

Silicon NPN Power Transistors

2SC4582

DESCRIPTION

- With TO-3PML package
- High voltage,high speed
- Switching power transistor

PINNING

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

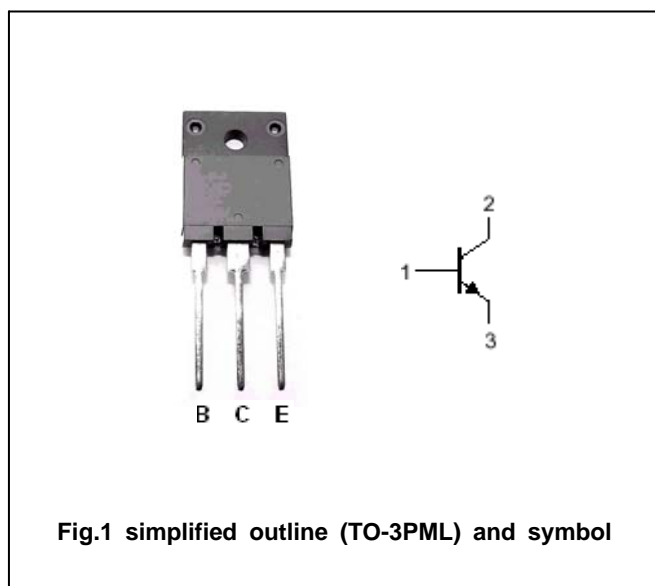


Fig.1 simplified outline (TO-3PML) and symbol

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 | | 15 | A |
| I_{CM} | Collector current-peak | | 30 | A |
| I_B | Base current | | 6 | A |
| I_{BM} | Base current-peak | | 12 | A |
| P_C | Collector power dissipation | $T_C=25^\circ\text{C}$ | 75 | W |
| T_j | Junction temperature | | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|-------------------------------------|------|---------------------------|
| $R_{th\ j-c}$ | Thermal resistance junction to case | 1.67 | $^\circ\text{C}/\text{W}$ |

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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 =7.5A; I _B =1.5 A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =7.5A; I _B =1.5 A | | | 1.5 | V |
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =0.2A; I _B =0 | 450 | | | V |
| I _{EBO} | Emitter cut-off current | At rated voltage | | | 0.1 | mA |
| I _{CBO} | Collector cut-off current | At rated voltage | | | 0.1 | mA |
| I _{CEO} | Collector cut-off current | | | | | |
| h _{FE-1} | DC current gain | I _C =7.5 A ; V _{CE} =5V | 10 | | | |
| h _{FE-2} | DC current gain | I _C =1mA ; V _{CE} =5V | 5 | | | |
| f _T | Transition frequency | I _C =1.5A ; V _{CE} =10V | | 20 | | MHz |

Switching times

| | | | | | | |
|------------------|--------------|--|--|--|-----|-----|
| t _{on} | Turn-on time | I _C =7.5A; R _L =20 Ω I _{B1} =1.5A; I _{B2} =3A V _{BB2} =4V | | | 0.5 | μ s |
| t _{stg} | Storage time | | | | 2.0 | μ s |
| t _f | Fall time | | | | 0.2 | μ s |

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PACKAGE OUTLINE

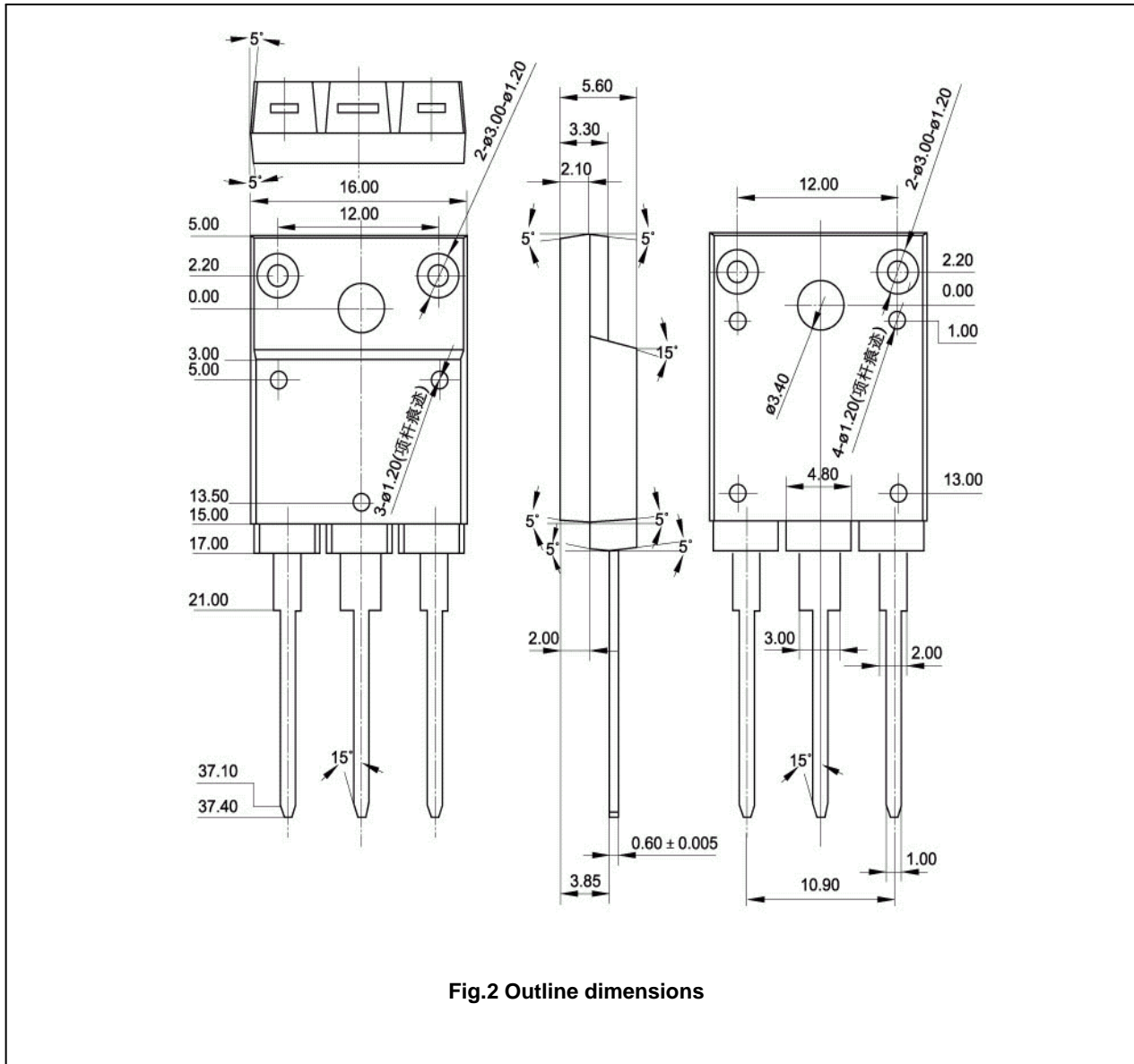


Fig.2 Outline dimensions