

Silicon NPN Power Transistors

2SD1975 2SD1975A

DESCRIPTION

www.datasheet4u.com

- With TO-3PL package
- Complement to type 2SB1317/1317A
- Wide area of safe operation
- High transition frequency f_T

APPLICATIONS

- For high power amplification
- Optimum for the output stage of a Hi-Fi audio amplifier

PINNING

| PIN | DESCRIPTION |
|-----|--------------------------------------|
| 1 | Base |
| 2 | Collector;connected to mounting base |
| 3 | Emitter |

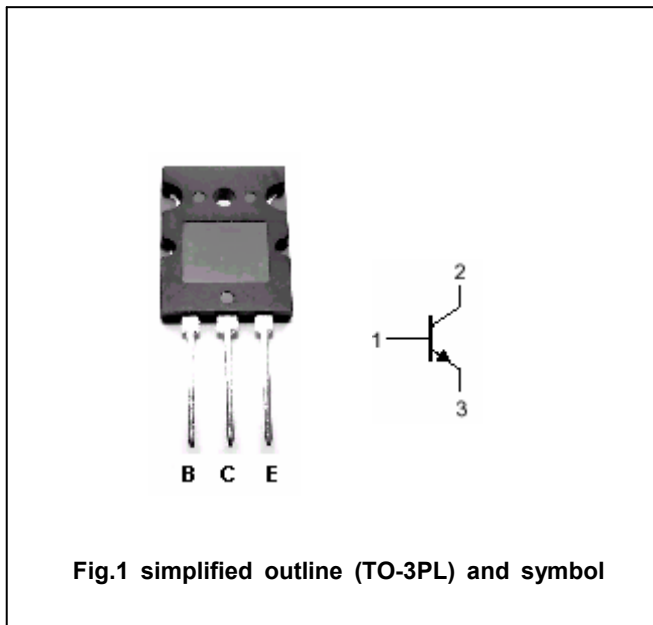


Fig.1 simplified outline (TO-3PL) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2SD1975 | 180 | V |
| | | 2SD1975A | 200 | |
| V _{CEO} | Collector-emitter voltage | 2SD1975 | 180 | V |
| | | 2SD1975A | 200 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 15 | A |
| I _{CM} | Collector current-peak | | 25 | A |
| P _C | Collector power dissipation | T _a =25°C | 3.5 | W |
| | | T _C =25°C | 150 | |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -55~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|--------------------|--------------------------------------|----------|--|-----|------|-----|------|
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =10A ; I _B =1A | | | 2.5 | V |
| V _{BE} | Emitter-base voltage | | I _C =8A ; V _{CE} =5V | | | 1.8 | V |
| I _{CBO} | Collector cut-off current | 2SD1975 | V _{CB} =180V; I _E =0 | | | 50 | μA |
| | | 2SD1975A | V _{CB} =200V; I _E =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =3V; I _C =0 | | | 50 | μA |
| h _{FE-1} | DC current gain | | I _C =20mA ; V _{CE} =5V | 20 | | | |
| h _{FE-2} | DC current gain | | I _C =1A ; V _{CE} =5V | 60 | | 200 | |
| h _{FE-3} | DC current gain | | I _C =8A ; V _{CE} =5V | 20 | | | |
| f _T | Transition frequency | | I _C =0.5A ; V _{CE} =5V | | 20 | | MHz |
| C _{OB} | Collector output capacitance | | f=1MHz; V _{CB} =10V | | 200 | | pF |

◆ h_{FE-2} classifications

| Q | S | P |
|--------|--------|---------|
| 60-120 | 80-160 | 100-200 |

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PACKAGE OUTLINE

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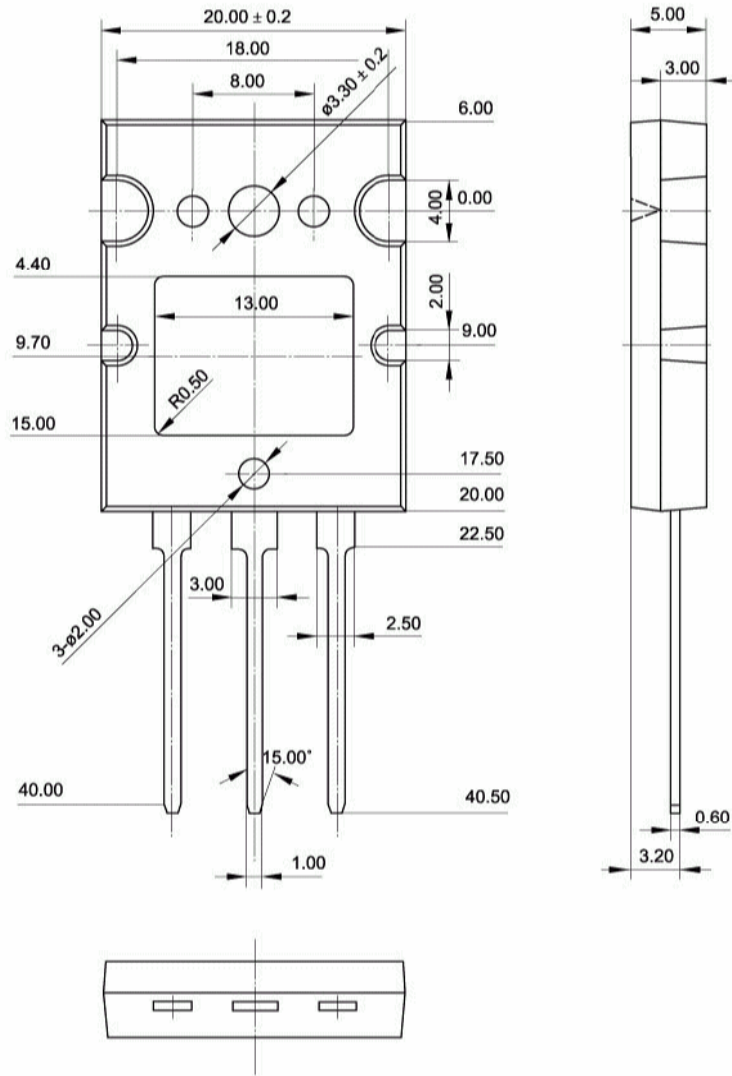


Fig.2 Outline dimensions (unindicated tolerance: ± 0.50 mm)

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