

Silicon PNP Power Transistors

2SA1006 2SA1006A 2SA1006B

DESCRIPTION

- With TO-220 package
- Complement to type 2SC2336, 2SC2336A, 2SC2336B

APPLICATIONS

- Audio frequency power amplifier
- High frequency power amplifier

PINNING

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

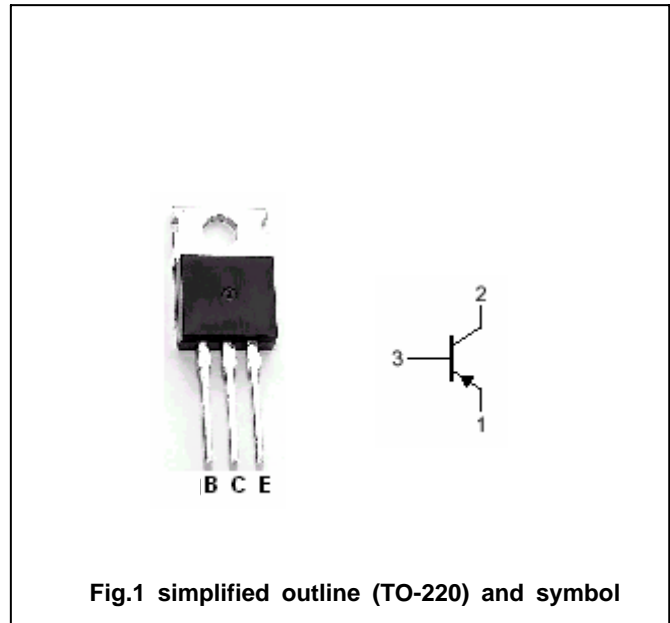


Fig.1 simplified outline (TO-220) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CB0} | Collector-base voltage | 2SA1006 | -180 | V |
| | | 2SA1006A | -200 | |
| | | 2SA1006B | -250 | |
| V _{CEO} | Collector-emitter voltage | 2SA1006 | -180 | V |
| | | 2SA1006A | -200 | |
| | | 2SA1006B | -250 | |
| V _{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I _C | Collector current | | -1.5 | A |
| I _{CM} | Collector current-Peak | | -3.0 | A |
| P _T | Total power dissipation | T _a =25°C | 1.5 | W |
| | | T _C =25°C | 25 | |
| 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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|--------------------|--------------------------------------|--|-----|------|------|------|
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-0.5A; I _B =-50mA | | | -1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-0.5A; I _B =-50mA | | | -1.5 | V |
| I _{CB0} | Collector cut-off current | V _{CB} =-150V; I _E =0 | | | -1 | μA |
| I _{EB0} | Emitter cut-off current | V _{EB} =-3V; I _C =0 | | | -1 | μA |
| h _{FE-1} | DC current gain | I _C =-5mA; V _{CE} =-5V | 30 | | | |
| h _{FE-2} | DC current gain | I _C =-150mA; V _{CE} =-5V | 60 | | 320 | |
| C _{ob} | Output capacitance | I _E =0; V _{CB} =-10V, f=1MHz | | 45 | | pF |
| f _T | Transition frequency | I _C =-100mA; V _{CE} =10V | | 80 | | MHz |

