

Silicon NPN Power Transistors

2SC4273

DESCRIPTION

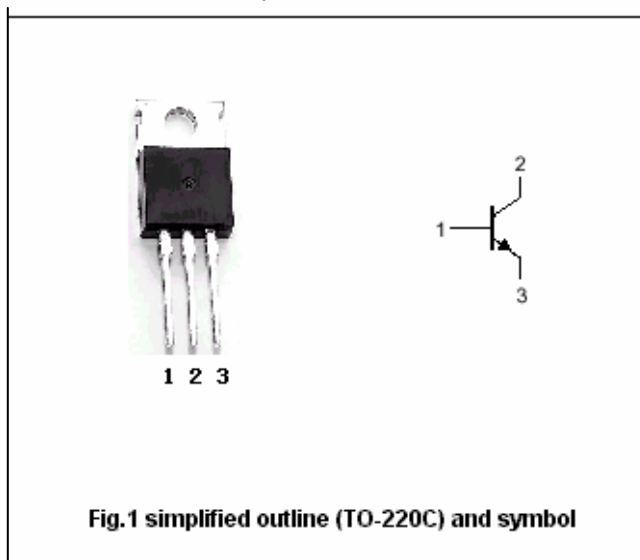
- With TO-220C package
- High voltage,high speed
- Low saturation voltage
- High reliability

APPLICATIONS

- Switching regulators
- DC-DC convertor
- Solid state relay
- General purpose power amplifiers

PINNING

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

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

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|---------------------------|----------------|---------|------------------|
| V_{CBO} | Collector-base voltage | Open emitter | 500 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 400 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 10 | V |
| I_C | Collector current | | 5 | A |
| I_B | Base current | | 2 | A |
| P_C | Collector dissipation | | 40 | W |
| T_j | Junction temperature | | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|----------------------------------|-----|---------------------------|
| $R_{th\ j-c}$ | Thermal resistance junction case | 3.0 | $^\circ\text{C}/\text{W}$ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)CBO} | Collector-base breakdown voltage | I _C =1mA ; I _E =0 | 500 | | | V |
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =0.2A ; I _B =0 | 400 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =1mA ; I _C =0 | 10 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =2A; I _B =0.4A | | | 0.8 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =2A; I _B =0.4A | | | 1.2 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =450V ; I _E =0 | | | 100 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =10V; I _C =0 | | | 100 | μA |
| h _{FE} | DC current gain | I _C =0.5A ; V _{CE} =5V | 25 | | 55 | |

Switching times

| | | | | | | |
|------------------|--------------|---|--|--|-----|----|
| t _{on} | Turn-on time | V _{CC} =200V; I _C =2.5A I _{B1} =0.25A; I _{B2} =-0.5A; R _L =60Ω | | | 1.0 | μs |
| t _{stg} | Storage time | | | | 2.5 | μs |
| t _f | Fall time | | | | 0.5 | μs |

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PACKAGE OUTLINE



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

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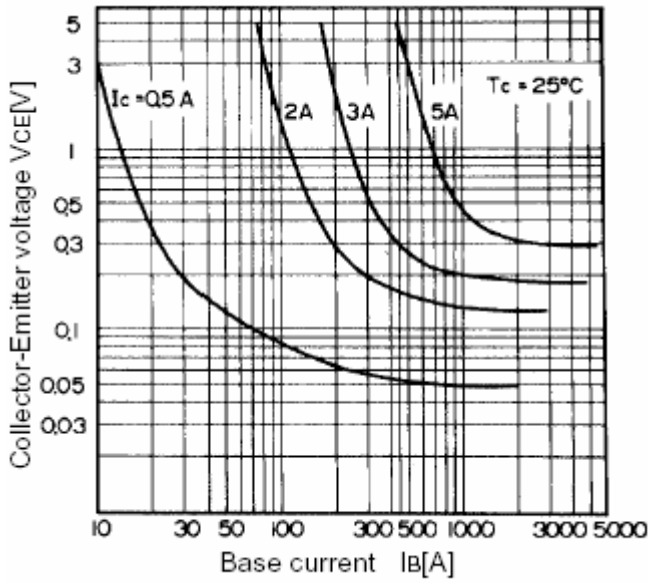


