

Silicon NPN Power Transistors

2SD1878

DESCRIPTION

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

APPLICATIONS

- Color TV horizontal deflection output
- Color display horizontal deflection output.

PINNING

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

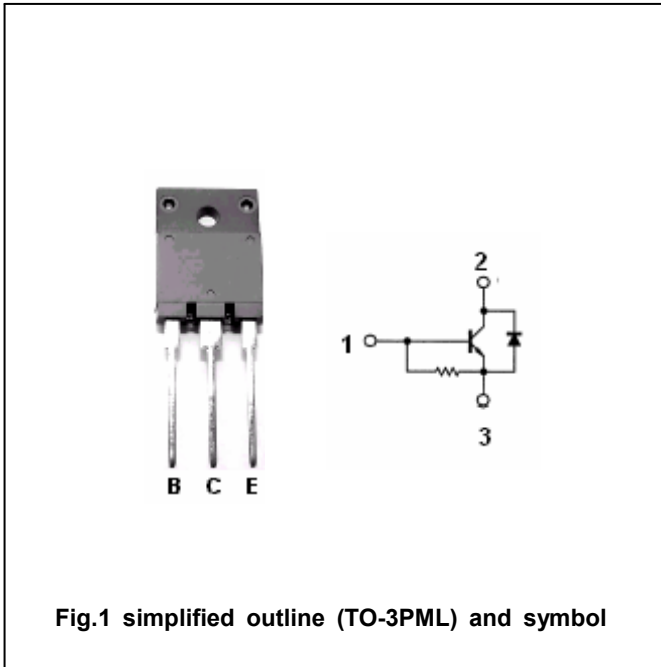


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings(Ta=□)

| 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 | | 5 | A |
| I _{CM} | Collector current-peak | | 20 | A |
| P _C | Collector power dissipation | T _C =25□ | 60 | W |
| T _j | Junction temperature | | 150 | □ |
| T _{stg} | Storage temperature | | -55~150 | □ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--|-----|------|-----|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =100mA ; I _B =0 | 800 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =4A ; I _B =0.8A | | | 5.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =4A ; I _B =0.8A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =800V ; I _E =0 | | | 10 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =4V ; I _C =0 | 40 | | 130 | mA |
| I _{CES} | Collector cut-off current | V _{CE} =1500V | | | 1.0 | mA |
| h _{FE-1} | DC current gain | I _C =1A ; V _{CE} =5V | 8 | | | |
| h _{FE-2} | DC current gain | I _C =4A ; V _{CE} =5V | 5 | | 10 | |
| V _F | Diode forward voltage | I _{EC} =5A ; | | | 2 | V |
| t _f | Fall time | I _C =4A ; R _L =66.7Ω ; V _{CC} =200V I _{B1} =0.8A ; I _{B2} =-1.6A | | 0.1 | 0.3 | μs |

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PACKAGE OUTLINE

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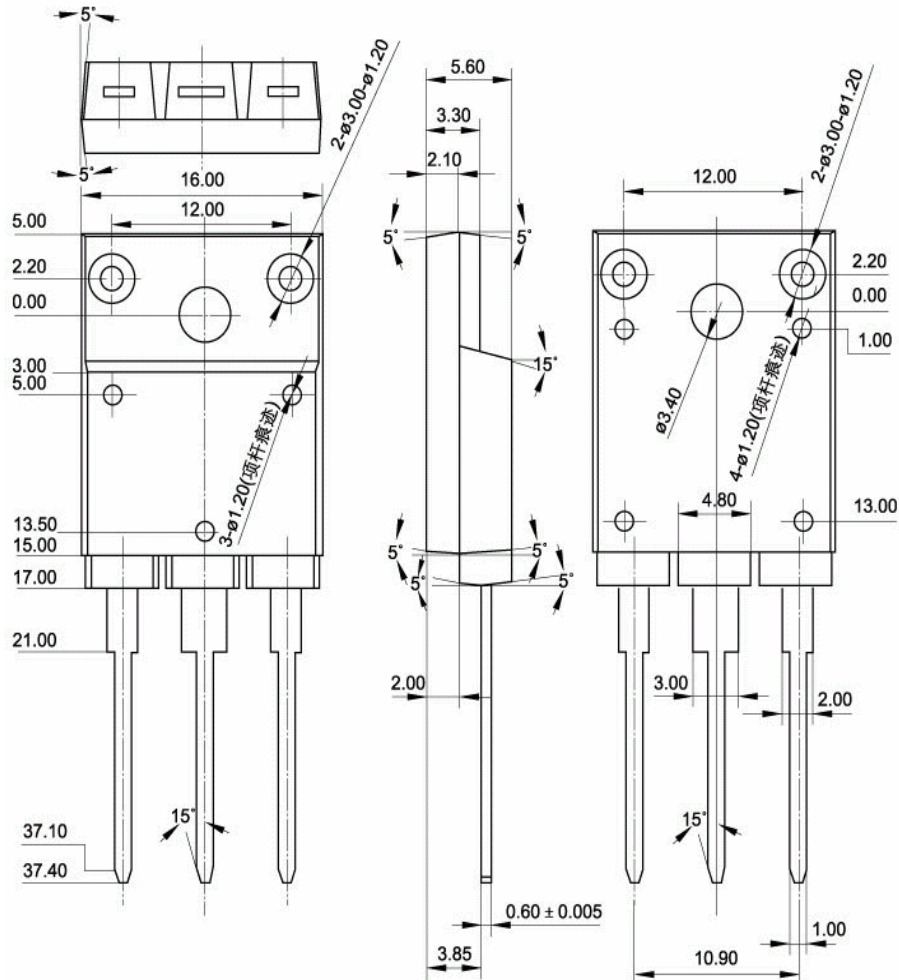