◆ h_{FE-2} Classifications

| R | Q | P |
|--------|---------|---------|
| 60-120 | 100-200 | 160-320 |

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PACKAGE OUTLINE

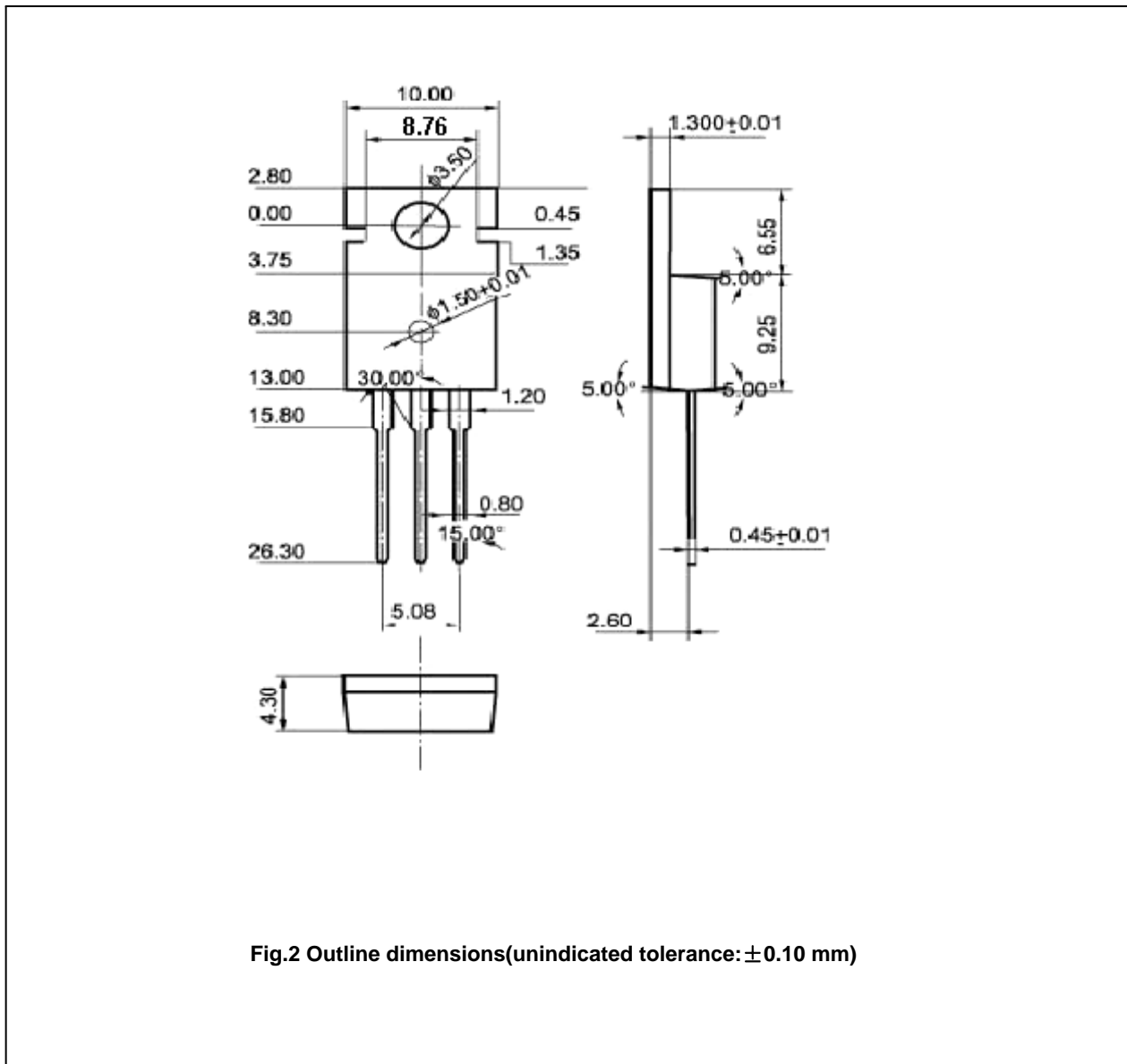


Fig.2 Outline dimensions(unindicated tolerance: ±0.10 mm)

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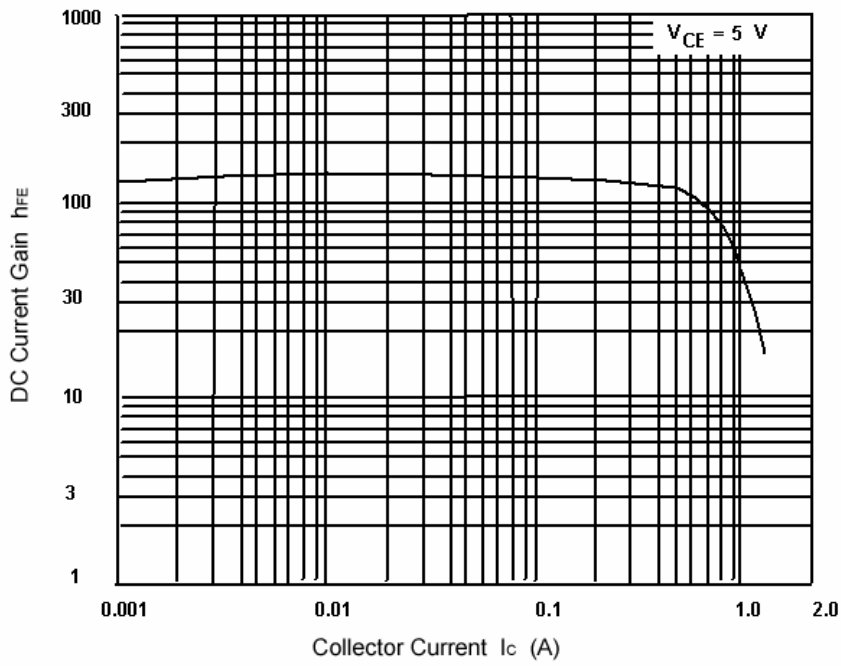


