

Silicon PNP Power Transistors

2SB753

DESCRIPTION

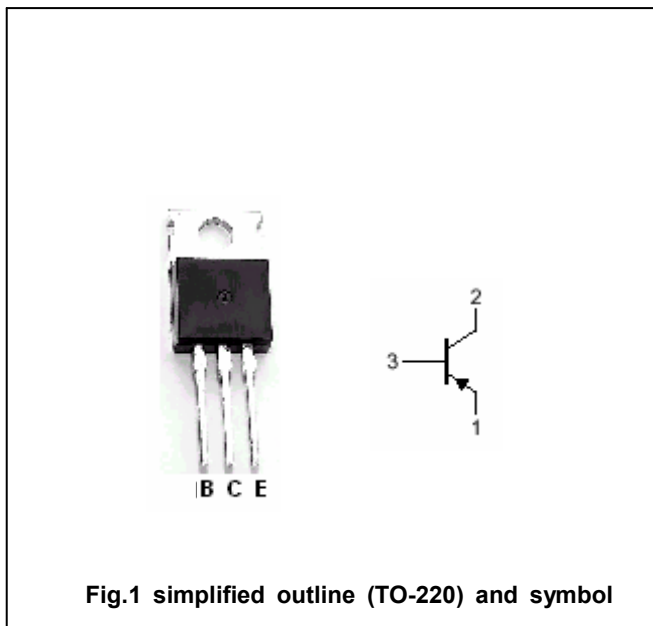
- With TO-220C package
- Complement to type 2SD843
- Low collector saturation voltage
- High power dissipation

APPLICATIONS

- High current switching applications
- Power amplifier applications

PINNING

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



Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -100 | V |
| V _{CEO} | Collector-emitter voltage | Open base | -80 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I _C | Collector current | | -7 | A |
| P _C | Collector dissipation | T _a =25°C | 1.5 | W |
| | | T _C =25°C | 40 | |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -50~150 | °C |

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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 | I _C =-50mA; I _B =0 | -80 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-4A; I _B =-0.4A | | -0.3 | -0.5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-4A; I _B =-0.4A | | -0.9 | -1.4 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-100V; I _E =0 | | | -5 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-5V; I _C =0 | | | -5 | μA |
| h _{FE-1} | DC current gain | I _C =-1A; V _{CE} =-1V | 70 | | 240 | |
| h _{FE-2} | DC current gain | I _C =-4A; V _{CE} =-1V | 30 | | | |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =-10V; f=1MHz | | 250 | | pF |
| f _T | Transition frequency | I _C =-1A; V _{CE} =-4V | | 10 | | MHz |

Switching times

| | | | | | | |
|------------------|--------------|---|--|-----|--|----|
| t _{on} | Turn-on time | I _{B1} =- I _{B2} =-0.3A; V _{CC} =-30V R _L =10Ω | | 0.4 | | μs |
| t _{stg} | Storage time | | | 2.5 | | μs |
| t _f | Fall time | | | 0.5 | | μs |

◆ h_{FE-1} Classifications

| O | Y |
|--------|---------|
| 70-140 | 120-240 |

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PACKAGE OUTLINE

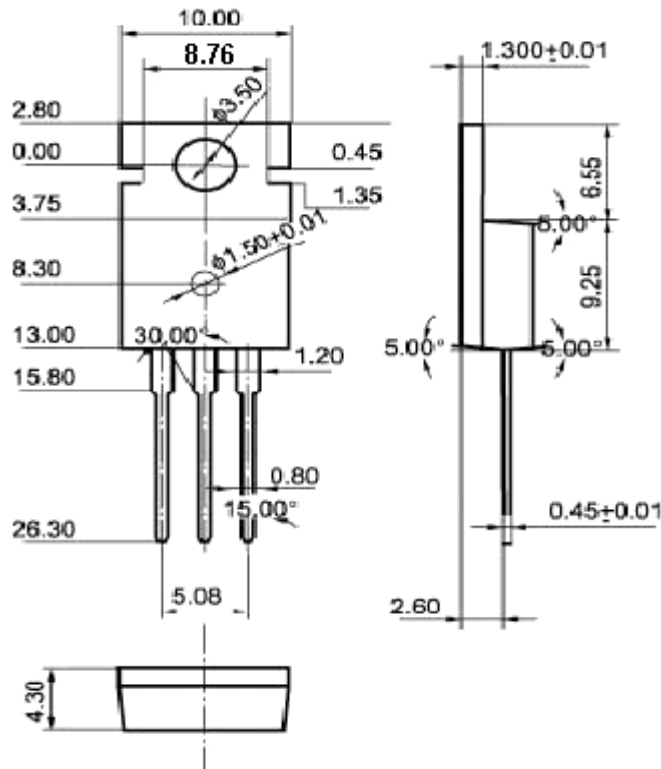


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)

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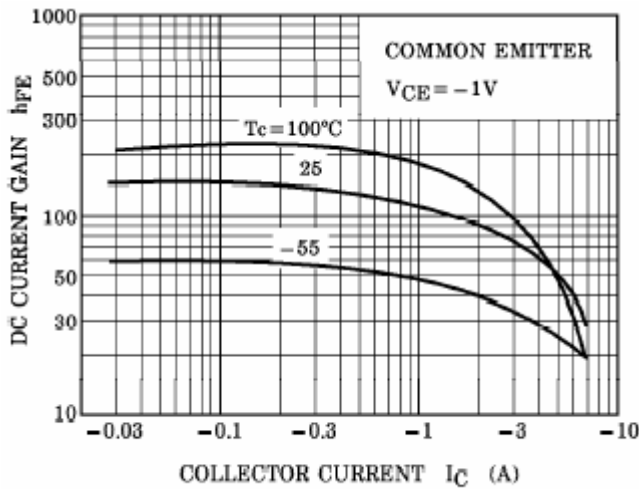


