

**Silicon PNP Power Transistors**

**2SA1567**

**DESCRIPTION**

- With TO-220F package
- Complement to type 2SC4064
- Low collector-emitter saturation voltage

**APPLICATIONS**

- For DC motor driver ,chopper regulator and general purpose applications

**PINNING**

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

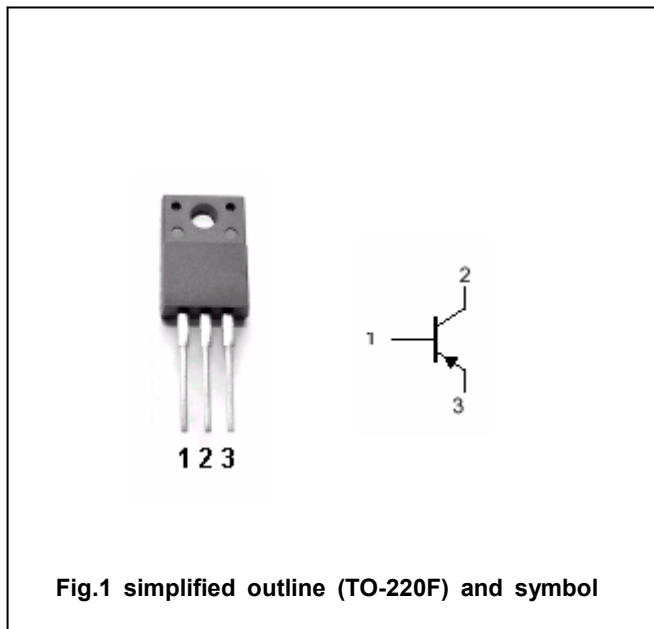


Fig.1 simplified outline (TO-220F) and symbol

**Absolute maximum ratings(Ta=25°C)**

| SYMBOL           | PARAMETER                   | CONDITIONS           | VALUE   | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter         | -50     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base            | -50     | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector       | -6      | V    |
| I <sub>C</sub>   | Collector current           |                      | -12     | A    |
| I <sub>B</sub>   | Base current                |                      | -3      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 35      | W    |
| T <sub>j</sub>   | Junction temperature        |                      | 150     | °C   |
| T <sub>stg</sub> | Storage temperature         |                      | -55~150 | °C   |

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS                                       | MIN | TYP. | MAX   | UNIT |
|----------------------|--------------------------------------|--|-----|------|-------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-25mA; I <sub>B</sub> =0         | -50 |      |       | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-6A; I <sub>B</sub> =-0.3 A      |     |      | -0.35 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-50V; I <sub>E</sub> =0         |     |      | -100  | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-6V; I <sub>C</sub> =0          |     |      | -100  | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =-6A ; V <sub>CE</sub> =-1V       | 50  |      |       |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>E</sub> =0.5A ; V <sub>CE</sub> =-12V     |     | 40   |       | MHz  |
| C <sub>OB</sub>      | Output capacitance                   | I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz |     | 330  |       | pF   |

