

Silicon NPN Power Transistors

2SC2552

DESCRIPTION

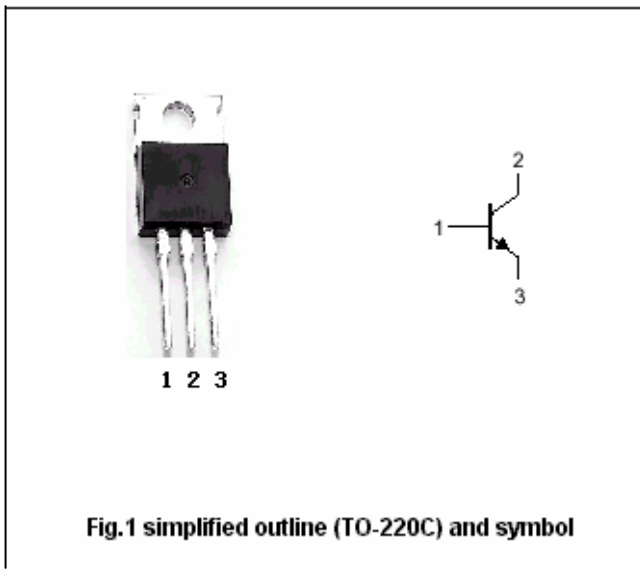
- With TO-220C package
- High collector breakdown voltage
: $V_{CEO}=400V(\text{Min})$
- Excellent switching time
: $t_r=1.0\mu s(\text{Max.})$
: $t_f=1.0\mu s(\text{Max.}@I_C=0.8A)$

APPLICATIONS

- Switching regulator and high voltage switching applications
- High speed DC-DC converter applications

PINNING

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



Absolute maximum ratings(Ta=25°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 | 7 | V |
| I_C | Collector current | | 2 | A |
| I_B | Base current | | 0.5 | A |
| P_C | Collector dissipation | $T_a=25^\circ C$ | 1.5 | W |
| | | $T_C=25^\circ C$ | 20 | |
| T_j | Junction temperature | | 150 | °C |
| T_{stg} | Storage temperature | | -55~150 | °C |

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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 | 400 | | | V |
| V _{(BR)CBO} | Collector-base breakdown voltage | I _C =1mA ; I _E =0 | 500 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =1A; I _B =0.2A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =1A; I _B =0.2A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =400V ; I _E =0 | | | 100 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =7V; I _C =0 | | | 1 | mA |
| h _{FE-1} | DC current gain | I _C =0.1A ; V _{CE} =5V | 20 | | | |
| h _{FE-2} | DC current gain | I _C =1A ; V _{CE} =5V | 8 | | | |

Switching times

| | | | | | | |
|------------------|--------------|--|--|--|-----|----|
| t _r | Rise time | V _{CC} ≈200V; I _C =0.8A I _{B1} =-I _{B2} =0.08A; R _L =250Ω Duty cycle≤1% | | | 1.0 | μs |
| t _{stg} | Storage time | | | | 2.5 | μs |
| t _f | Fall time | | | | 1.0 | μs |

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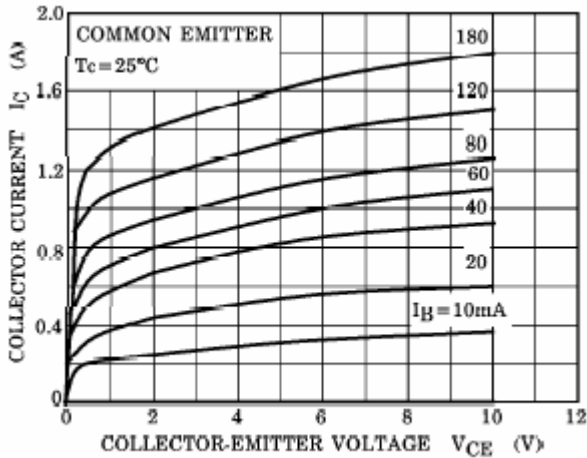


