

Silicon PNP Power Transistors

2SA1186

DESCRIPTION

- With TO-3PN package
- High current capability
- Complement to type 2SC2837

APPLICATIONS

- Audio and general purpose applications

PINNING

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

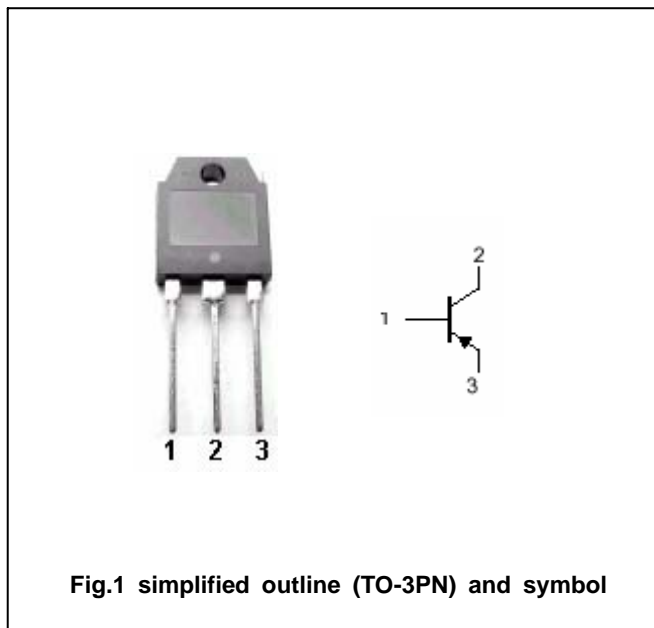


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | -150 | V |
| V_{CEO} | Collector-emitter voltage | Open base | -150 | V |
| V_{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I_C | Collector current | | -10 | A |
| I_B | Base current | | -2 | A |
| P_C | Collector power dissipation | $T_C=25$ | 100 | 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 =-25mA ; I _B =0 | -150 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-5A; I _B =-0.5A | | | -2.0 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-150V; I _E =0 | | | -0.1 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-5V; I _C =0 | | | -0.1 | mA |
| h _{FE} | DC current gain | I _C =-3A ; V _{CE} =-4V | 50 | | | |
| C _{ob} | Output capacitance | I _E =0 ; V _{CB} =-80V; f=1MHz | | 110 | | pF |
| f _T | Transition frequency | I _E =1A ; V _{CE} =-12V | | 60 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|--|--|------|--|----|
| t _{on} | Turn-on time | I _C =-5A; R _L =12 I _{B1} =-I _{B2} =-0.5A V _{CC} =-60V | | 0.25 | | μs |
| t _s | Storage time | | | 0.80 | | μs |
| t _f | Fall time | | | 0.20 | | μs |

