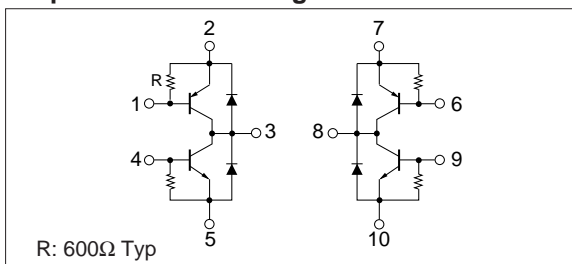


Absolute maximum ratings

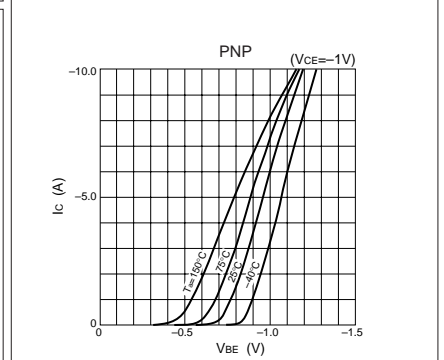
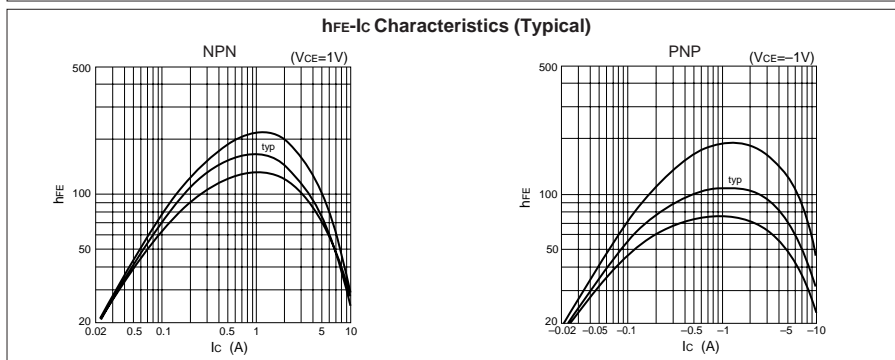
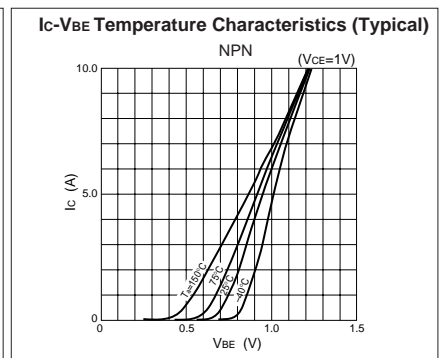
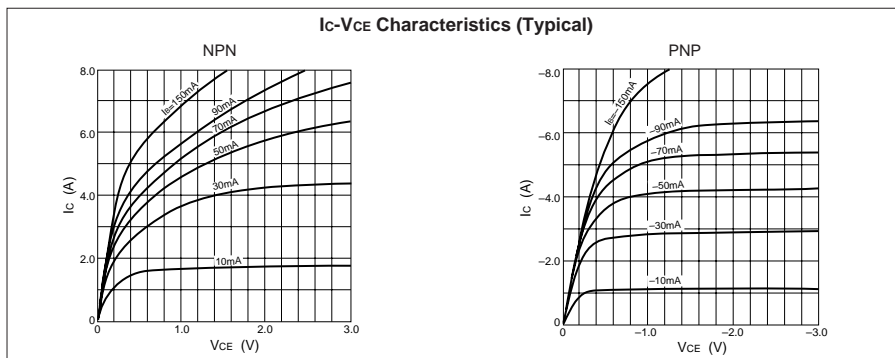
($T_a=25^\circ\text{C}$)

| Symbol | Ratings | | Unit |
|-----------|---|-----|------------------|
| | NPN | PNP | |
| V_{CBO} | 50 | -50 | V |
| V_{CEO} | 30 | -30 | V |
| V_{EBO} | 6 | -6 | V |
| I_c | 5 | -5 | A |
| I_{cP} | 10($PW \leq 10\text{ms}$, $D_u \leq 50\%$) | | A |
| I_B | 1 | -1 | A |
| 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 +50 | | $^\circ\text{C}$ |
| T_{FSM} | 20 (Single half-cycle sinewave) | | A |

Equivalent circuit diagram



Characteristic curves



Electrical characteristics

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

| Symbol | NPN | | | | | PNP | | | | |
|---------------|---------------|-----|-----|---------------|--|---------------|-----|------|---------------|---|
| | Specification | | | Unit | Conditions | Specification | | | Unit | Conditions |
| | min | typ | max | | | min | typ | max | | |
| I_{CBO} | | | 10 | μA | $V_{CB}=50\text{V}$ | | | -10 | μA | $V_{CB}=-50\text{V}$ |
| I_{EBO} | | | 20 | mA | $V_{EB}=6\text{V}$ | | | -20 | mA | $V_{EB}=-6\text{V}$ |
| V_{CEO} | 30 | | | V | $I_C=25\text{mA}$ | -30 | | | V | $I_C=-25\text{mA}$ |
| h_{FE} | 70 | | | | $V_{CE}=1\text{V}, I_C=1\text{A}$ | 70 | | | | $V_{CE}=-1\text{V}, I_C=-1\text{A}$ |
| | 40 | | | | $V_{CE}=1\text{V}, I_C=4\text{A}$ | 40 | | | | $V_{CE}=-1\text{V}, I_C=-4\text{A}$ |
| $V_{CE(sat)}$ | | | 0.5 | V | $I_C=3\text{A}, I_B=0.1\text{A}$ | | | -0.5 | V | $I_C=-3\text{A}, I_B=-0.1\text{A}$ |
| t_{on} | | 0.3 | | μs | $V_{CC}\approx 12\text{V},$ $I_C=3\text{A},$ $I_{B1}=-I_{B2}=100\text{mA}$ $I_F=I_R=100\text{mA}$ | | 0.3 | | μs | $V_{CC}\approx -12\text{V},$ $I_C=-3\text{A},$ $I_{B1}=-I_{B2}=-100\text{mA}$ |
| t_{stg} | | 0.5 | | μs | | | 0.5 | | μs | |
| t_f | | 0.1 | | μs | | | 0.1 | | μs | |
| t_{rr} | | 2.0 | | μs | | | 2.0 | | μs | |

Characteristic curves

