

Silicon NPN Power Transistors

2N3445

DESCRIPTION

- With TO-3 package
- Excellent safe operating area

APPLICATIONS

- Designed for medium-switching and amplifier applications.

PINNING

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

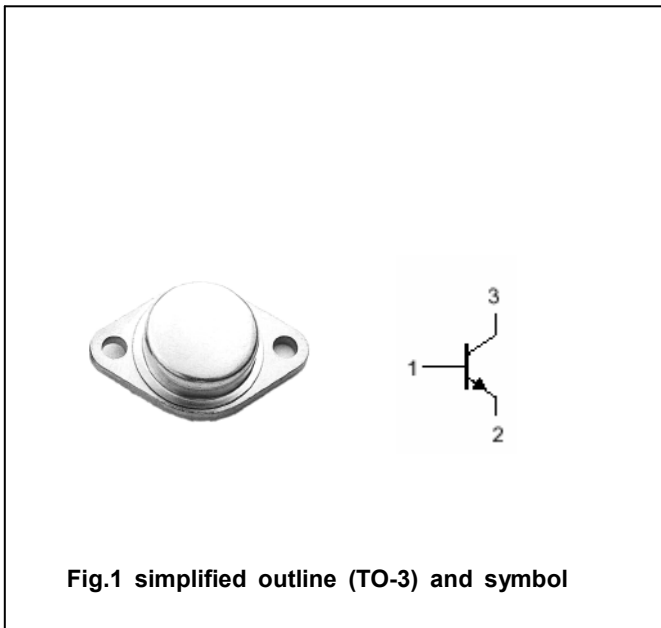


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 80 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 80 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I _C | Collector current | | 7.5 | A |
| P _C | Collector power dissipation | T _C =25°C | 115 | W |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -65~200 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|----------------------|-------------------------------------|-------|------|
| R _{(th) jc} | Thermal resistance junction to case | 1.17 | °C/W |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =30mA ; I _B =0 | 80 | | | V |
| V _{CE(sat)-1} | Collector-emitter saturation voltage | I _C =3A; I _B =0.3A | | | 1.2 | V |
| V _{CE(sat)-2} | Collector-emitter saturation voltage | I _C =7A; I _B =1.5A | | | 3.0 | V |
| V _{BE(on)} | Base-emitter on voltage | I _C =3A ; V _{CE} =5V | | | 1.5 | V |
| I _{CEO} | Collector cut-off current | V _{CE} =60V; I _B =0 | | | 0.7 | mA |
| I _{CBO} | Collector cut-off current | V _{CB} =80V; I _E =0 | | | 0.1 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =7V; I _C =0 | | | 0.1 | mA |
| h _{FE-1} | DC current gain | I _C =3A ; V _{CE} =5V | 20 | | 60 | |
| h _{FE-2} | DC current gain | I _C =7A ; V _{CE} =5V | 4 | | | |

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PACKAGE OUTLINE

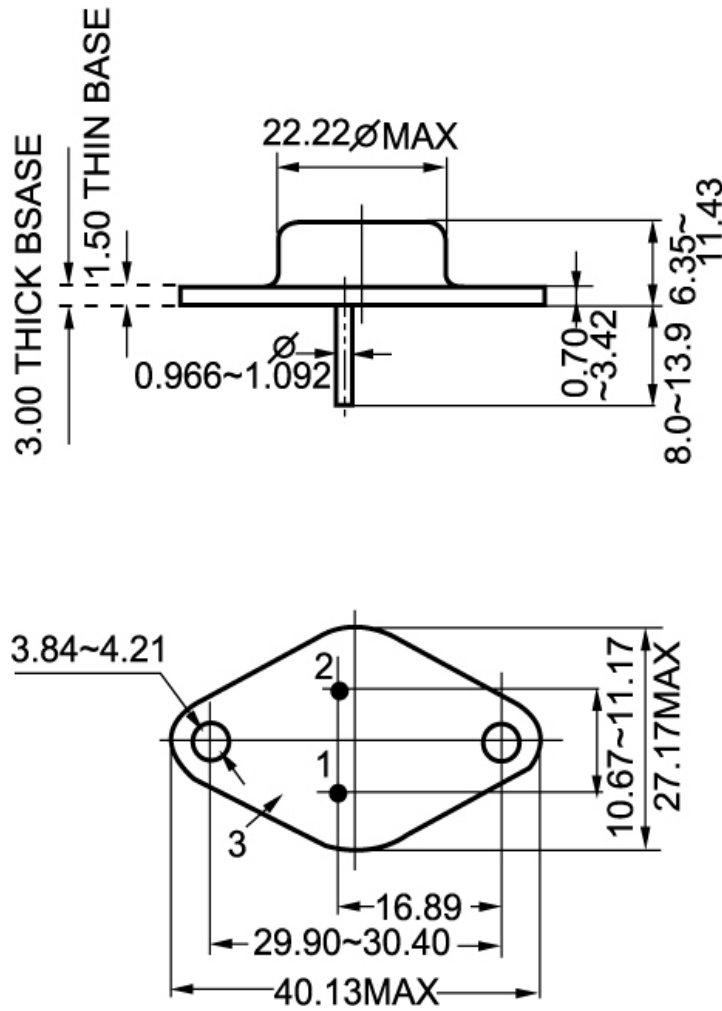


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)