

Silicon NPN Power Transistors

2SC3212 2SC3212A

DESCRIPTION

- With TO-3PFa package
- Low collector saturation voltage
- High V_{CBO}
- High speed switching

APPLICATIONS

- For high speed switching applications

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Base |
| 2 | Collector |
| 3 | Emitter |

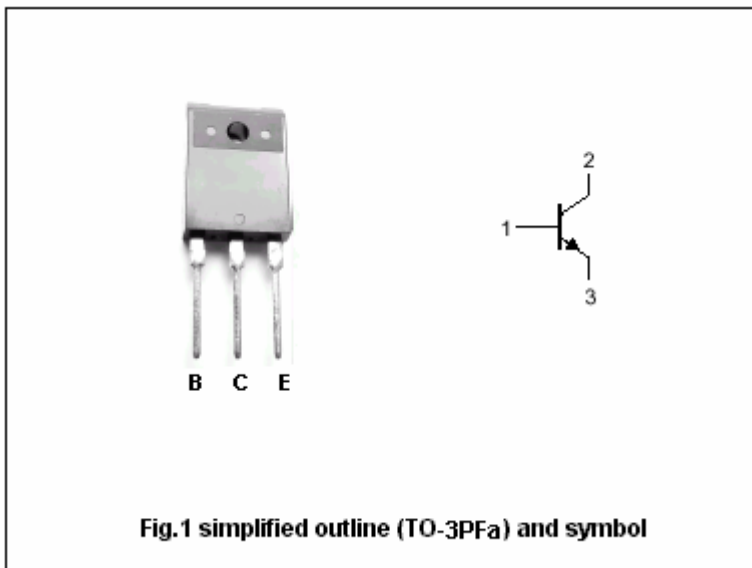


Fig.1 simplified outline (TO-3PFa) and symbol

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

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | 2SC3212 | 800 | V |
| | | 2SC3212A | 900 | |
| V_{CEO} | Collector-emitter voltage | Open base | 500 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 8 | V |
| I_C | Collector current | | 7 | A |
| I_{CM} | Collector current-peak | | 15 | A |
| I_B | Base current | | 4 | A |
| P_C | Collector power dissipation | $T_C=25$ | 100 | W |
| | | $T_a=25$ | 3 | |
| T_j | Junction temperature | | 150 | |
| T_{stg} | Storage temperature | | -55~150 | |

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CHARACTERISTICS

Tj=25 unless otherwise specified

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|----------|--------------------------------|-----|------|-----|---------|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | | $I_C=0.2A; L=25mH$ | 500 | | | V |
| V_{CEsat} | Collector-emitter saturation voltage | | $I_C=5A; I_B=1A$ | | | 1.0 | V |
| V_{BEsat} | Base-emitter saturation voltage | | $I_C=5A; I_B=1A$ | | | 1.5 | V |
| I_{CBO} | Collector cut-off current | 2SC3212 | $V_{CB}=800V; I_E=0$ | | | 100 | μA |
| | | 2SC3212A | $V_{CB}=900V; I_E=0$ | | | | |
| I_{EBO} | Emitter cut-off current | | $V_{EB}=5V; I_C=0$ | | | 100 | μA |
| h_{FE-1} | DC current gain | | $I_C=0.1A; V_{CE}=5V$ | 15 | | | |
| h_{FE-2} | DC current gain | | $I_C=5A; V_{CE}=5V$ | 8 | | | |
| f_T | Transition frequency | | $I_C=0.5A; V_{CE}=10V; f=1MHz$ | | 3.5 | | MHz |

Switching times

| | | | | | | | | | |
|-----------|--------------|----------|--|--|--|-----|---------|-----|---------|
| t_{on} | Turn-on time | 2SC3212 | $I_C=5A; V_{CC}=200V$ $I_{B1}=-I_{B2}=1A$ | | | 1.0 | μs | | |
| | | 2SC3212A | | | | 1.2 | | | |
| t_{stg} | Storage time | | | | | | | 2.5 | μs |
| t_f | Fall time | 2SC3212 | | | | | | 1.0 | μs |
| | | 2SC3212A | | | | | | 1.2 | |

