

Silicon NPN Power Transistors

2SD1263 2SD1263A

DESCRIPTION

- With TO-220Fa package
- High breakdown voltage

APPLICATIONS

- For power amplification

PINNING

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

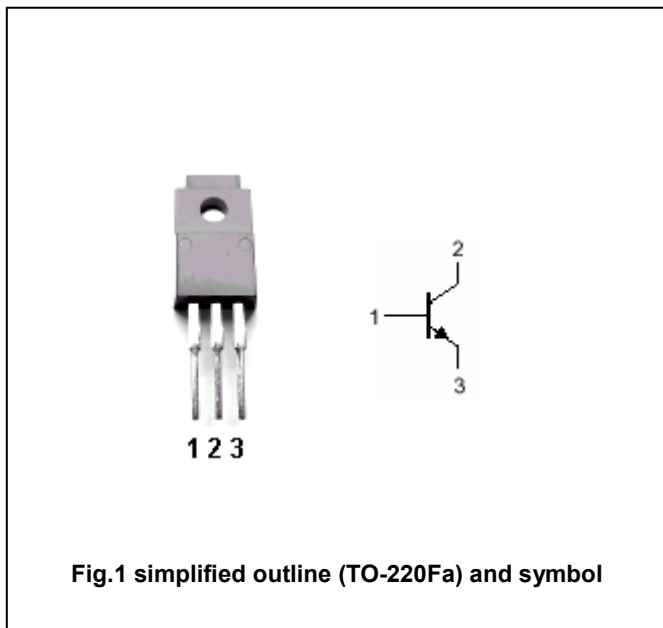


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2SD1263 | 350 | V |
| | | 2SD1263A | 400 | |
| V _{CEO} | Collector-emitter voltage | 2SD1263 | 250 | V |
| | | 2SD1263A | 300 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 0.75 | A |
| I _{CM} | Collector current-peak | | 1.5 | A |
| P _C | Collector power dissipation | T _a =25°C | 2 | W |
| | | T _C =25°C | 35 | |
| 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} | Collector-emitter voltage | 2SD1263 | I _C =30mA, I _B =0 | 250 | | | V |
| | | 2SD1263A | | 300 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =1A, I _B =0.2A | | | 1.0 | V | |
| V _{BE} | Base-emitter voltage | I _C =1A; V _{CE} =10V | | | 1.5 | V | |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 1.0 | mA | |
| I _{CEO} | Collector cut-off current | 2SD1263 | V _{CE} =150V; I _B =0 | | | 1.0 | mA |
| | | 2SD1263A | V _{CE} =200V; I _B =0 | | | 1.0 | mA |
| I _{CES} | Collector cut-off current | 2SD1263 | V _{CE} =350V; V _{BE} =0 | | | 1.0 | mA |
| | | 2SD1263A | V _{CE} =400V; V _{BE} =0 | | | 1.0 | mA |
| h _{FE-1} | DC current gain | I _C =0.3A; V _{CE} =10V | 70 | | 250 | | |
| h _{FE-2} | DC current gain | I _C =1A; V _{CE} =10V | 10 | | | | |
| f _T | Transition frequency | I _C =0.5A; V _{CE} =5V, f=10MHz | | 30 | | MHz | |

Switching times

| | | | | | | |
|-----------------|--------------|---|--|-----|--|----|
| t _{on} | Turn-on time | I _C =1A; I _{B1} =-I _{B2} =0.1A V _{CC} =50V | | 0.5 | | μs |
| t _s | Storage time | | | 2 | | μs |
| t _f | Fall time | | | 0.5 | | μs |

