

Silicon NPN Power Transistors

2SC4336

DESCRIPTION

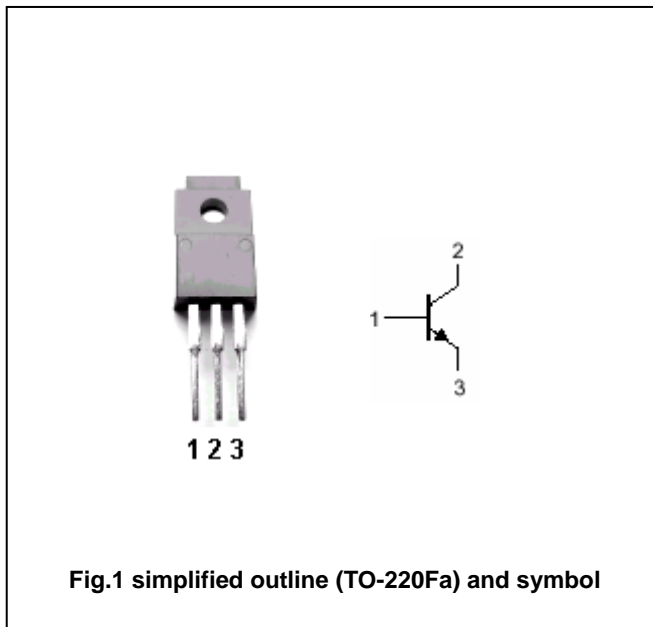
- With TO-220Fa package
- Fast switching speed
- Low collector saturation voltage

APPLICATIONS

- For use in switching power supplies ,DC/DC converters,motor drivers,solenoid drivers,etc

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 | 100 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 100 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I _C | Collector current (DC) | | 10 | A |
| I _{CM} | Collector current-Peak | | 20 | A |
| I _B | Base current(DC) | | 6 | A |
| P _T | Total power dissipation | T _C =25 | 30 | w |
| | | T _a =25 | 2 | |
| 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 _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =5.0A, I _B =0.6A; L=1mH | 100 | | | V |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =6A; I _B =0.3A | | | 0.3 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =8A; I _B =0.4A | | | 0.5 | V |
| V _{BESat-1} | Base-emitter saturation voltage | I _C =6A; I _B =0.3A | | | 1.2 | V |
| V _{BESat-2} | Base-emitter saturation voltage | I _C =8A; I _B =0.4A | | | 1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =100V; I _E =0 | | | 10 | μA |
| I _{CEX} | Collector cut-off current | V _{CE} =100V; V _{BE(off)} =-1.5V T _a =125 | | | 10 1.0 | μA mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 10 | μA |
| h _{FE-1} | DC current gain | I _C =1A; V _{CE} =2V | 100 | | | |
| h _{FE-2} | DC current gain | I _C =2A; V _{CE} =2V | 100 | | 400 | |
| h _{FE-3} | DC current gain | I _C =6A; V _{CE} =2V | 60 | | | |
| C _{OB} | Collector capacitance | I _E =0; V _{CB} =10V; f=1MHz | | 120 | | pF |
| f _T | Transition frequency | I _C =0.5A; V _{CE} =10V | | 150 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|---|--|--|-----|----|
| t _{on} | Turn-on time | I _C =6A; I _{B1} =-I _{B2} =0.3A V _{CC} 50V; R _L =8.3 | | | 0.3 | μs |
| t _s | Storage time | | | | 1.5 | μs |
| t _f | Fall time | | | | 0.3 | μs |

◆ h_{FE-2} Classifications

| M | L | N |
|---------|---------|---------|
| 100-200 | 150-300 | 200-400 |

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PACKAGE OUTLINE

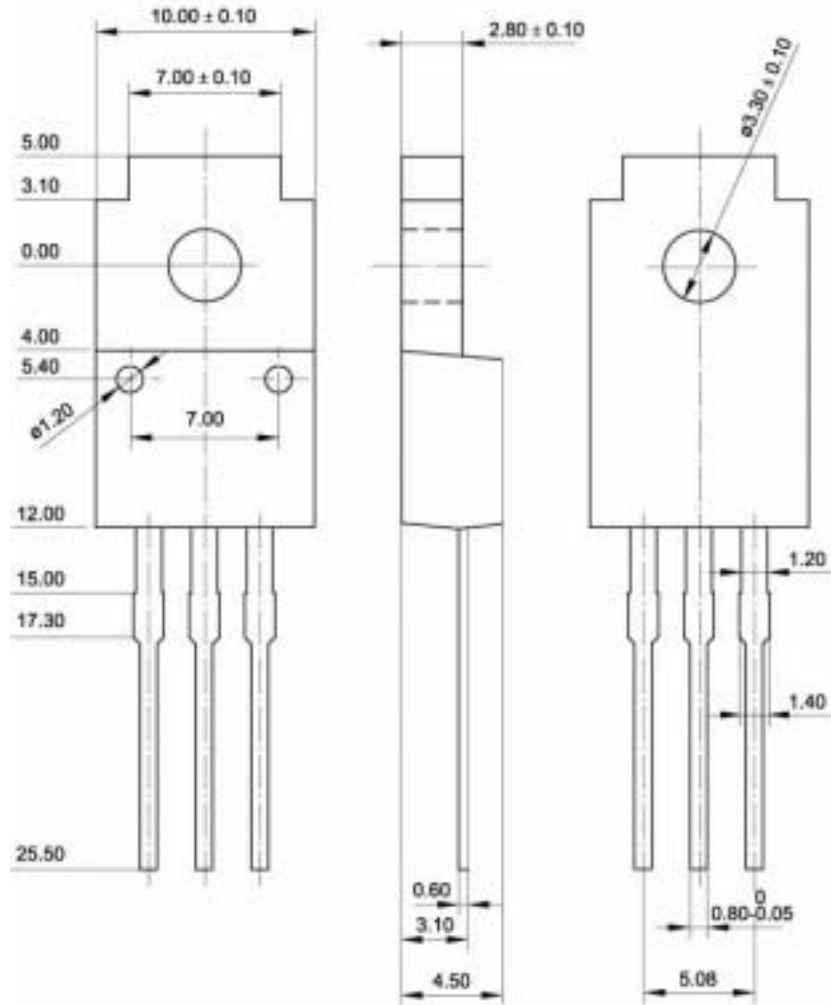


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)