Fig.3 DC current Gain

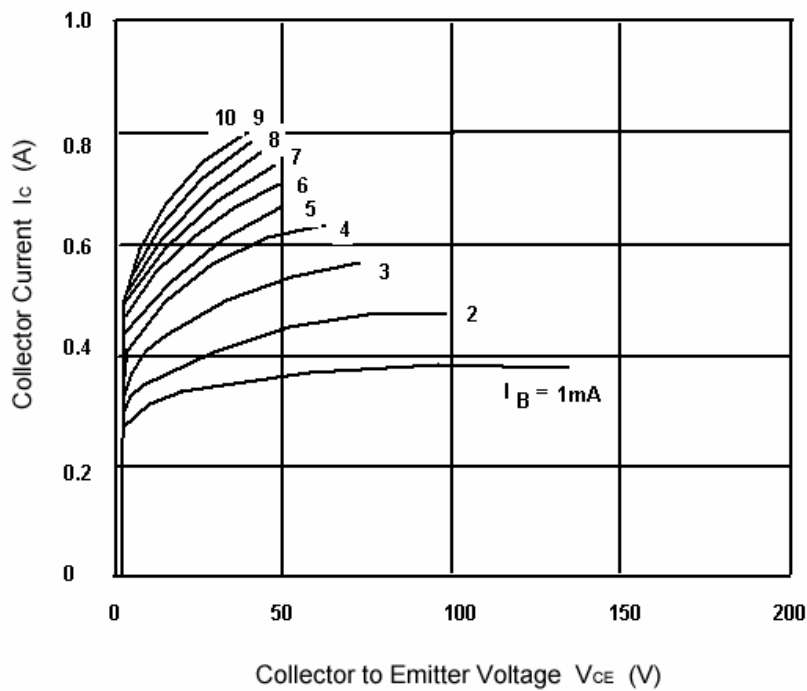


Fig.4 Static Characteristic

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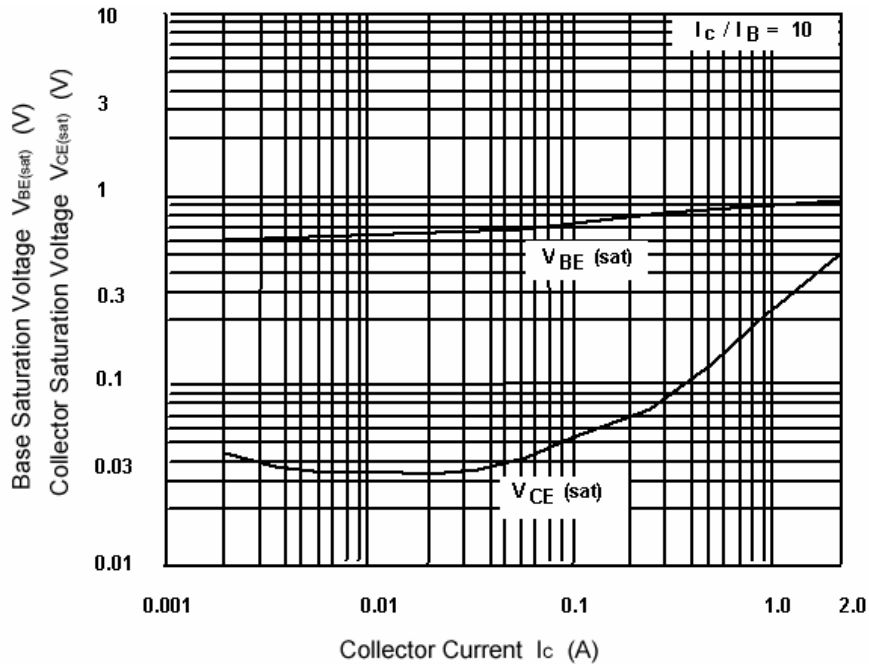


Fig.5 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

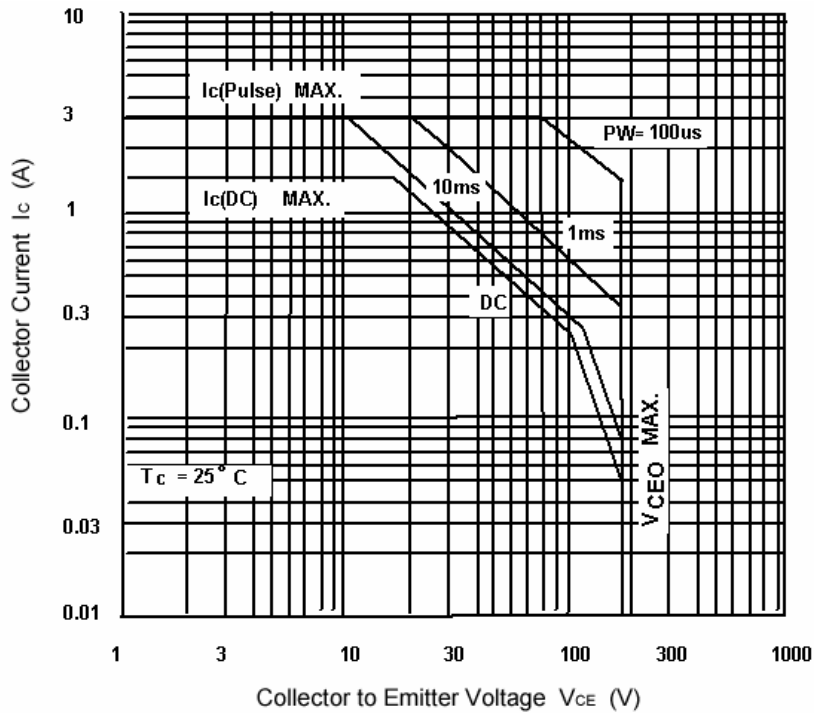


Fig.6 Safe Operating Area