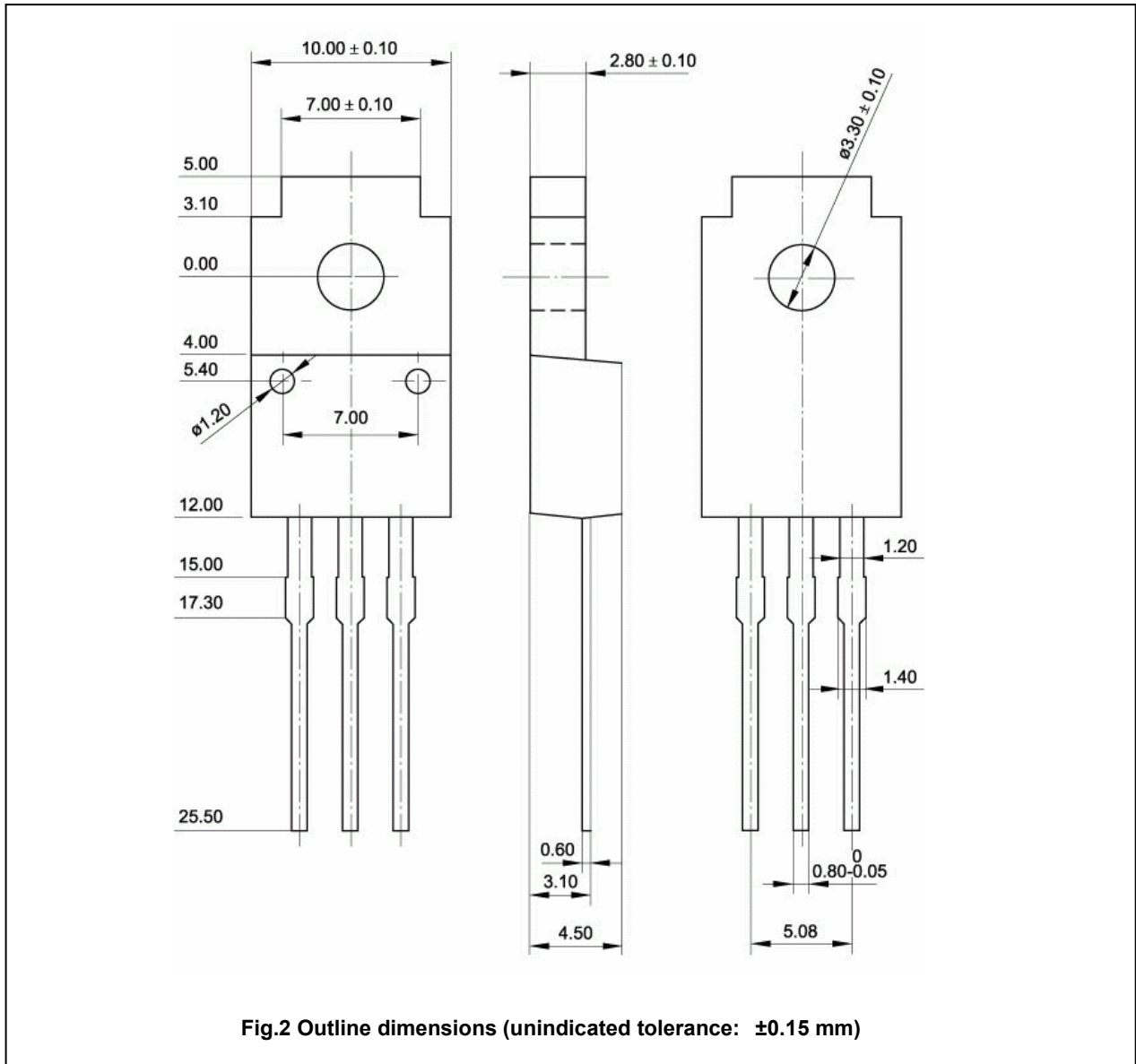
◆ h_{FE-1} Classifications

| Q | P |
|--------|---------|
| 70-150 | 120-250 |

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PACKAGE OUTLINE



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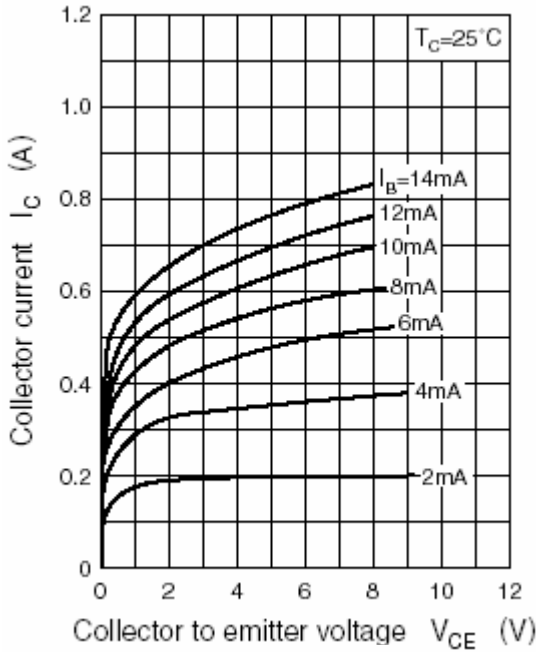


