

Silicon NPN Power Transistors

2SD381

DESCRIPTION

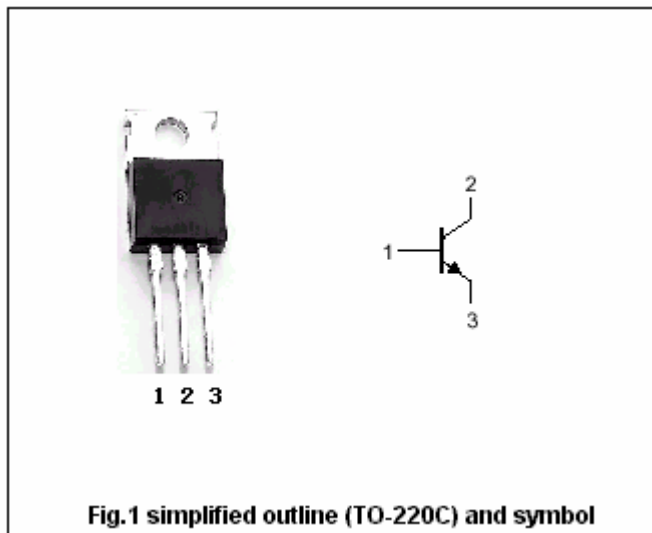
- With TO-220C package
- Complement to type 2SB536
- Low collector saturation voltage

APPLICATIONS

- Audio frequency power amplifier
- Low speed power switching

PINNING

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



Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 130 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 120 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 1.5 | A |
| I _{CM} | Collector current-peak | | 3.0 | A |
| I _B | Base current | | 0.3 | A |
| P _T | Total power dissipation | T _a =25°C | 1.5 | W |
| | | T _C =25°C | 20 | |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -50~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|------|-----|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =10mA; I _B =0 | 120 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =1A; I _B =0.1A | | | 2.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =1A; I _B =0.1A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =120V; I _E =0 | | | 1.0 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =3V; I _C =0 | | | 1.0 | μA |
| h _{FE-1} | DC current gain | I _C =5mA; V _{CE} =5V | 25 | | | |
| h _{FE-2} | DC current gain | I _C =0.3A; V _{CE} =5V | 40 | | 250 | |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =10V; f=1MHz | | 25 | | pF |
| f _T | Transition frequency | I _C =0.1A; V _{CE} =5V | | 45 | | MHz |

◆ h_{FE-2} Classifications

| N | M | L | K |
|-------|--------|--------|---------|
| 40-80 | 60-120 | 80-160 | 120-250 |

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PACKAGE OUTLINE

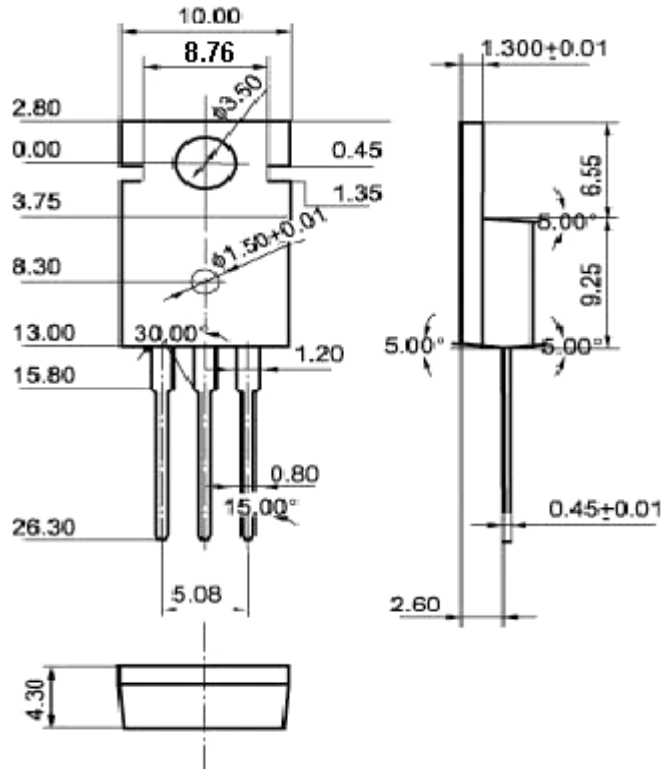


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)

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