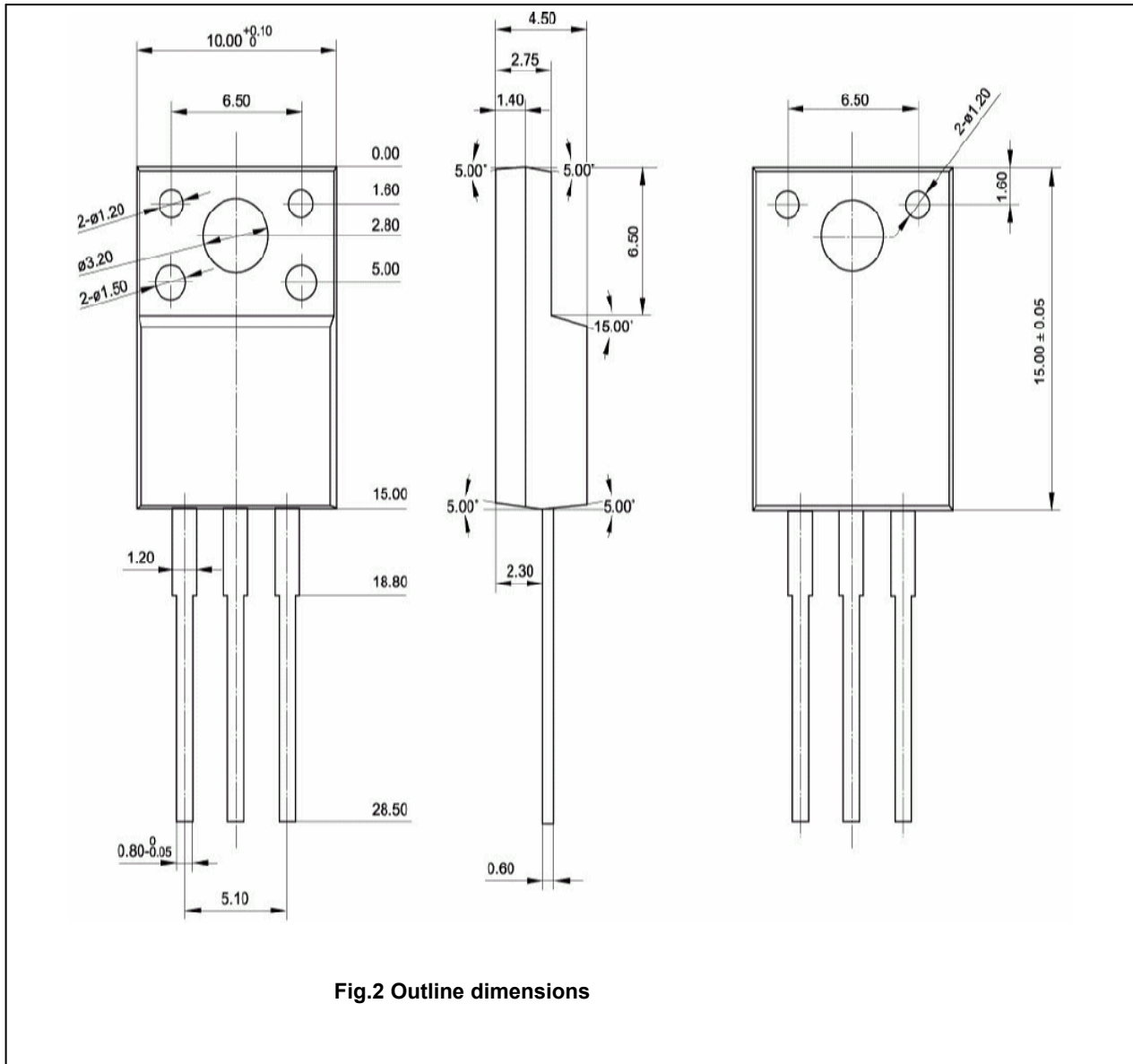
## Switching times

|                 |              |   |  |      |  |    |
|-----------------|--------------|---|--|------|--|----|
| t <sub>on</sub> | Turn-on time | I <sub>C</sub> =-6A; R <sub>L</sub> =4Ω<br>I <sub>B1</sub> =-I <sub>B2</sub> =-0.12A<br>V <sub>CC</sub> =-24V |  | 0.40 |  | μs |
| t <sub>s</sub>  | Storage time |   |  | 0.40 |  | μs |
| t <sub>f</sub>  | Fall time    |   |  | 0.20 |  | μs |

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PACKAGE OUTLINE



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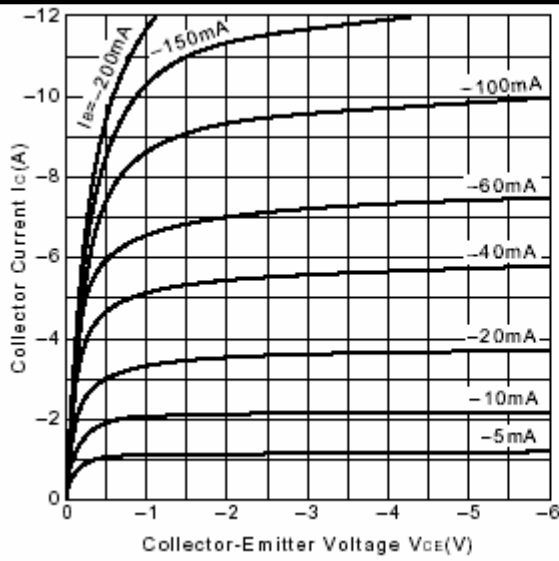


