

Silicon NPN Power Transistors

2SC2591 2SC2592

DESCRIPTION

- With TO-220 package
- Complement to type 2SA1111/1112
- Good linearity of h_{FE}
- High V_{CEO}

APPLICATIONS

- For audio frequency, high power amplifiers application

PINNING

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

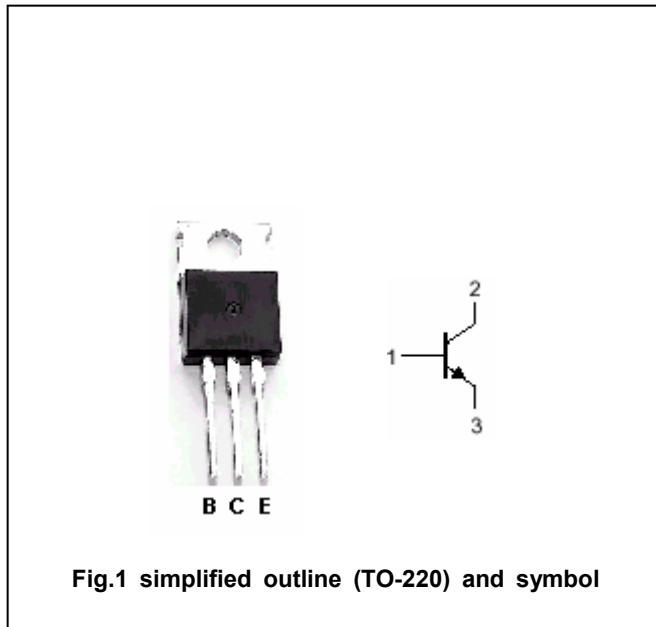


Fig.1 simplified outline (TO-220) and symbol

ABSOLUTE MAXIMUM RATINGS($T_c=25^\circ$)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|----------|
| V_{CBO} | Collector-base voltage | 2SC2591 | 150 | V |
| | | 2SC2592 | 180 | |
| V_{CEO} | Collector-emitter voltage | 2SC2591 | 150 | V |
| | | 2SC2592 | 180 | |
| V_{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I_C | Collector current | | 1 | A |
| I_{CM} | Collector current-peak | | 1.5 | A |
| P_C | Collector power dissipation | $T_c=25^\circ$ | 20 | W |
| T_j | Junction temperature | | 150 | $^\circ$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ$ |

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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 | 2SC2591 | I _C =0.1mA, I _B =0 | 150 | | | V |
| | | 2SC2592 | | 180 | | | |
| V _{EBO} | Emitter-base breakdown voltage | | I _E =10μA, I _C =0 | 5 | | | V |
| V _{CE(sat)} | Collector-emitter saturation voltage | | I _C =0.5A; I _B =50mA | | 0.5 | 2.0 | V |
| V _{BE(sat)} | Base-emitter saturation voltage | | I _C =0.5A; I _B =50mA | | 1.0 | 2.0 | V |
| I _{CBO} | Collector cut-off current | | V _{CB} =120V; I _E =0 | | | 1 | μA |
| I _{EBO} | Emitter cut-off current | | V _{EB} =4V; I _C =0 | | | 1 | μA |
| h _{FE-1} | DC current gain | | I _C =150mA; V _{CE} =10V | 90 | | 330 | |
| h _{FE-2} | DC current gain | | I _C =500mA; V _{CE} =5V | 50 | | | |
| C _{OB} | Output capacitance | | I _E =0; V _{CB} =10V; f=1MHz | | 20 | | pF |
| f _T | Transition frequency | | I _C =50mA; V _{CE} =10V | | 200 | | MHz |

◆ h_{FE-1} Classifications

| Q | R | S |
|--------|---------|---------|
| 90-155 | 130-220 | 185-330 |

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PACKAGE OUTLINE

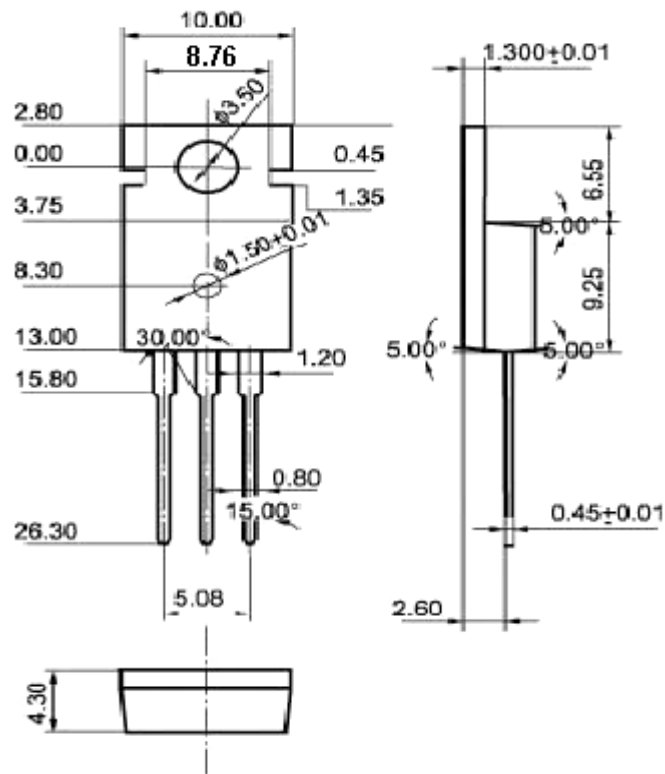


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)

