

Silicon NPN Power Transistors

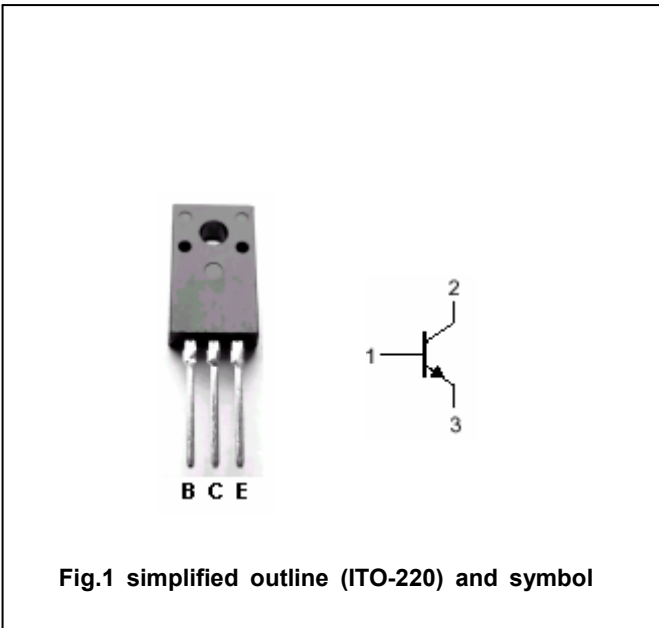
2SC4054

DESCRIPTION

- With ITO-220 package
- Switching power transistor
- High voltage ,high speed

PINNING

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



Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 600 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 450 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I _C | Collector current | | 5 | A |
| I _{CM} | Collector current-Peak | | 10 | A |
| I _B | Base current | | 2 | A |
| I _{BM} | Base current-Peak | | 4 | A |
| P _T | Total power dissipation | T _C =25°C | 30 | 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 | 4.16 | °C/W |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|------|-----|------|
| V _{CEQ(SUS)} | Collector-emitter sustaining voltage | I _C =0.1A ; I _B =0 | 450 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =2.5A; I _B =0.5A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =2.5A; I _B =0.5A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | At rated volatge | | | 0.1 | mA |
| I _{CEO} | Collector cut-off current | | | | | |
| I _{EBO} | Emitter cut-off current | At rated volatge | | | 0.1 | mA |
| h _{FE-1} | DC current gain | I _C =2.5A ; V _{CE} =5V | 10 | | | |
| h _{FE-2} | DC current gain | I _C =1mA ; V _{CE} =5V | 5 | | | |
| f _T | Transition frequency | I _C =0.5A ; V _{CE} =10V | | 20 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|--|--|--|-----|----|
| t _{on} | Turn-on time | I _C =2.5A; I _{B1} =0.5A I _{B2} =1A , R _L =60Ω V _{BB2} =4V | | | 0.5 | μs |
| t _s | Storage time | | | | 2.0 | μs |
| t _f | Fall time | | | | 0.2 | μs |

