

Silicon NPN Power Transistors

2SC4233

DESCRIPTION

- With TO-220C package
- High breakdown voltage
- Switching power transistor

PINNING

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

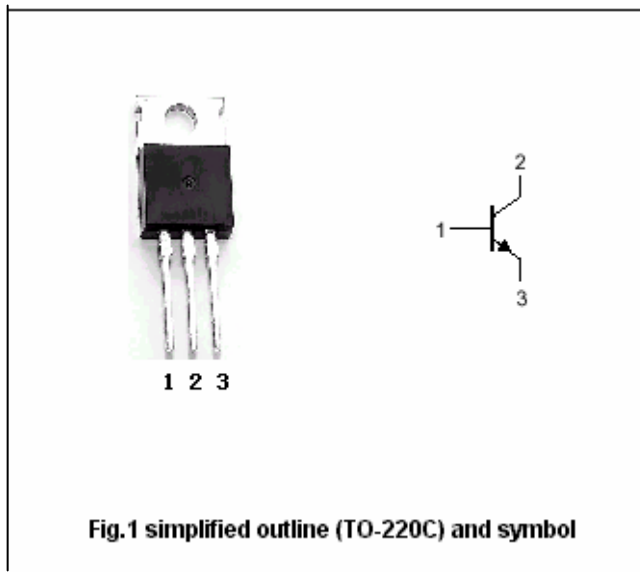


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 1200 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 800 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I _C | Collector current | | 3 | A |
| I _{CM} | Collector current-peak | | 6 | A |
| I _B | Base current | | 1 | A |
| I _{BM} | Base current-peak | | 2 | A |
| P _C | Collector dissipation | T _C =25°C | 60 | W |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -55~150 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|----------------------------------|------|------|
| R _{th j-c} | Thermal resistance junction case | 2.08 | °C/W |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--------------------------------------------|-----|------|-----|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =0.1A; R _{BE} =∞ | 800 | | | V |
| V _{CE(sat)} | Collector-emitter saturation voltage | I _C =1.5A; I _B =0.3A | | | 1.0 | V |
| V _{BE(sat)} | Base-emitter saturation voltage | I _C =1.5A; I _B =0.3A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | At rated voltage | | | 100 | μA |
| I _{CEO} | Collector cut-off current | | | | | |
| I _{EBO} | Emitter cut-off current | At rated voltage | | | 100 | μA |
| h _{FE-1} | DC current gain | I _C =1.5A; V _{CE} =5V | 8 | | | |
| h _{FE-2} | DC current gain | I _C =1mA; V _{CE} =5V | 7 | | | |
| f _T | Transition frequency | I _C =0.3A; V _{CE} =10V | | 8 | | MHz |

Switching times

| | | | | | | |
|------------------|--------------|--------------------------------------------------------------------------------------------------------------------|--|--|-----|----|
| t _{on} | Turn-on time | V _{BB2} =4V; I _C =1.5A I _{B1} =0.3A; I _{B2} =0.6A R _L =170Ω | | | 0.5 | μs |
| t _{stg} | Storage time | | | | 3.5 | μs |
| t _f | Fall time | | | | 0.3 | μs |

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PACKAGE OUTLINE



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