◆ h_{FE} Classifications

| O | P | Y |
|--------|--------|--------|
| 50-100 | 70-140 | 90-180 |

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PACKAGE OUTLINE

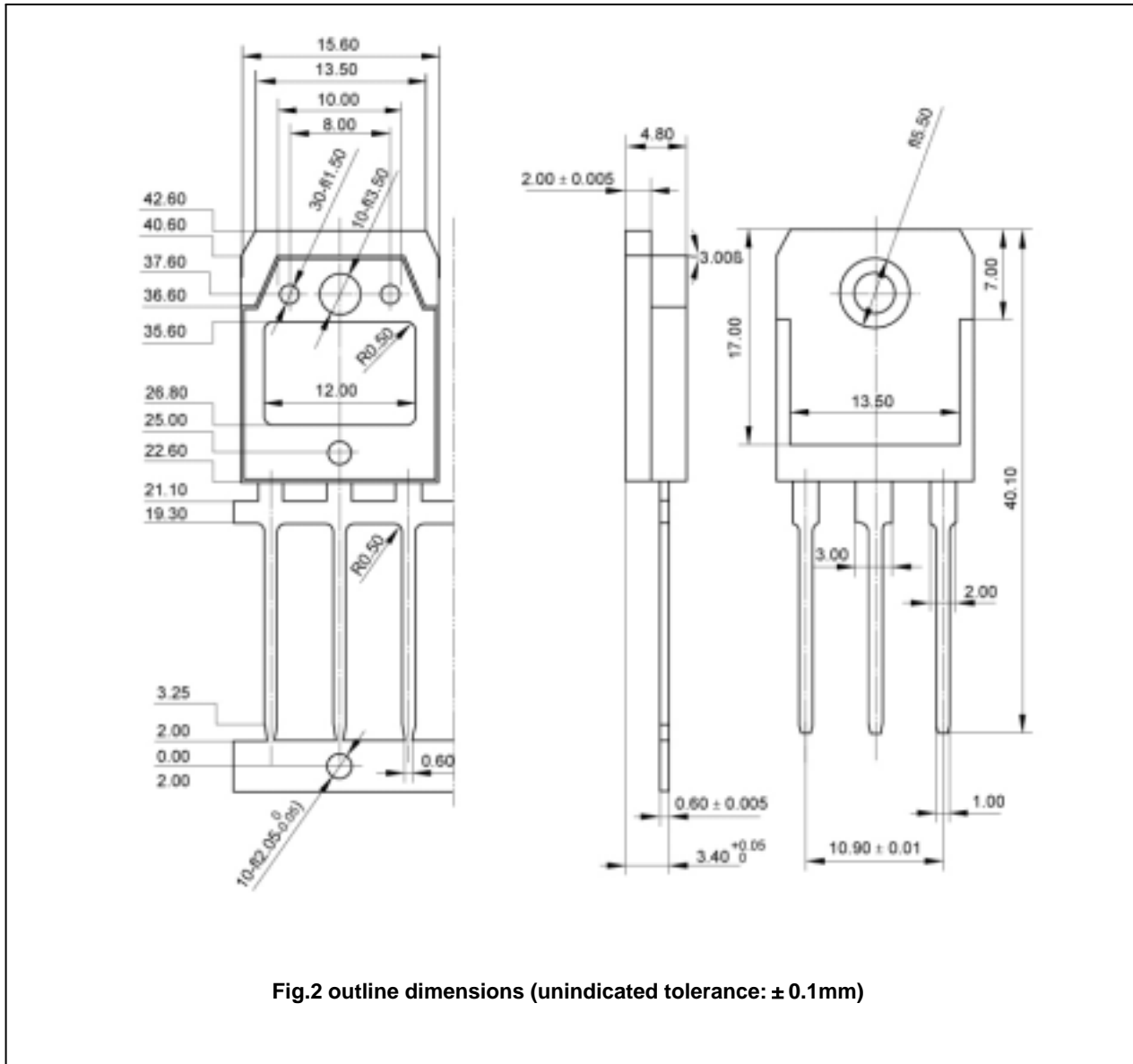


Fig.2 outline dimensions (unindicated tolerance: ± 0.1mm)

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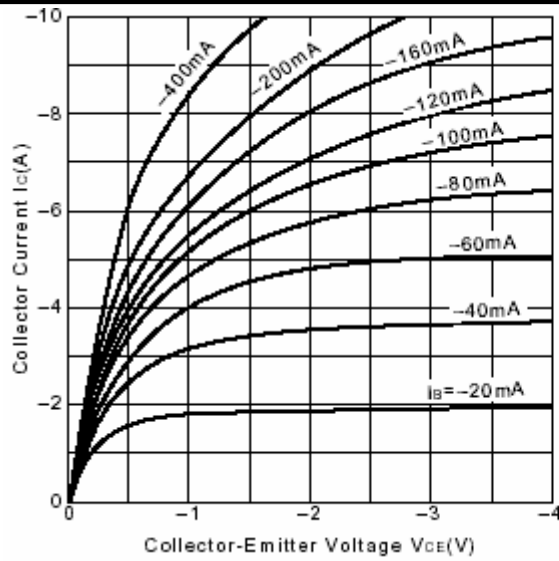