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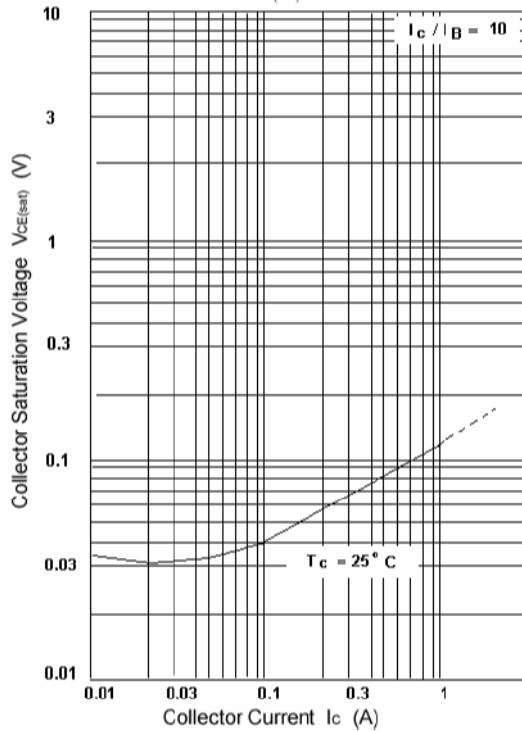


Fig.3 Collector-Emitter Saturation Voltage

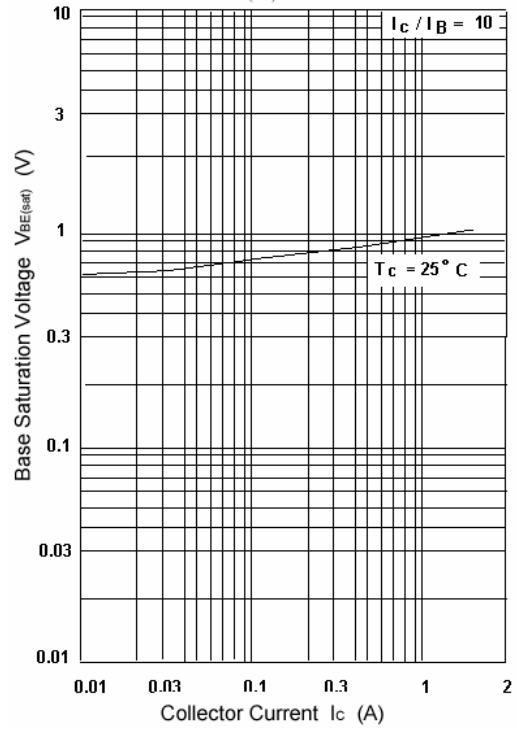


Fig.4 Base-Emitter Saturation Voltage

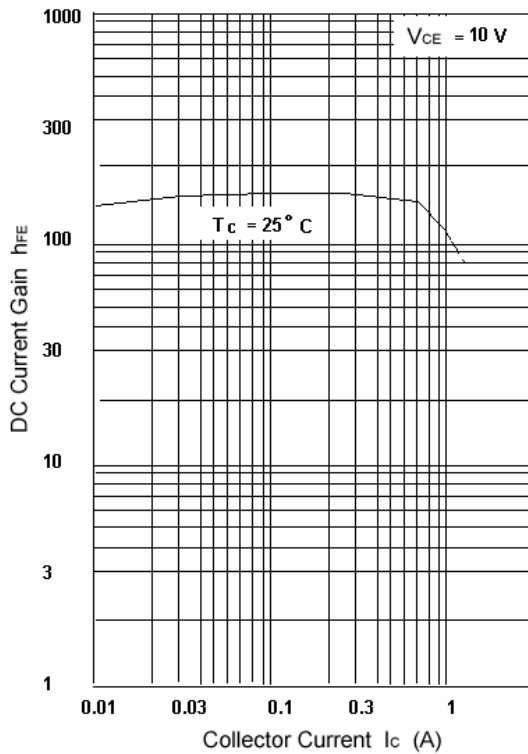


Fig.5 DC current Gain

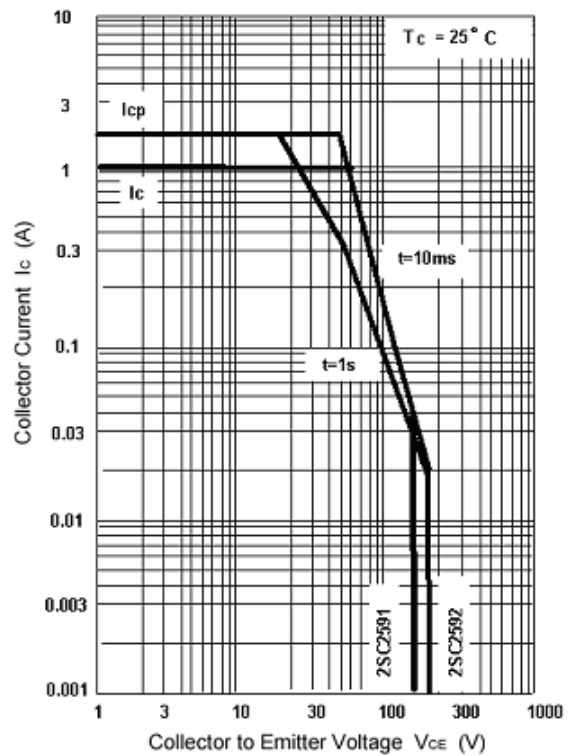


Fig.6 Safe Operating Area