Fig.3 Static Characteristic

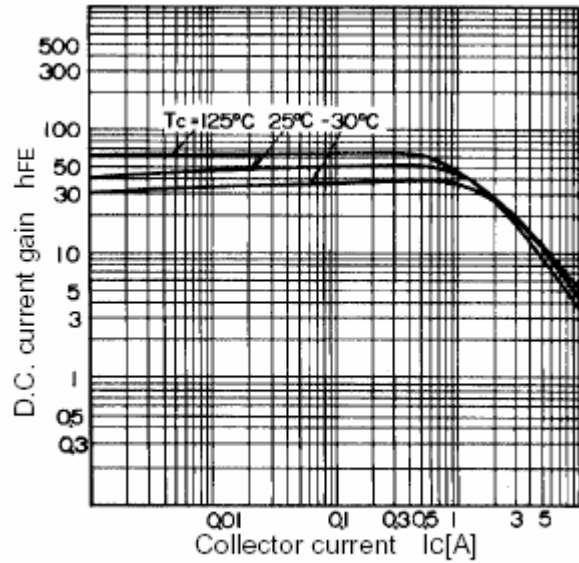


Fig.4 DC current Gain

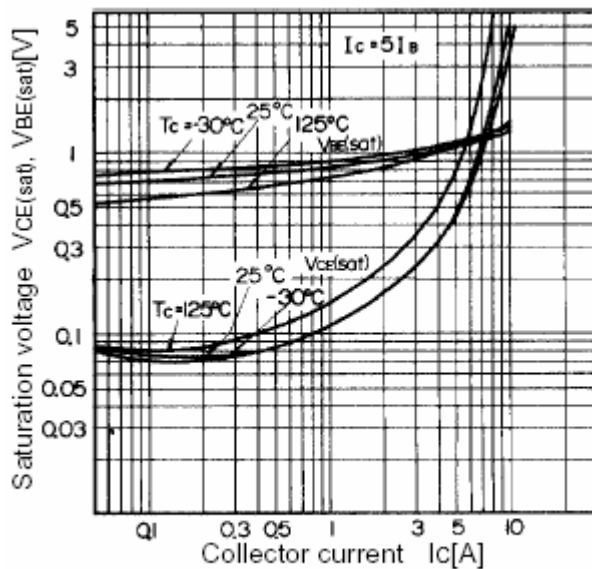


Fig.5 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

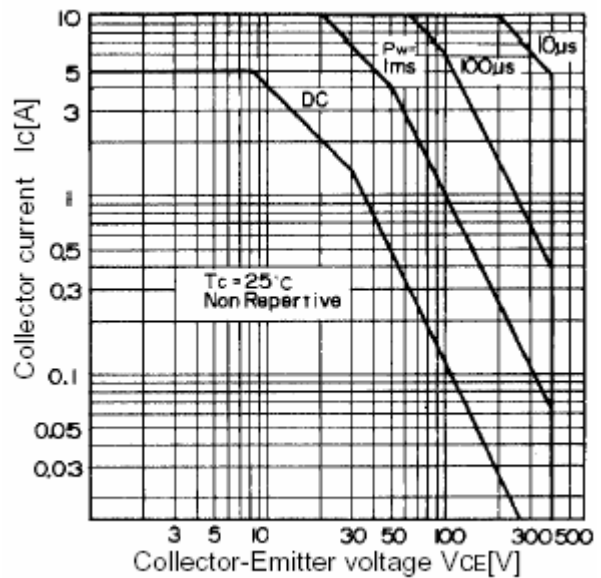


Fig.6 Safe Operating Area