

Silicon NPN Darlington Power Transistors

2SD2438

DESCRIPTION

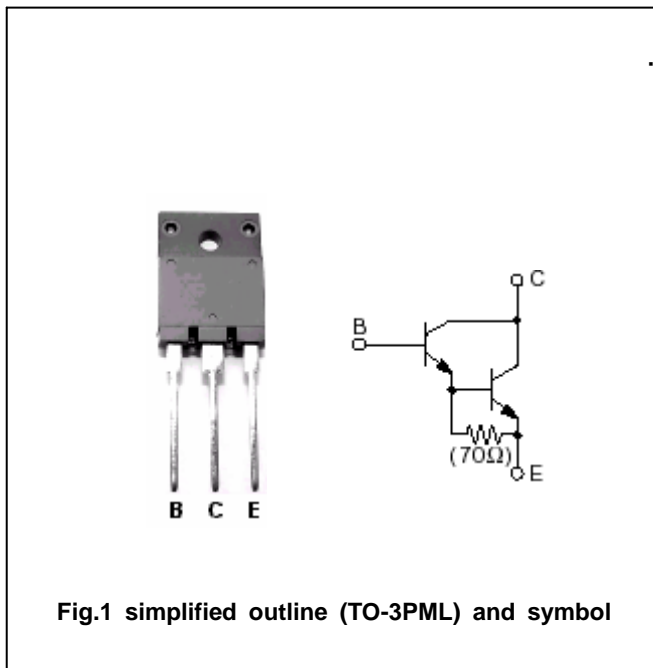
- With TO-3PML package
- Complement to type 2SB1587

APPLICATIONS

- Audio, series regulator and general purpose

PINNING

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



Absolute maximum ratings(Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|--------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 160 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 150 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 8 | A |
| I _B | Base current | | 1 | A |
| P _C | Collector power dissipation | T _C =25 | 75 | W |
| T _j | Junction temperature | | 150 | |
| T _{stg} | Storage temperature | | -55~150 | |

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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 =30mA; I _B =0 | 150 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =6 A; I _B =6m A | | | 2.5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =6 A; I _B =6m A | | | 3.0 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =160V; I _E =0 | | | 100 | μ A |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 100 | μ A |
| h _{FE} | DC current gain | I _C =6A ; V _{CE} =4V | 5000 | | | |
| f _T | Transition frequency | I _C =1A ; V _{CE} =12V | | 80 | | MHz |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =10V; f=1MHz | | 85 | | pF |

Switching times

| | | | | | |
|-----------------|--------------|--|------|--|-----|
| t _{on} | Turn-on time | I _C =6A; R _L =10 I _{B1} =-I _{B2} =6mA V _{CC} =60V | 0.6 | | μ s |
| t _s | Storage time | | 10.0 | | μ s |
| t _f | Fall time | | 0.9 | | μ s |

◆ h_{FE} classifications

| O | P | Y |
|------------|------------|-------------|
| 5000-12000 | 6500-20000 | 15000-30000 |

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PACKAGE OUTLINE

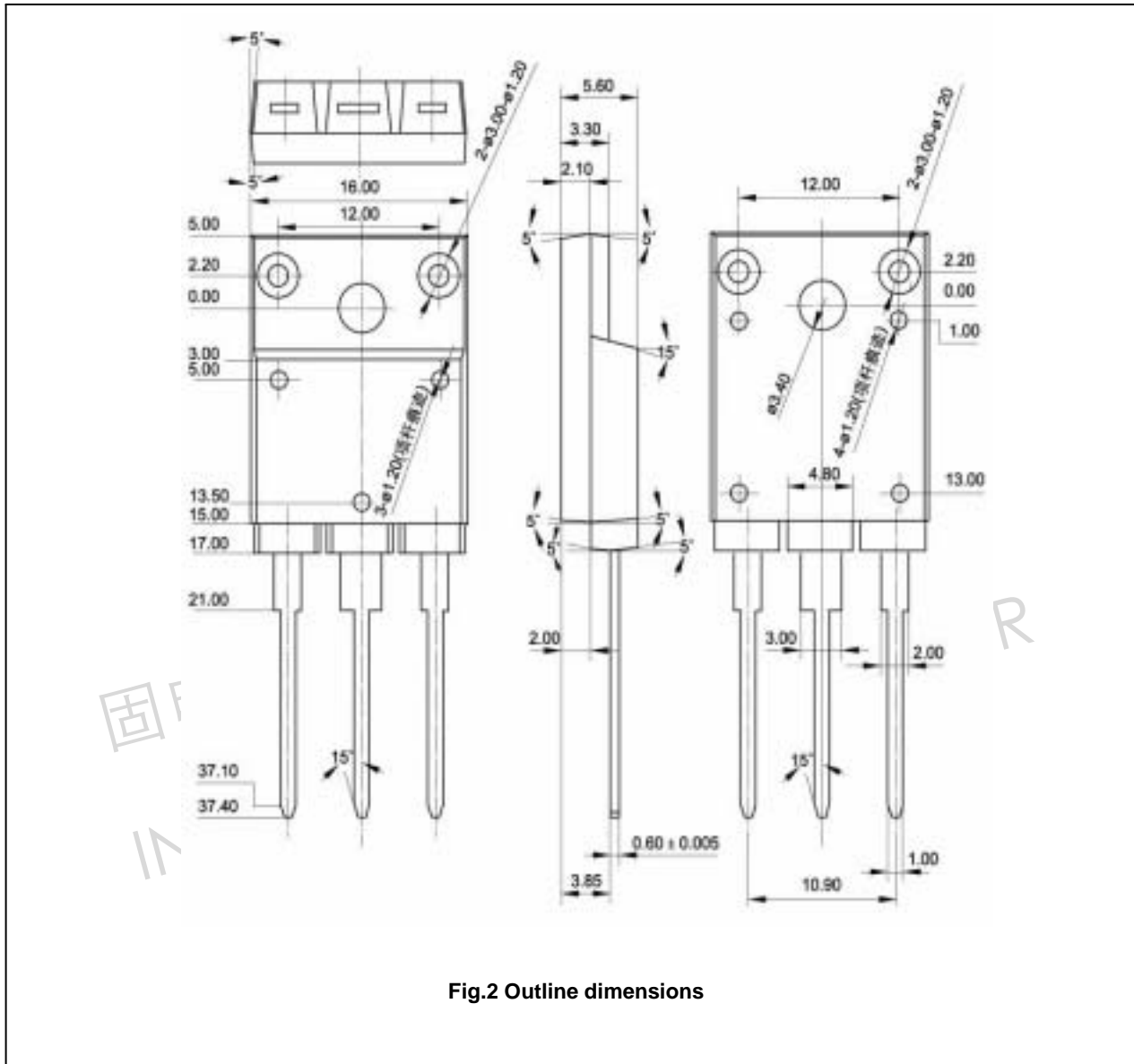


Fig.2 Outline dimensions