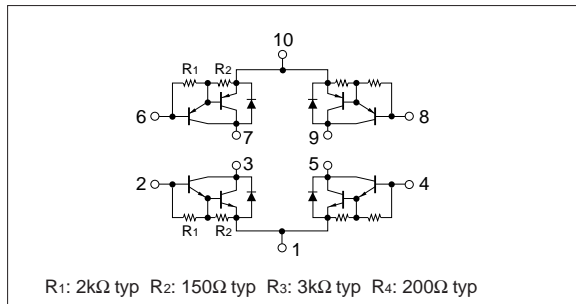


Absolute maximum ratings

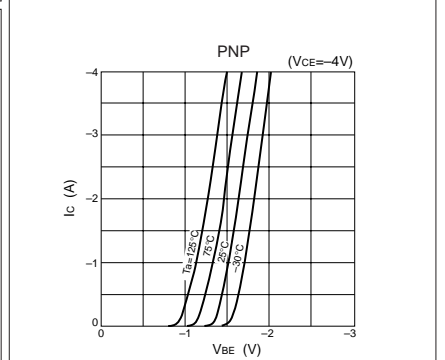
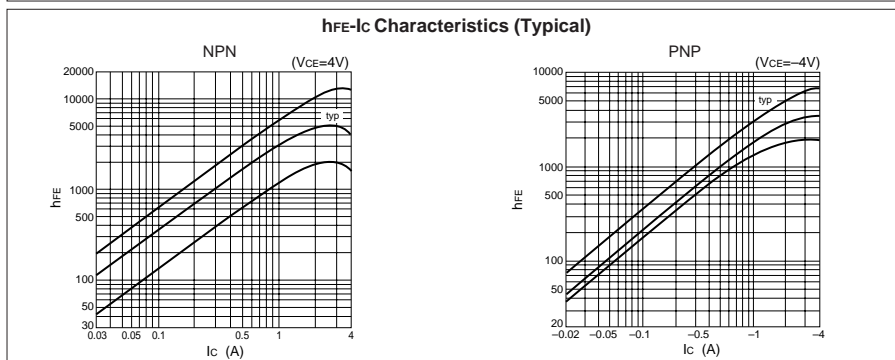
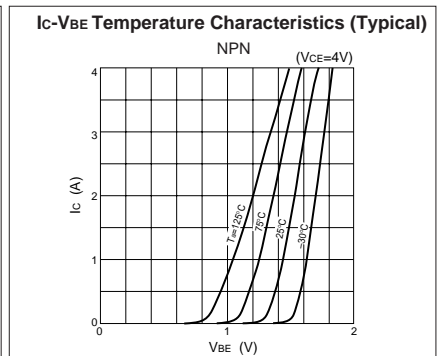
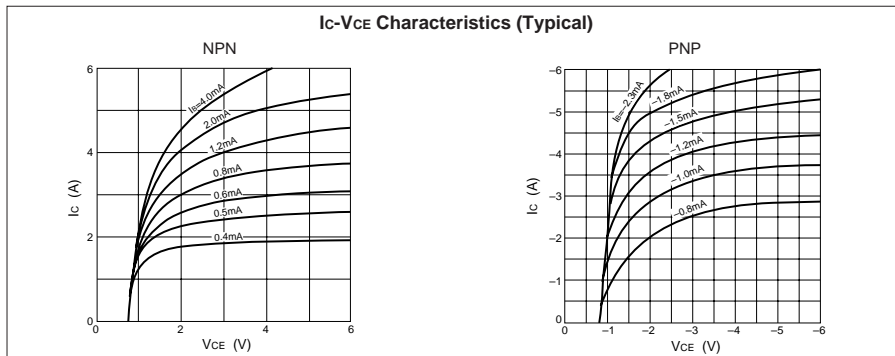
($T_a=25^\circ\text{C}$)

| Symbol | Specification | | Unit |
|-----------|-----------------------------------|------------------------------------|------------------|
| | NPN | PNP | |
| V_{CBO} | 80 | -60 | V |
| V_{CEO} | 60 | -60 | V |
| V_{EBO} | 6 | -6 | V |
| I_C | 4 | -4 | A |
| I_{CP} | 8 (PW \leq 10ms, Du \leq 50%) | -8 (PW \leq 10ms, Du \leq 50%) | 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 +150 | | $^\circ\text{C}$ |

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} | | | 100 | μA | $V_{CB}=80\text{V}$ | | | -100 | μA | $V_{CB}=-60\text{V}$ |
| I_{EBO} | | | 10 | mA | $V_{EB}=6\text{V}$ | | | -10 | mA | $V_{EB}=-6\text{V}$ |
| V_{CEO} | 60 | | | V | $I_C=10\text{mA}$ | -60 | | | V | $I_C=-10\text{mA}$ |
| hFE | 1000 | | | | $V_{CE}=4\text{V}, I_C=3\text{A}$ | 1000 | | | | $V_{CE}=-4\text{V}, I_C=-3\text{A}$ |
| $V_{CE}(\text{sat})$ | | | 2.0 | V | $I_C=3\text{A}, I_B=10\text{mA}$ | | | -2.0 | V | $I_C=-2\text{A}, I_B=-10\text{mA}$ |
| t_{on} | | 1.0 | | μs | $V_{CC} \div 30\text{V},$ $I_C=3\text{A},$ $I_{B1}=-I_{B2}=10\text{mA}$ | | 0.4 | | μs | $V_{CC} \div 30\text{V},$ $I_C=-3\text{A},$ $I_{B1}=-I_{B2}=-10\text{mA}$ |
| t_{stg} | | 4.0 | | μs | | | 0.8 | | μs | |
| t_f | | 1.5 | | μs | | | 0.6 | | μs | |

Characteristic curves

