

Silicon NPN Power Transistors

2SC4123

DESCRIPTION

- With TO-3PML package
- High breakdown voltage, high reliability.
- High speed
- Built in damper diode

APPLICATIONS

- Ultrahigh-definition CRT display
- Horizontal deflection output applications

PINNING

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

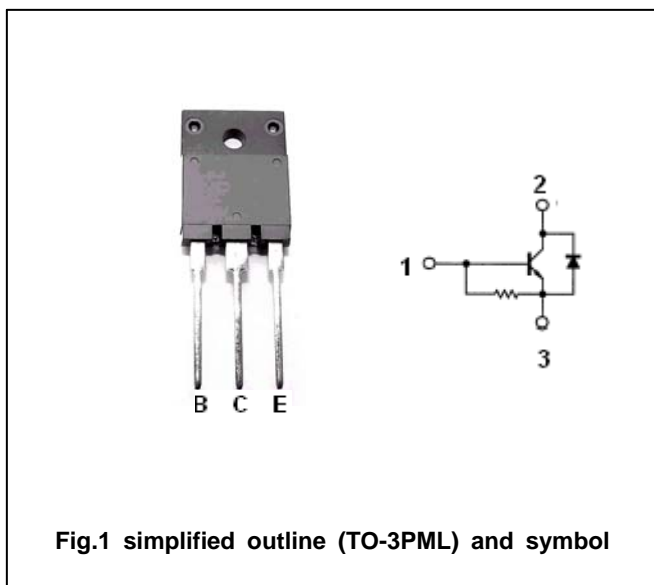


Fig.1 simplified outline (TO-3PML) and symbol

Maximum absolute ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|------------------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | 1500 | V |
| V_{CEO} | Collector-emitter voltage | Open base | 800 | V |
| V_{EBO} | Emitter-base voltage | Open collector | 6 | V |
| I_C | Collector current | | 7 | A |
| I_{CM} | Collector current-peak | | 16 | A |
| P_C | Collector power dissipation | $T_c=25^\circ\text{C}$ | 60 | W |
| | | | 3 | W |
| T_j | Junction temperature | | 150 | °C |
| T_{stg} | Storage temperature | | -55~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{CEsat} | Collector-emitter saturation voltage | I _C =5A; I _B =1.2 A | | | 5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =5A; I _B =1.2 A | | | 1.5 | V |
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =100mA; I _B =0 | 800 | | | V |
| I _{EBO} | Emitter cut-off current | V _{EB} =4V; I _C =0 | 40 | | 130 | mA |
| I _{CBO} | Collector cut-off current | V _{CB} =800V; I _E =0 | | | 10 | μ A |
| I _{CES} | Collector cut-off current | V _{CE} =1500V; R _{BE} =0 | | | 1 | mA |
| h _{FE-1} | DC current gain | I _C =1 A ; V _{CE} =5V | 8 | | | |
| h _{FE-2} | DC current gain | I _C =5A ; V _{CE} =5V | 4 | | 6 | |
| V _F | Diode forward voltage | I _{EC} =7A | | | 2.0 | V |