Fig.3 Static Characteristic

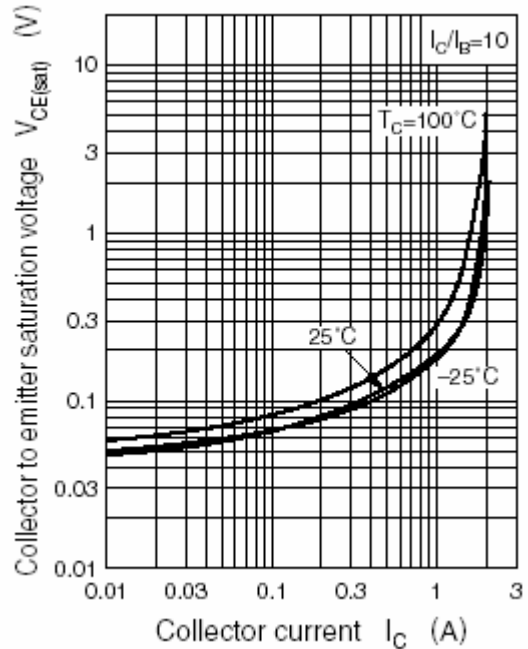


Fig.4 Collector-Emitter Saturation Voltage

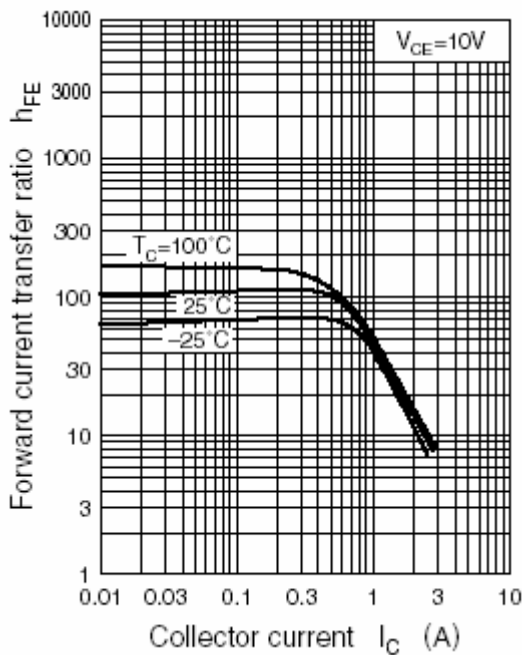


Fig.5 DC current Gain

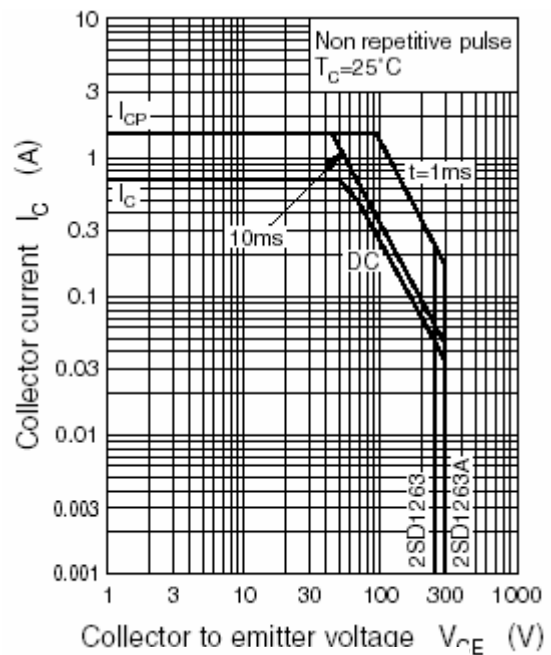


Fig.6 Safe Operating Area