Fig.3 Static Characteristic

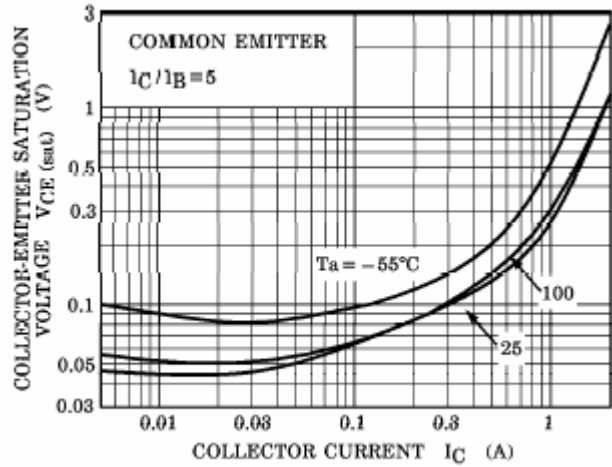


Fig.4 Collector-Emitter Saturation Voltage

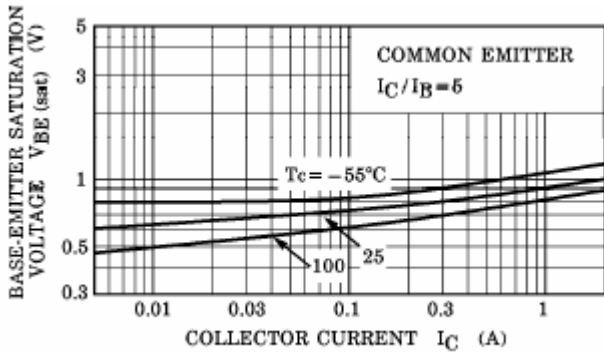


Fig.5 Base-Emitter Saturation Voltage

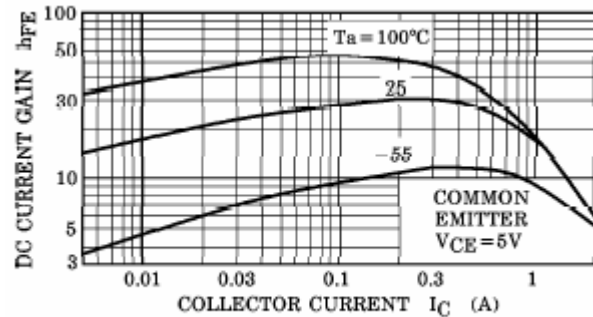


Fig.6 DC current Gain

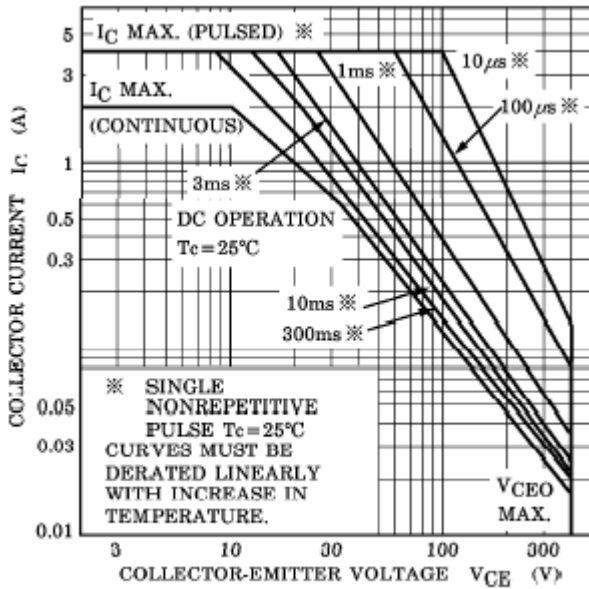


Fig.7 Safe Operating Area