Fig.3 Static Characteristic

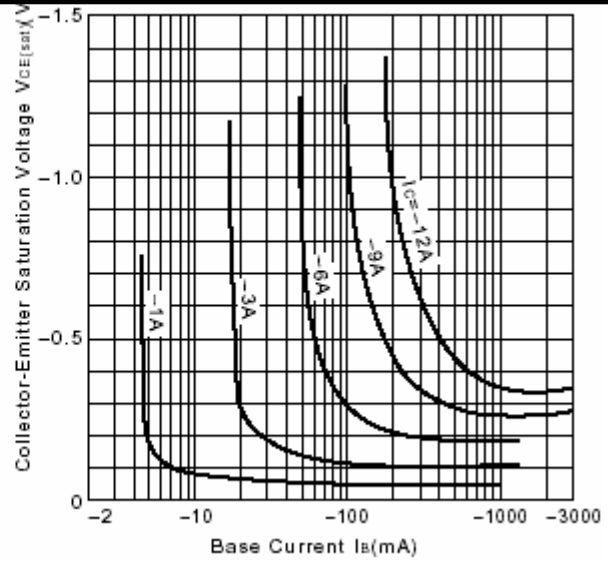


Fig.4  $V_{CE(sat)}-I_B$  Characteristics

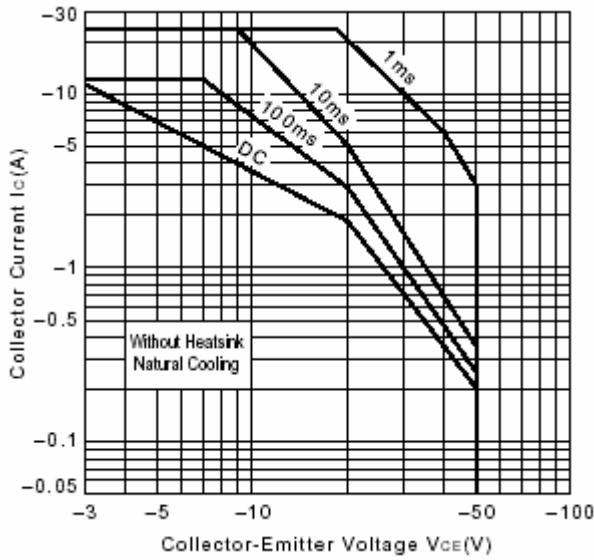


Fig.5 Safe Operating Area

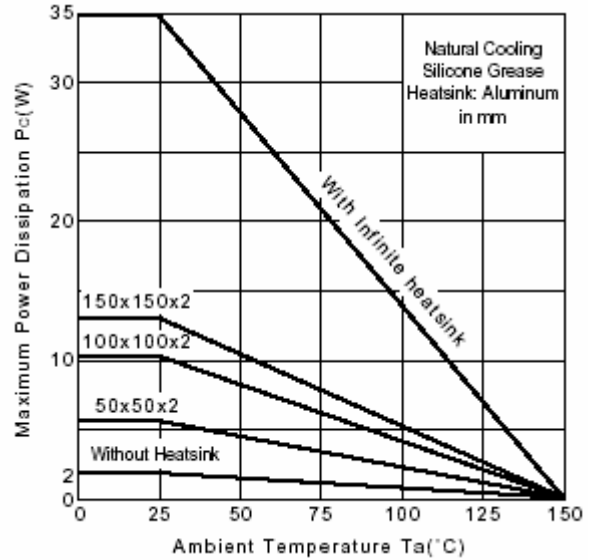


Fig.6  $P_c-T_a$  Derating

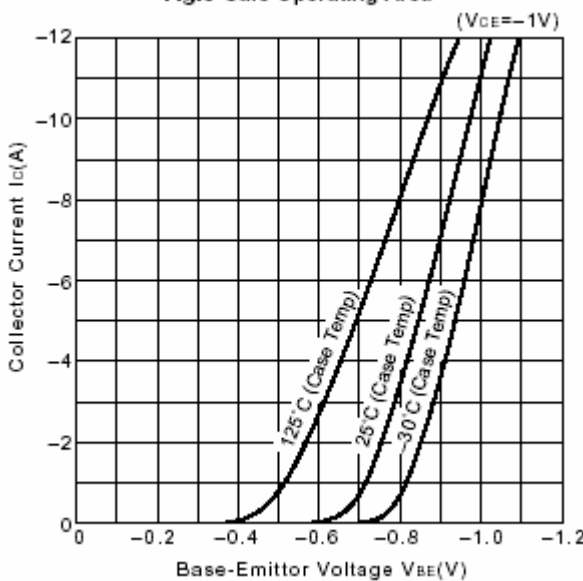


Fig.7  $I_C-V_{BE}$

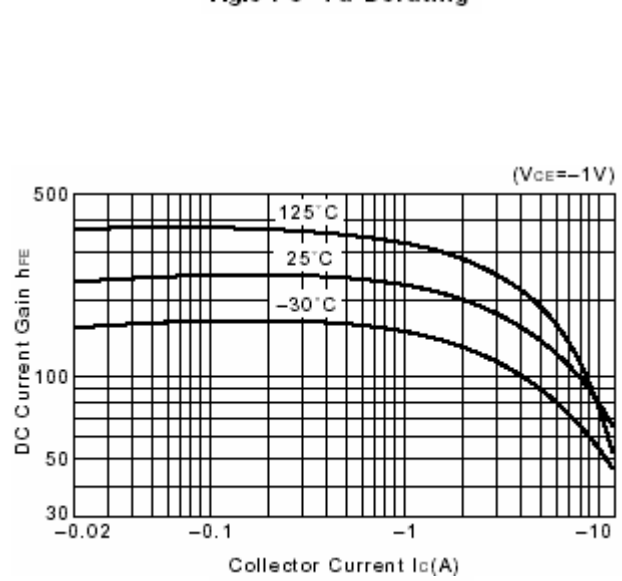


Fig.8 DC current Gain