Fig.4 DC current Gain

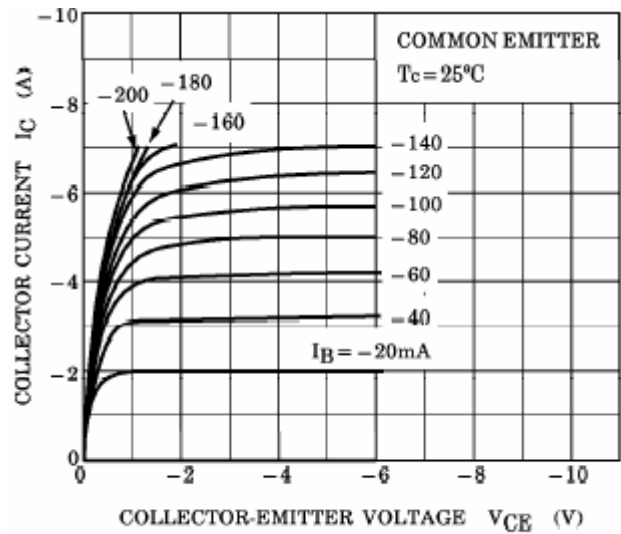


Fig.4 Static Characteristic

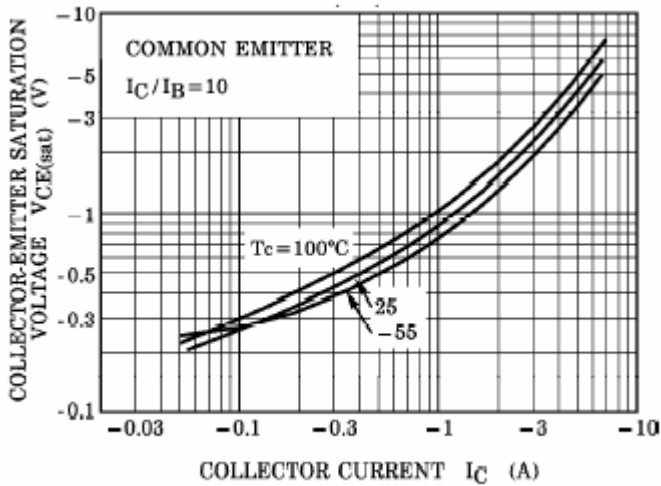


Fig.5 Collector-Emitter Saturation Voltage

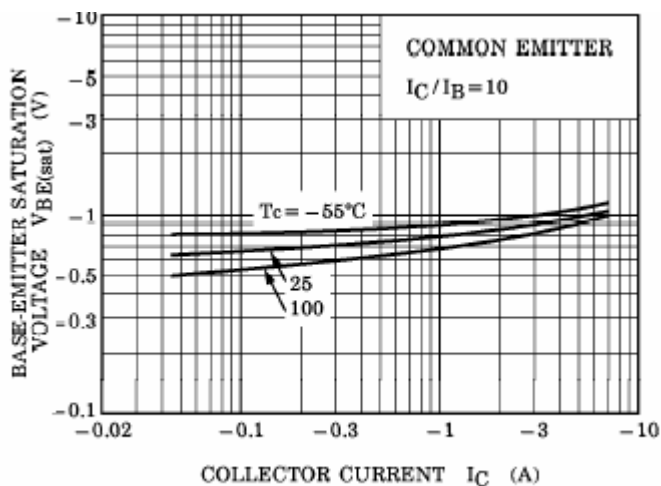


Fig.6 Base-Emitter Saturation Voltage

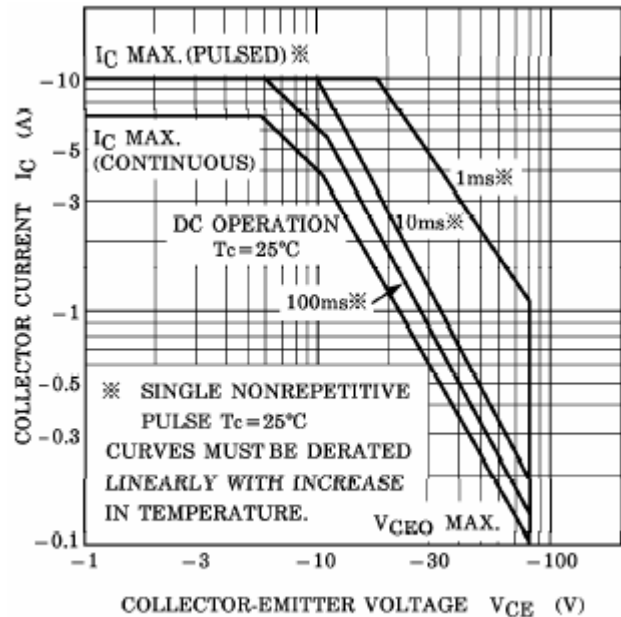


Fig.7 Safe Operating Area