

Silicon PNP Power Transistors

2SB1642

DESCRIPTION

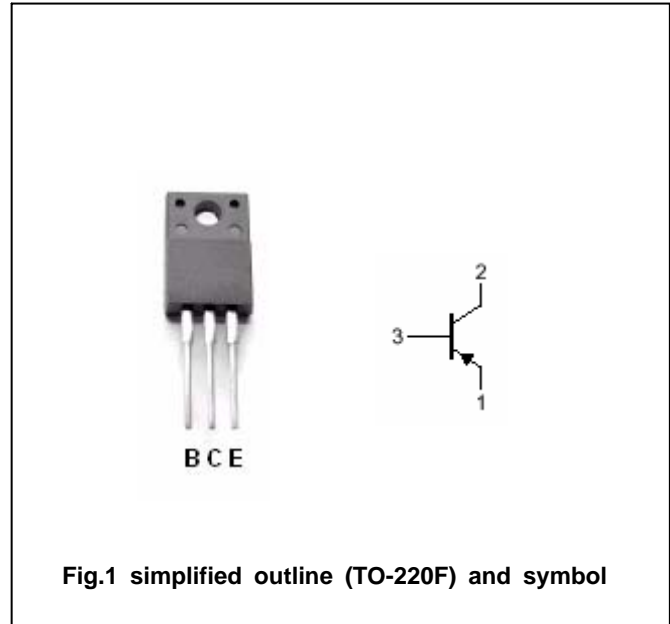
- With TO-220F package
- Low collector saturation voltage:
 $V_{CE(SAT)} = -1.5V(\text{Max})$ at $I_C = -2.5A, I_B = -0.25A$
- Collector power dissipation:
 $P_C = 25W(T_C = 25^\circ\text{C})$

APPLICATIONS

- Audio frequency power amplifier applications

PINNING

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

Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | -60 | V |
| V_{CEO} | Collector-emitter voltage | Open base | -60 | V |
| V_{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I_C | Collector current | | -4 | A |
| I_B | Base current | | -1 | A |
| P_C | Collector power dissipation | $T_a = 25$ | 2.0 | W |
| | | $T_C = 25$ | 25 | |
| T_j | Junction temperature | | 150 | |
| T_{stg} | Storage temperature | | -55~150 | |

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CHARACTERISTICS

T_j=25 unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|-------|------|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =-10mA ; I _B =0 | -60 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-2.5A ; I _B =-0.25A | | -0.7 | -1.5 | V |
| V _{BE} | Base-emitter voltage | I _C =-0.5A ; V _{CE} =-5V | | -0.75 | -1.0 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-60V ; I _E =0 | | | -10 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-7V ; I _C =0 | | | -10 | μA |
| h _{FE-1} | DC current gain | I _C =-0.5A ; V _{CE} =-5V | 100 | | 320 | |
| h _{FE-2} | DC current gain | I _C =-3A ; V _{CE} =-5V | 20 | | | |
| f _T | Transition frequency | I _C =-0.5A ; V _{CE} =-5V | | 9.0 | | MHz |
| C _{OB} | Collector output capacitance | I _E =0 ; f=1MHz ; V _{CB} =-10V | | 50 | | pF |