Fig.3 Static Characteristic

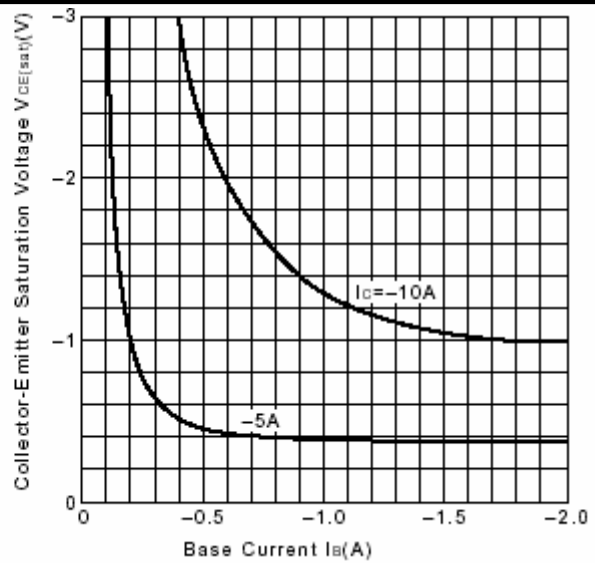


Fig.4 $V_{CE(sat)}-I_B$ Characteristics

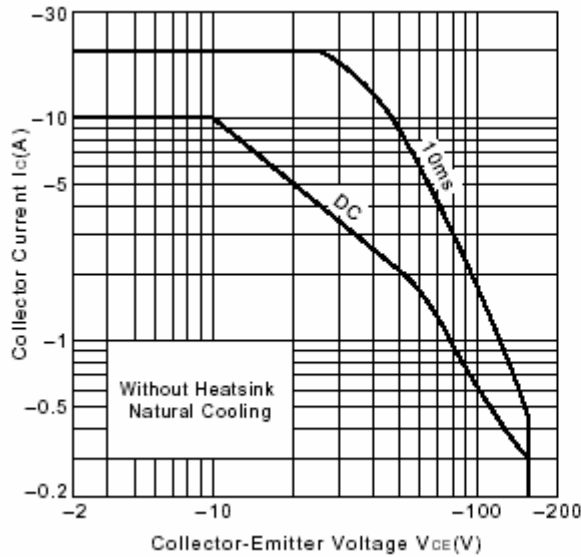


Fig.5 Safe Operating Area

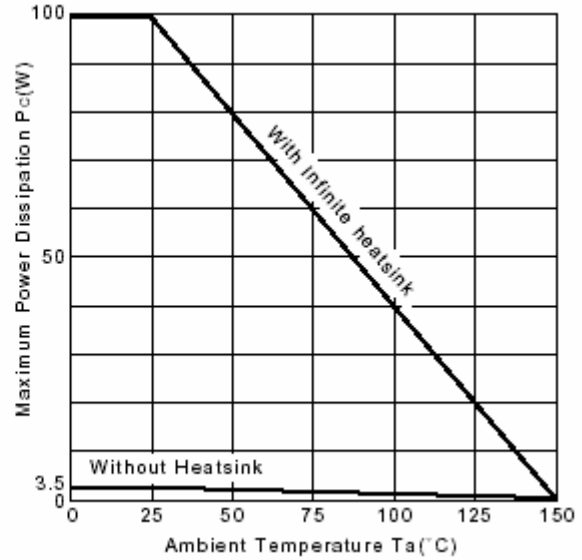


Fig.6 P_c-T_a Derating

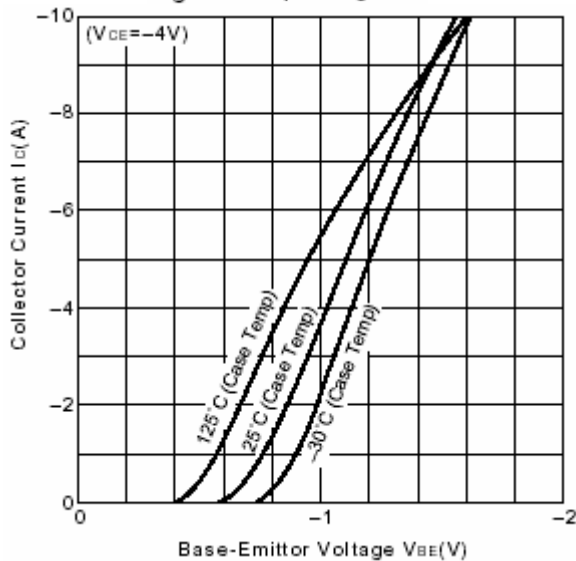


Fig.7 I_C-V_{BE}

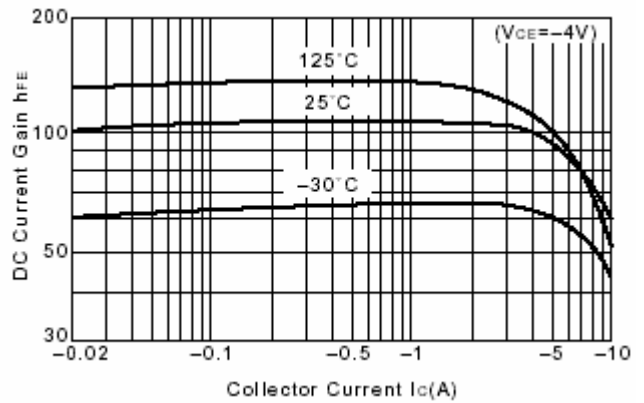


Fig.8 DC current Gain