Fig.2 Outline dimensions

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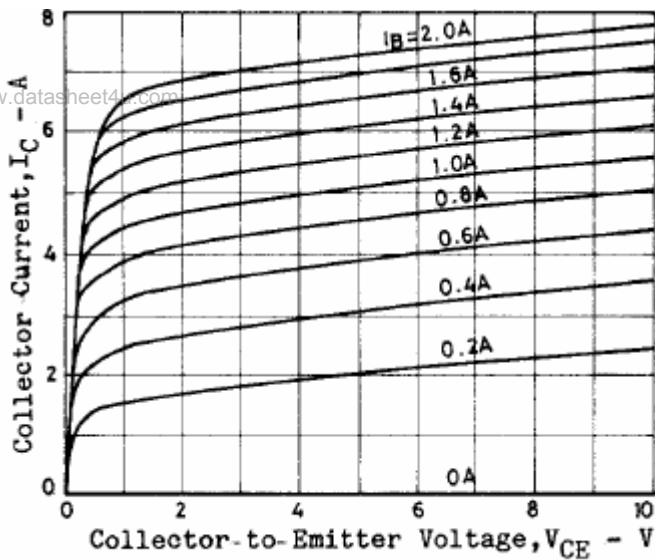


Fig.3 Static Characteristic

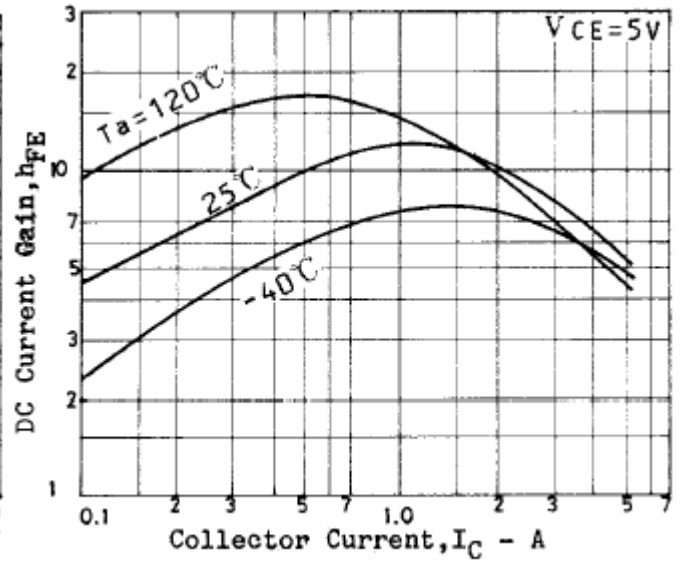


Fig.4 DC current Gain

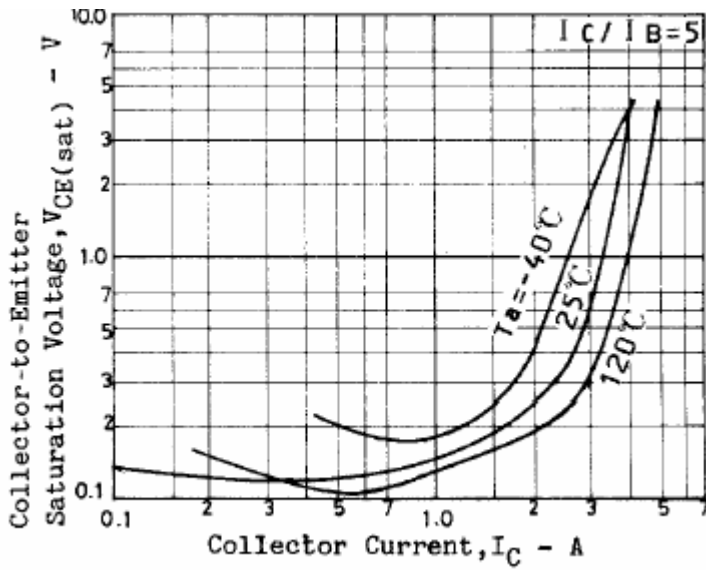


Fig.5 Collector-Emitter Saturation Voltage

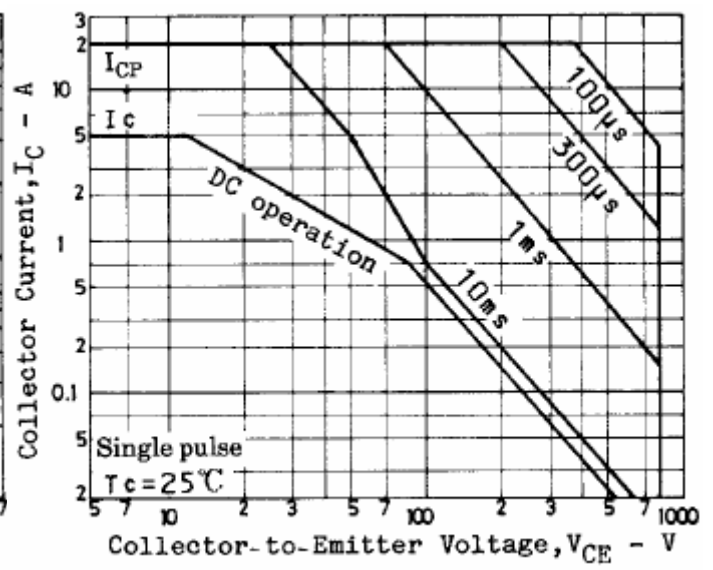


Fig.6 Safe Operating Area