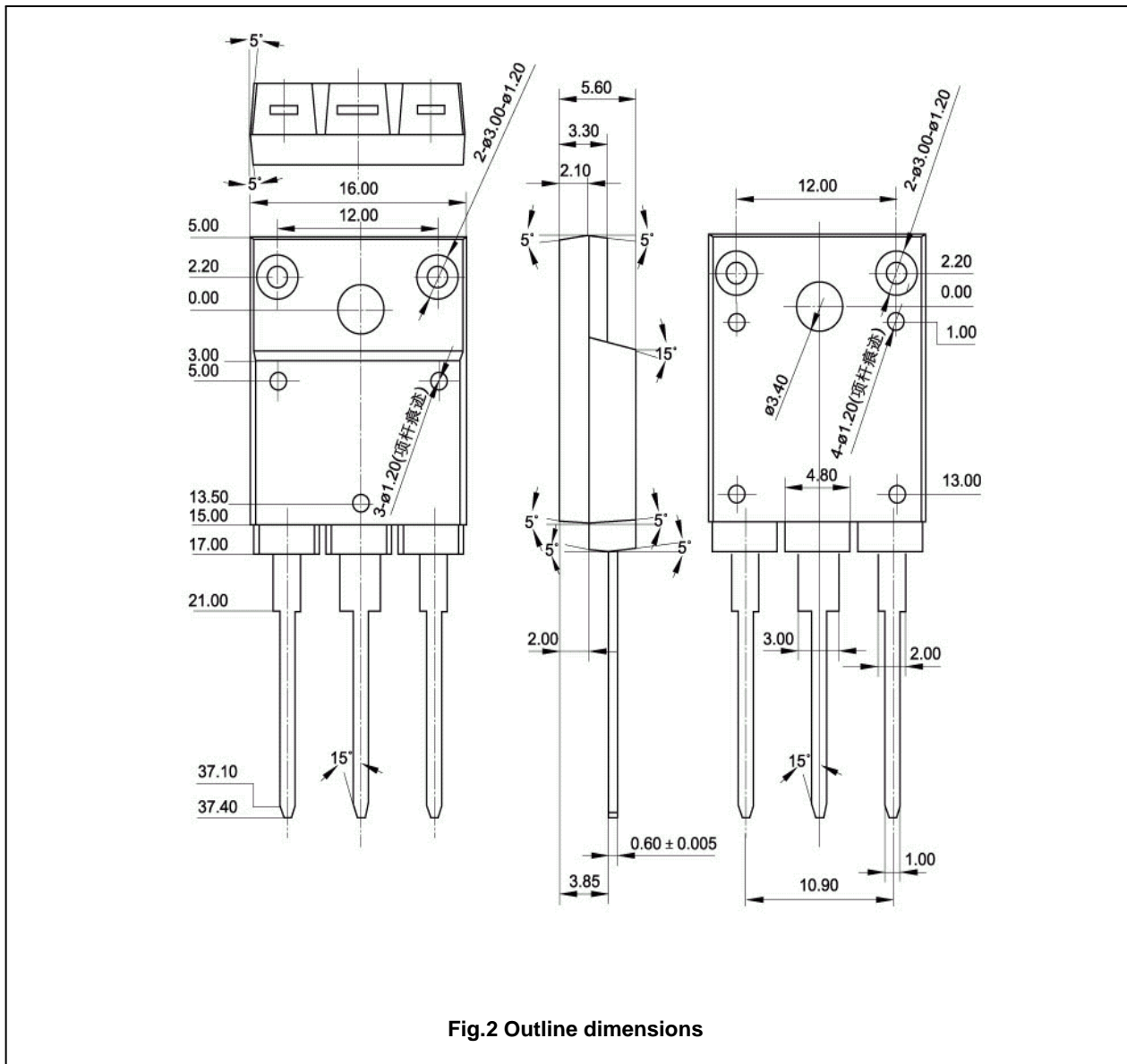
Switching times

| | | | | | | |
|------------------|--------------|---|--|-----|-----|-----|
| t _{stg} | Storage time | I _C =5A; R _L =33.3 Ω I _{B1} =1A; - I _{B2} =2A V _{CC} =200V | | | 3.0 | μ s |
| t _f | Fall time | | | 0.1 | 0.2 | μ s |

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PACKAGE OUTLINE



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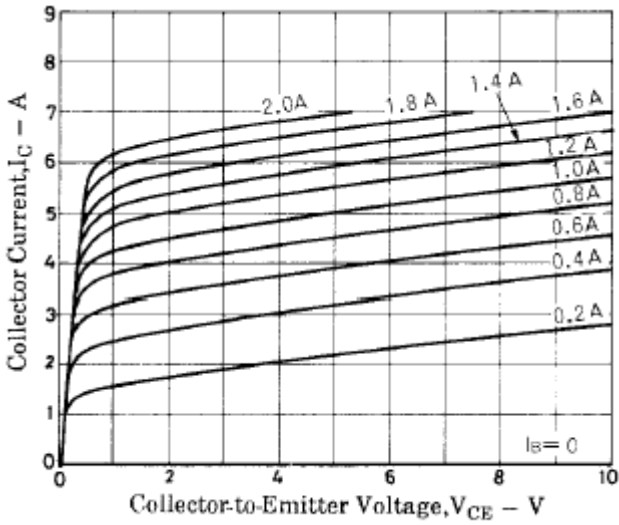


