

Silicon NPN Power Transistors

2SD1186

DESCRIPTION

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- With TO-3 package
- High breakdown voltage
- High speed switching

APPLICATIONS

- Power switching applications

PINNING(see Fig.2)

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

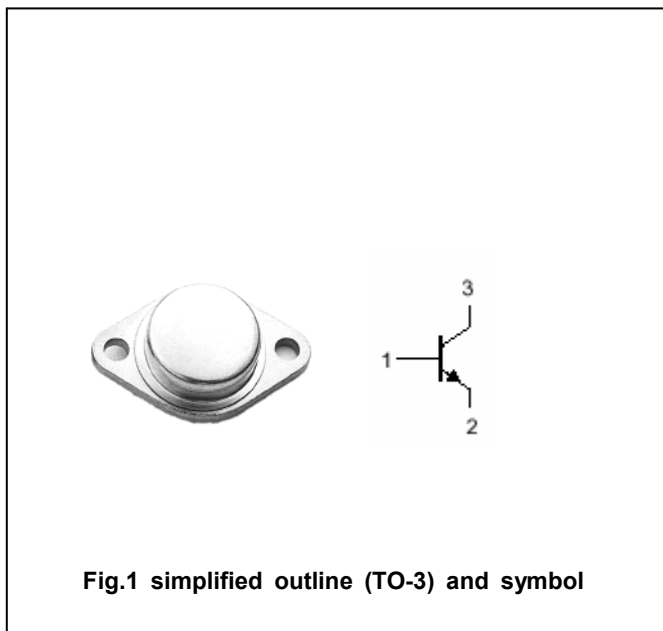


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|---------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 1500 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 800 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 6 | V |
| I _C | Collector current | | 5 | A |
| I _{CM} | Collector current-peak | | 7 | A |
| P _C | Collector power dissipation | T _C =25□ | 50 | W |
| T _j | Junction temperature | | 150 | □ |
| T _{stg} | Storage temperature | | -45~150 | □ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =10mA ; I _C =0 | 6 | | | V |
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =10mA ; R _{BE} =∞ | 800 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =4A; I _B =0.8A | | | 5.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =4A; I _B =0.8A | | | 1.5 | V |
| I _{CES} | Collector cut-off current | V _{CE} =1500V; R _{BE} =0 | | | 0.5 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =6V; I _C =0 | | | 0.1 | mA |
| h _{FE} | DC current gain | I _C =0.3A ; V _{CE} =5V | 10 | | 30 | |

Switching times

| | | | | | | |
|----------------|--------------|--|--|-----|-----|----|
| t _f | Fall time | I _C =4A ; I _{B1} =0.8A; I _{B2} =-2A | | | 1.0 | μs |
| t _s | Storage time | | | 1.0 | | μs |

PACKAGE OUTLINE

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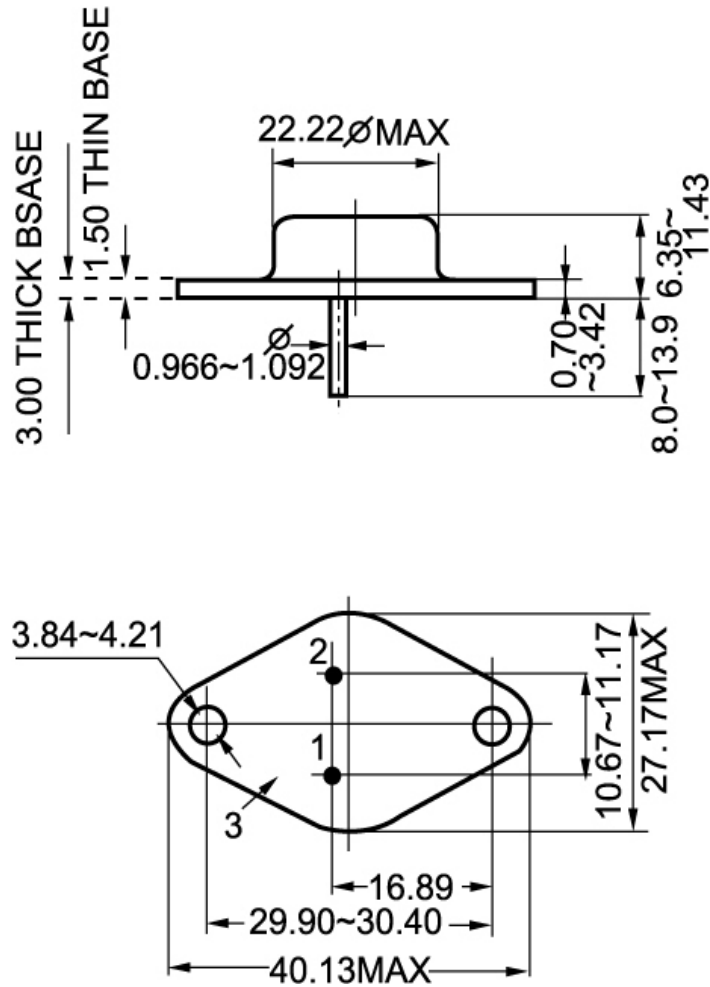


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)