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PACKAGE OUTLINE

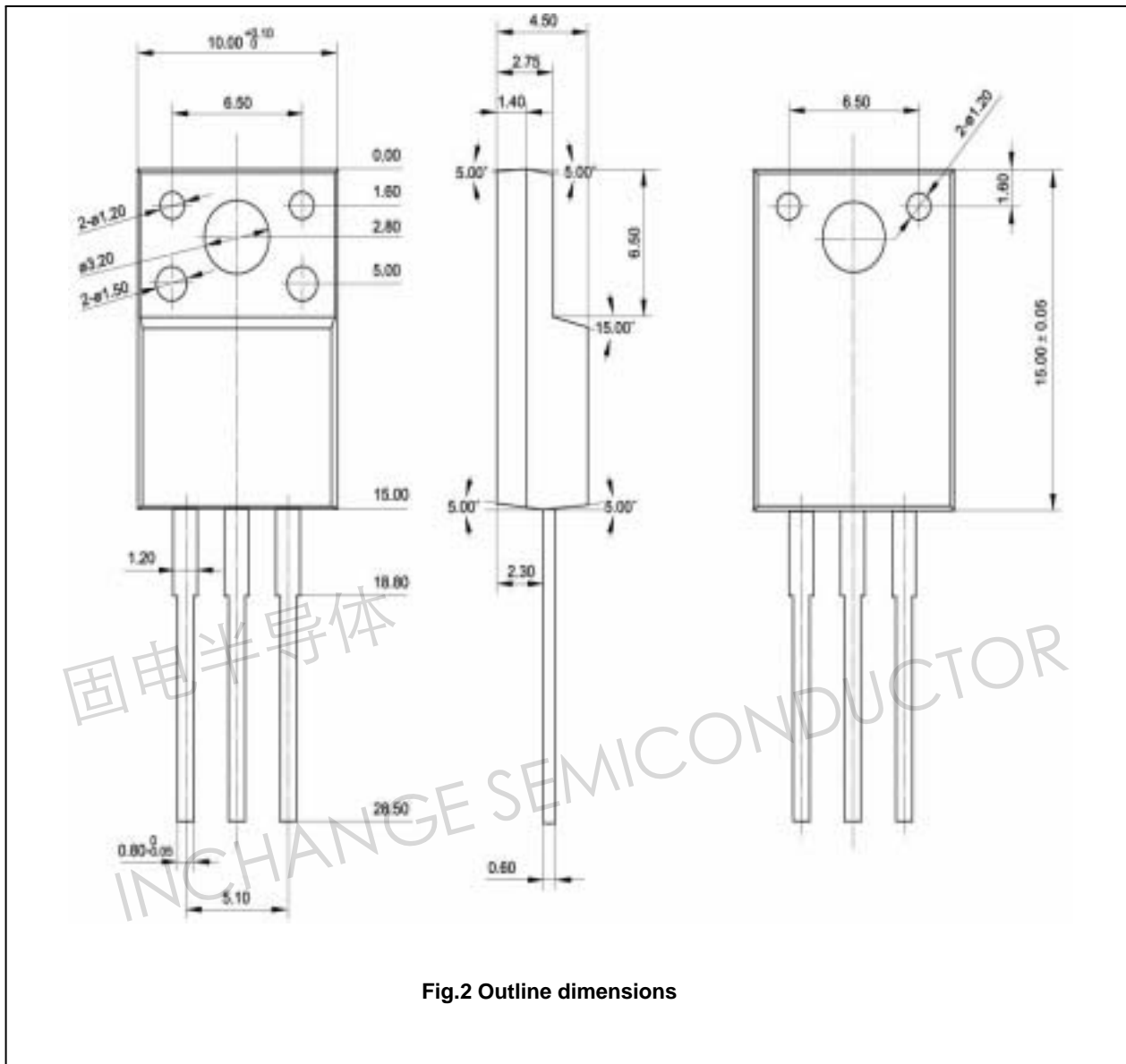


Fig.2 Outline dimensions

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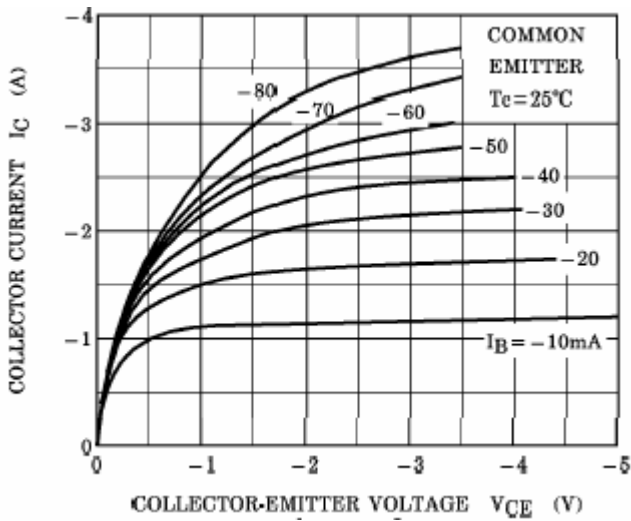