Fig.3 Static Characteristic

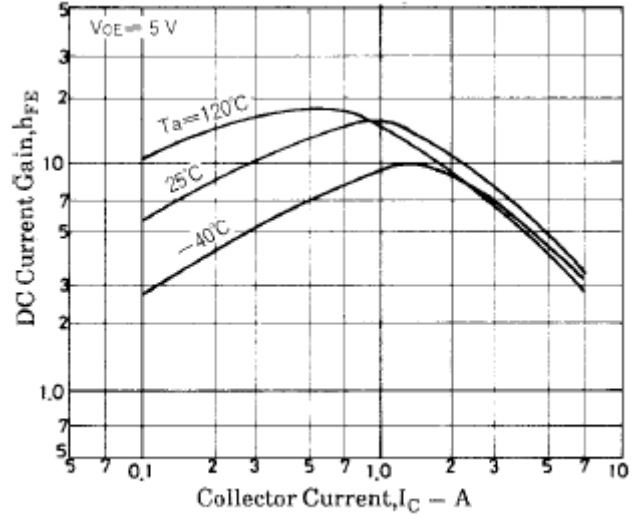


Fig.4 DC current Gain

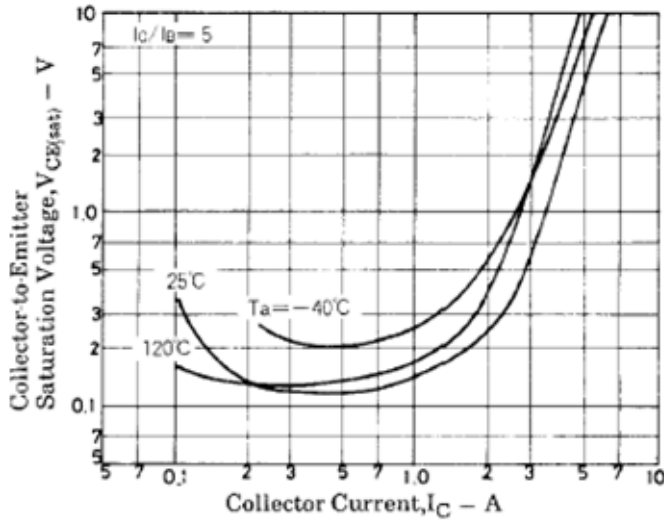


Fig.5 Collector-Emitter Saturation Voltage

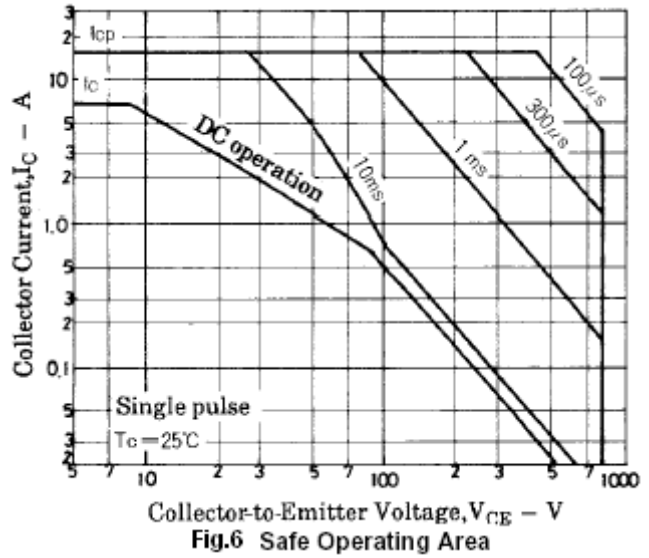


Fig.6 Safe Operating Area