

Silicon PNP Power Transistors

2SA1069 2SA1069A

DESCRIPTION

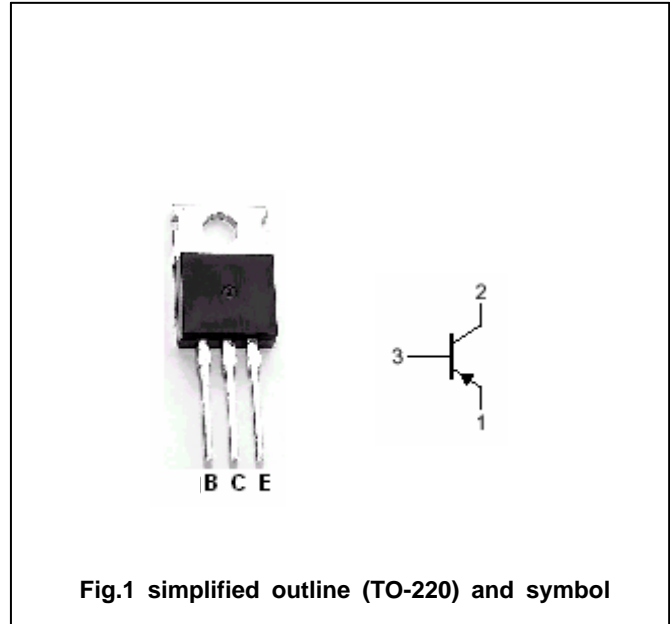
- With TO-220 package
- Complement to type 2SC2516/2516A
- Low collector saturation voltage

APPLICATIONS

- Switching regulators
- DC-DC converters
- High-frequency power amplifier

PINNING

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



Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|------------------------|---------|------|
| V_{CBO} | Collector-base voltage | Open emitter | -80 | V |
| V_{CEO} | Collector-emitter voltage | 2SA1069 | -60 | V |
| | | 2SA1069A | -80 | |
| V_{EBO} | Emitter-base voltage | Open collector | -12 | V |
| I_C | Collector current | | -5 | A |
| I_{CM} | Collector current-Peak | | -10 | A |
| I_B | Base current | | -2.5 | A |
| P_C | Collector power dissipation | $T_a=25^\circ\text{C}$ | 1.5 | W |
| | | $T_C=25^\circ\text{C}$ | 30 | |
| T_j | Junction temperature | | 150 | °C |
| T_{stg} | Storage temperature | | -55~150 | °C |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|----------|---|-----|------|------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | 2SA1069 | I _C =-3.0A, I _B =-0.3A; L=1mH | -60 | | | V |
| | | 2SA1069A | | -80 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =-3A; I _B =-0.3A | | | -0.6 | V |
| V _{BEsat} | Base-emitter saturation voltage | | I _C =-3A; I _B =-0.3A | | | -1.5 | V |
| I _{CBO} | Collector cut-off current | 2SA1069 | V _{CB} =-60V; I _E =0 | | | -10 | μ A |
| | | 2SA1069A | V _{CB} =-80V; I _E =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =-5V; I _C =0 | | | -10 | μ A |
| h _{FE-1} | DC current gain | | I _C =-0.3A; V _{CE} =-5V | 40 | | | |
| h _{FE-2} | DC current gain | | I _C =-3A; V _{CE} =-5V | 40 | | 200 | |

Switching times

| | | | | | | |
|------------------|--------------|--|--|--|-----|-----|
| t _{on} | Turn-on time | I _C =-3A; V _{CC} =-50V I _{B1} =-I _{B2} =-0.3A; R _L =17 Ω | | | 0.5 | μ s |
| t _{stg} | Storage time | | | | 2.5 | μ s |
| t _f | Fall time | | | | 0.5 | μ s |

◆ h_{FE-2} Classifications

| M | L | K |
|-------|--------|---------|
| 40-80 | 60-120 | 100-200 |

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PACKAGE OUTLINE

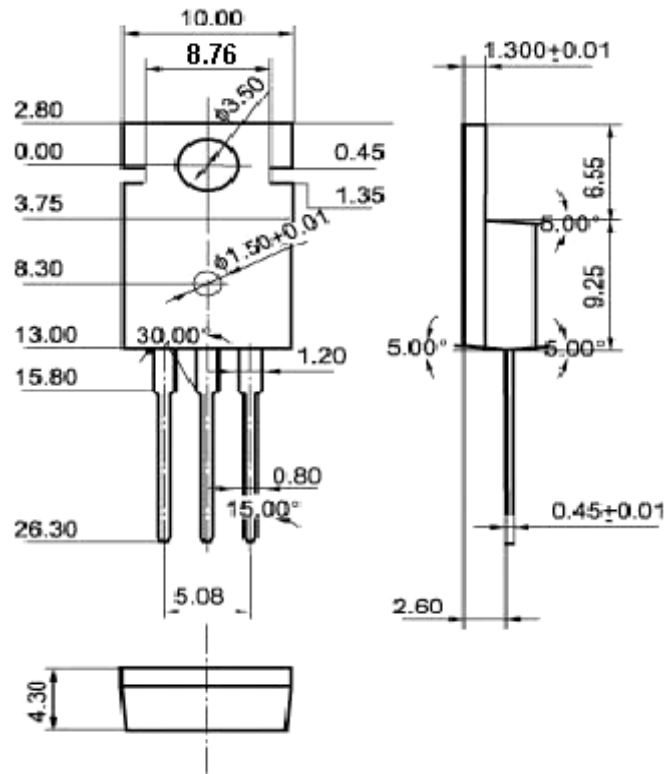


Fig.2 Outline dimensions(unindicated tolerance: ± 0.10 mm)