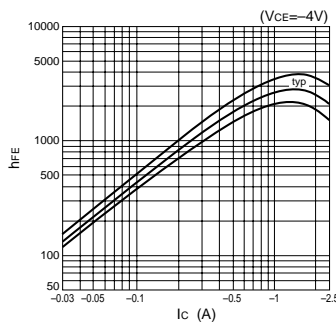


### Characteristic curves

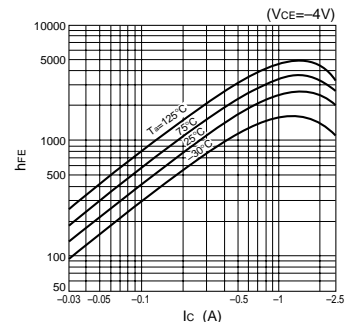
$I_c$ - $V_{CE}$  Characteristics (Typical)



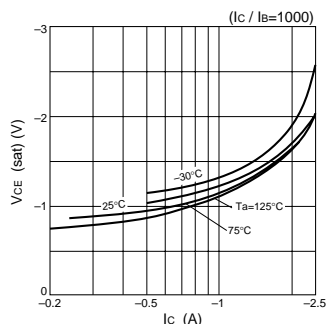
$h_{FE}$ - $I_c$  Characteristics (Typical)



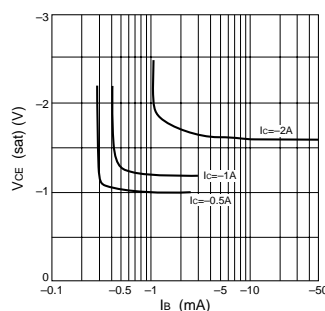
$h_{FE}$ - $I_c$  Temperature Characteristics (Typical)



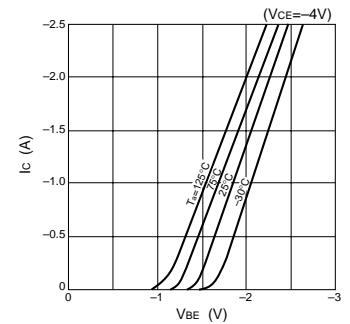
$V_{CE(sat)}$ - $I_c$  Temperature Characteristics (Typical)



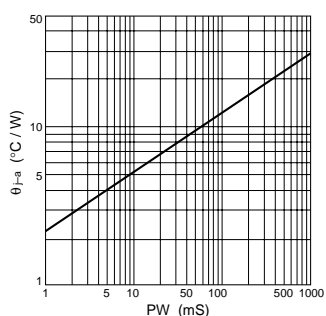
$V_{CE(sat)}$ - $I_B$  Characteristics (Typical)



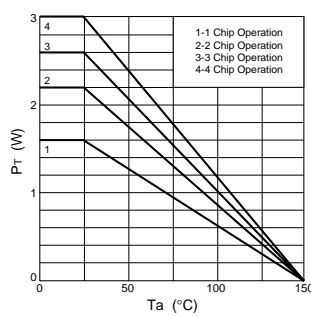
$I_c$ - $V_{BE}$  Temperature Characteristics (Typical)



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



$P_T$ - $T_a$  Characteristics



Safe Operating Area (SOA)