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PACKAGE OUTLINE

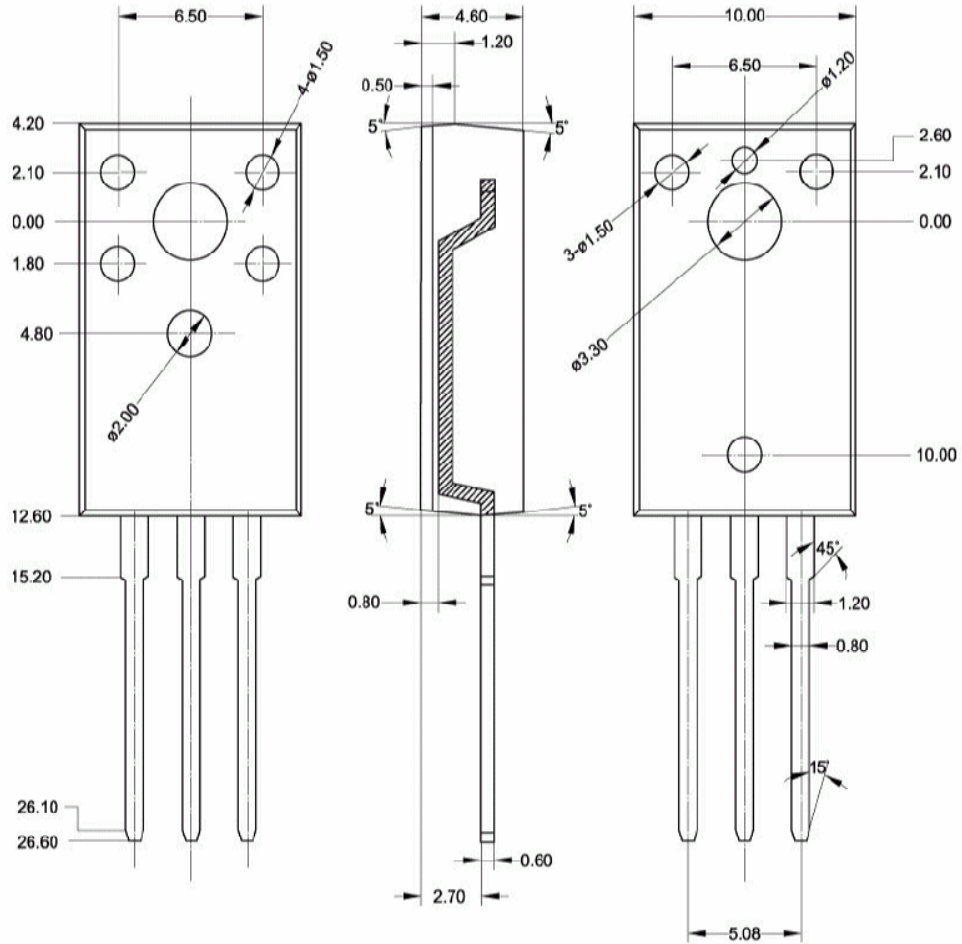


Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)

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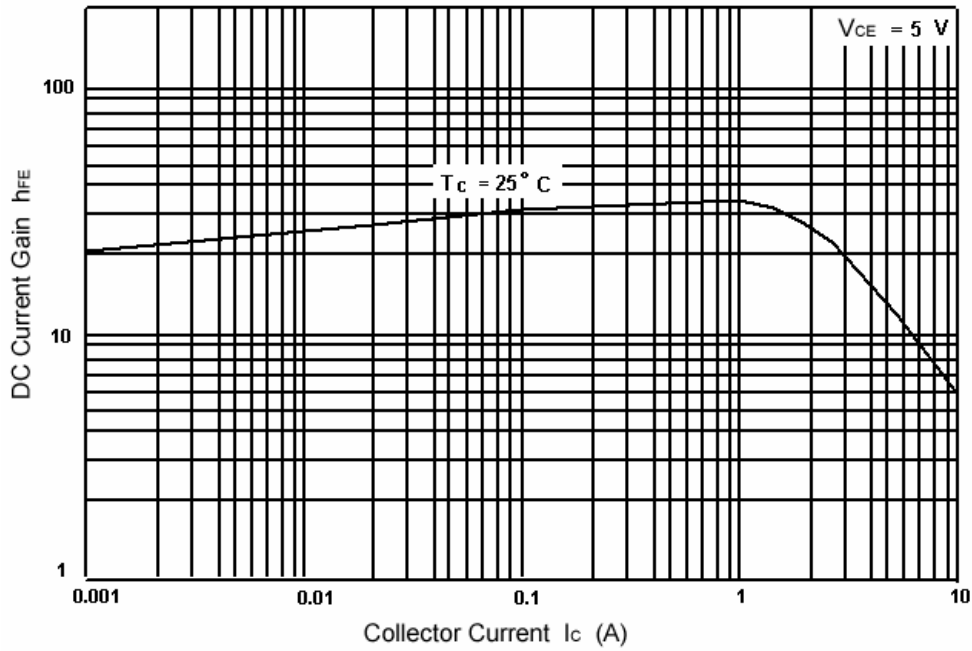


Fig.3 DC current Gain

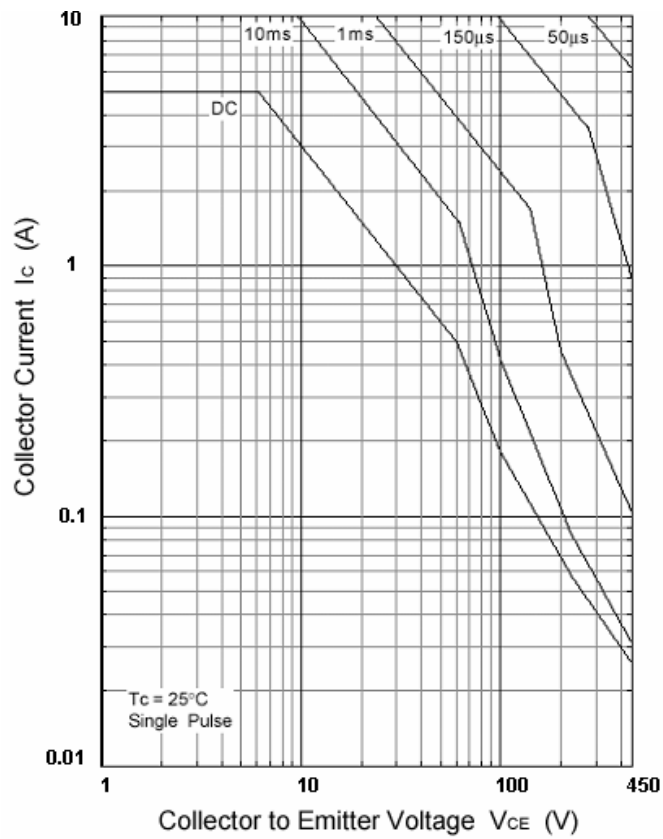


Fig.4 Safe Operating Area