Fig.3 Static Characteristic

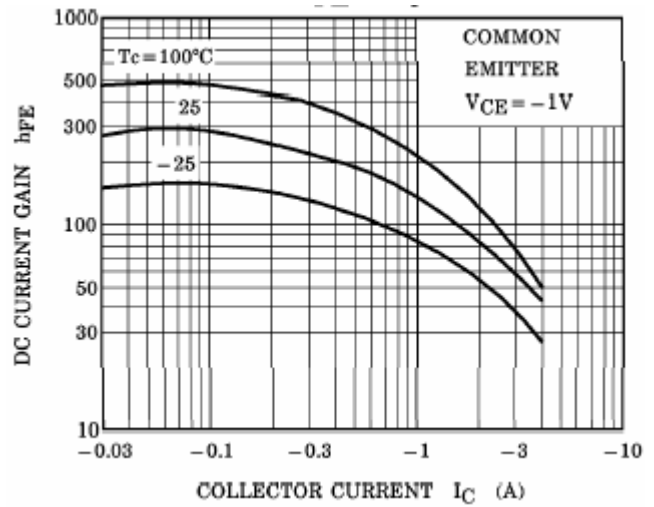


Fig.4 DC current Gain

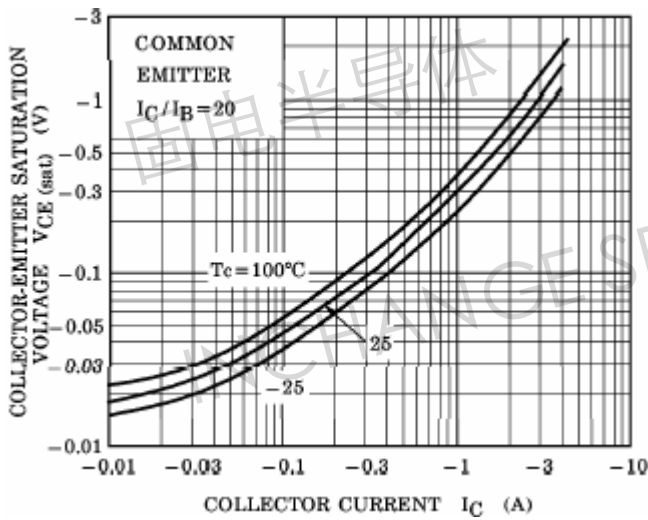


Fig.5 Collector-Emitter Saturation Voltage

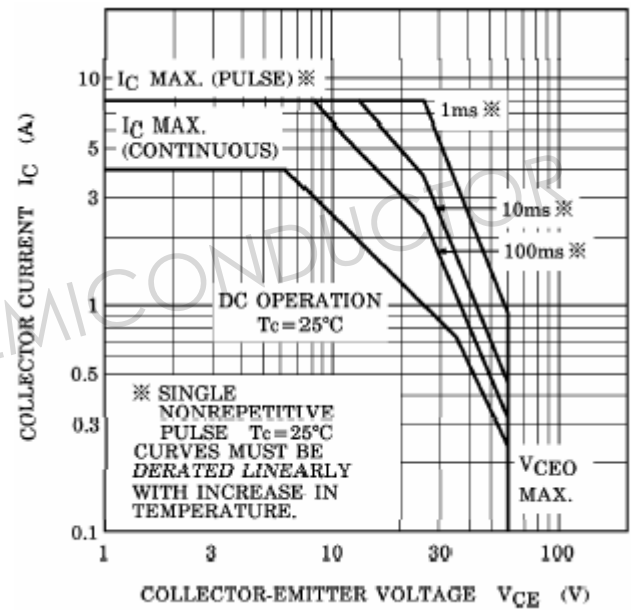


Fig.6 Safe Operating Area