

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 | 3 | A |
| I_{CP} | 5 ($PW \leq 1\text{ms}$, $D_u \leq 50\%$) | A |
| I_B | 0.2 | A |
| I_F | 3 ($PW \leq 0.5\text{ms}$, $D_u \leq 25\%$) | A |
| I_{FSM} | 5 ($PW \leq 10\text{ms}$, Single pulse) | A |
| V_R | 120 | V |
| P_T | 4 ($T_a=25^\circ\text{C}$) | W |
| | 20 ($T_c=25^\circ\text{C}$) | |
| T_j | 150 | $^\circ\text{C}$ |
| T_{stg} | -40 to +150 | $^\circ\text{C}$ |

Electrical characteristics

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

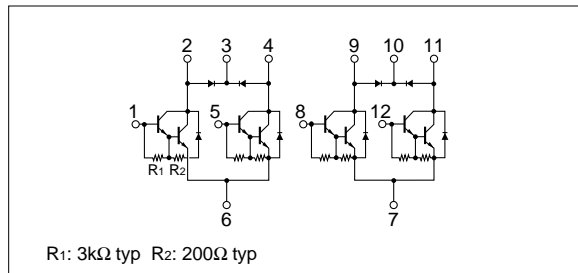
| Symbol | Specification | | | Unit | Conditions |
|---------------|---------------|------|-------|---------------|-------------------------------------------------------------------------------------|
| | min | typ | max | | |
| I_{CBO} | | | 10 | μA | $V_{CB}=120\text{V}$ |
| I_{EBO} | | | 10 | mA | $V_{EB}=6\text{V}$ |
| V_{CEO} | 100 | | | V | $I_c=25\text{mA}$ |
| h_{FE} | 2000 | 6000 | 15000 | | $V_{CE}=4\text{V}$, $I_c=1.5\text{A}$ |
| $V_{CE(sat)}$ | | 1.1 | 1.5 | V | $I_c=1.5\text{A}$, $I_B=3\text{mA}$ |
| $V_{BE(sat)}$ | | 1.7 | 2.0 | V | |
| t_{on} | | 0.5 | | μs | $V_{CC} \approx 30\text{V}$, $I_c=1.5\text{A}$, $I_{B1}=-I_{B2}=3\text{mA}$ |
| t_{stg} | | 2.2 | | μs | |
| t_f | | 0.9 | | μs | |
| f_T | | 40 | | MHz | $V_{CE}=12\text{V}$, $I_E=-0.5\text{A}$ |
| C_{ob} | | 30 | | pF | $V_{CB}=10\text{V}$, $f=1\text{MHz}$ |

Diode for flyback voltage absorption

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

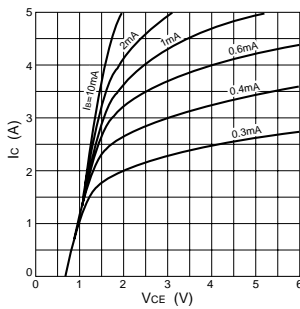
| Symbol | Specification | | | Unit | Conditions |
|----------|---------------|-----|-----|---------------|------------------------|
| | min | typ | max | | |
| V_R | 120 | | | V | $I_R=10\mu\text{A}$ |
| V_F | | | 1.6 | V | $I_F=1\text{A}$ |
| I_R | | | 10 | μA | $V_R=120\text{V}$ |
| t_{rr} | | 100 | | ns | $I_F=\pm 100\text{mA}$ |

Equivalent circuit diagram

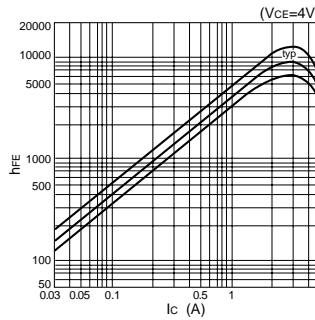


Characteristic curves

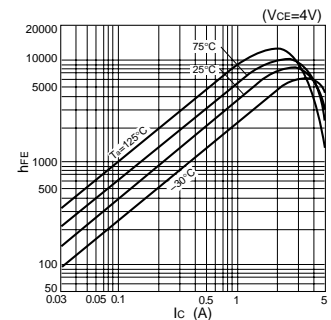
I_c - V_{CE} Characteristics (Typical)



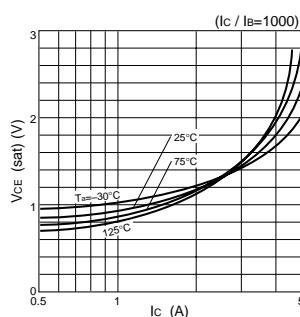
h_{FE} - I_c Characteristics (Typical)



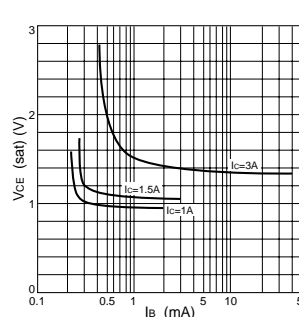
h_{FE} - I_c Temperature Characteristics (Typical)



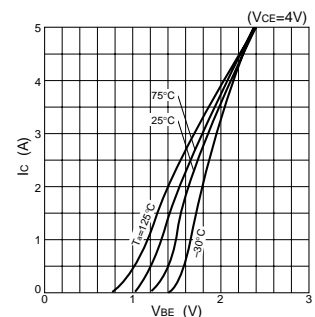
$V_{CE(sat)}$ - I_c Temperature Characteristics (Typical)



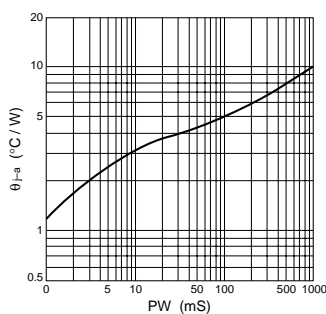
$V_{CE(sat)}$ - I_B Characteristics (Typical)



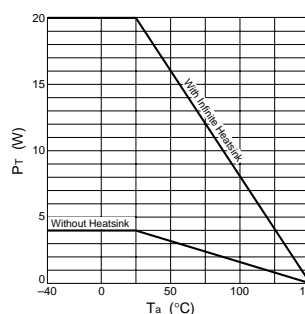
I_c - V_{BE} Temperature Characteristics (Typical)



θ_{j-a} - PW Characteristics



P_T - T_a Characteristics



Safe Operating Area (SOA)

