

Silicon PNP Power Transistors

MJ21193

DESCRIPTION

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- With TO-3 package
- Complement to type MJ21194
- Excellent gain linearity

APPLICATIONS

- Designed for high power audio output, disk head positioners and linear applications

PINNING(see Fig.2)

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

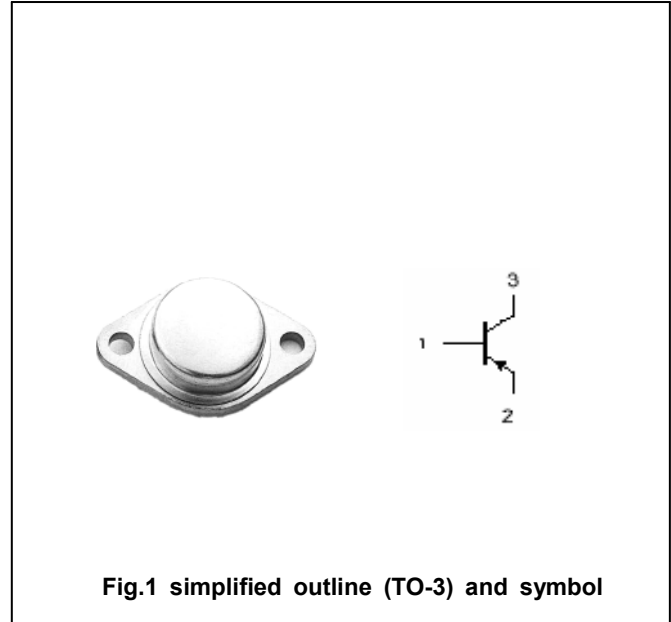


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS($T_C=25^\circ\text{C}$)

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|-----------|---------------------------|------------------------|---------|------------------|
| V_{CBO} | Collector-base voltage | Open emitter | -400 | V |
| V_{CEO} | Collector-emitter voltage | Open base | -250 | V |
| V_{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I_C | Collector current | | -16 | A |
| I_{CM} | Collector current-peak | | -30 | A |
| I_B | Base current | | -5 | A |
| P_D | Total power dissipation | $T_C=25^\circ\text{C}$ | 250 | W |
| T_j | Junction temperature | | -65~200 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | -65~200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|--------------|--|-------|---------------------------|
| R_{th-j-c} | Thermal resistance from junction to case | 0.7 | $^\circ\text{C}/\text{W}$ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|---|--|--------------|------|------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =-100mA ; I _B =0 | -250 | | | V |
| V _{CE(sat)-1} | Collector-emitter saturation voltage | I _C =-8A; I _B =-0.8A | | | -1.4 | V |
| V _{CE(sat)-2} | Collector-emitter saturation voltage | I _C =-16A; I _B =-3.2A | | | -4.0 | V |
| V _{BE(ON)} | Base-emitter on voltage | I _C =-8A ; V _{CE} =-5V | | | -2.2 | V |
| I _{C EX} | Collector cut-off current | V _{CE} =-250V; V _{BE(off)} =-1.5V | | | -100 | μA |
| I _{CEO} | Collector cut-off current | V _{CE} =-200V; I _B =0 | | | -100 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-5V; I _C =0 | | | -100 | μA |
| h _{FE-1} | DC current gain | I _C =-8A ; V _{CE} =-5V | 25 | | 75 | |
| h _{FE-2} | DC current gain | I _C =-16A ; V _{CE} =-5V | 8 | | | |
| f _T | Transition frequency | I _C =-1A ; V _{CE} =-10V,f=1MHz | 4 | | | MHz |
| C _{OB} | Collector output capacitance | f=1MHz;V _{CB} =-10V,I _E =0 | | | 500 | pF |
| I _{s/b} | Second breakdown current with base forward biased | V _{CE} =-50V;t=1s(non-repetitive) V _{CE} =-80V;t=1s(non-repetitive) | -5.0 -2.5 | | | A |

PACKAGE OUTLINE

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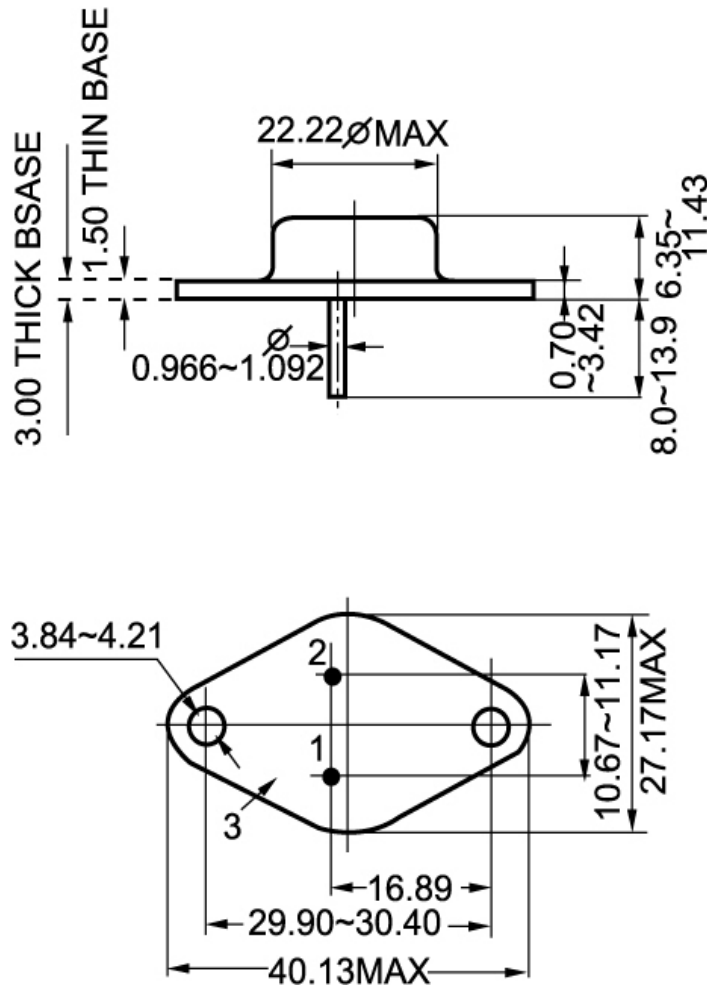


Fig.2 Outline dimensions (unindicated tolerance:±0.50 mm)