

Silicon NPN Power Transistors

2SD1275 2SD1275A

DESCRIPTION

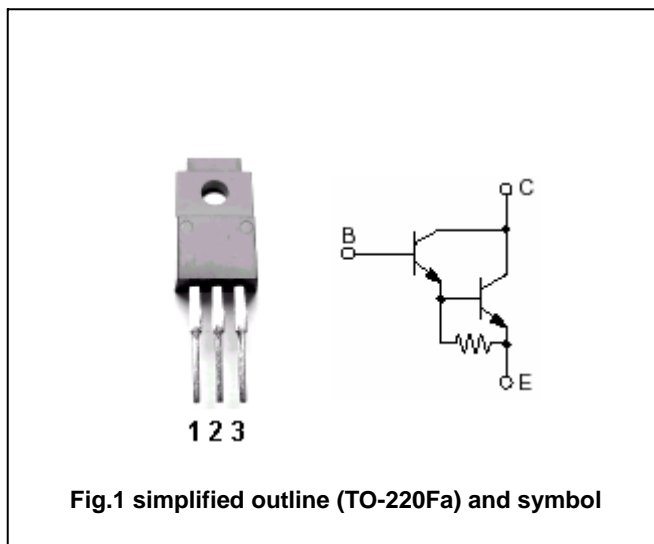
- With TO-220Fa package
- Complement to type 2SB949/949A
- High DC current gain
- High-speed switching

APPLICATIONS

- For power amplification

PINNING

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



Absolute maximum ratings (Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|--------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2SD1275 | 60 | V |
| | | 2SD1275A | 80 | |
| V _{CEO} | Collector-emitter voltage | 2SD1275 | 60 | V |
| | | 2SD1275A | 80 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 2 | A |
| I _{CM} | Collector current-Peak | | 4 | A |
| P _C | Collector power dissipation | T _C =25 | 35 | 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 _{(BR)CEO} | Collector-emitter breakdown voltage | 2SD1275 | I _C =30mA, I _B =0 | 60 | | | V |
| | | 2SD1275A | | 80 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =2A; I _B =8mA | | | 2.5 | V |
| V _{BE} | Base-emitter voltage | | V _{CE} =4V; I _C =2A | | | 2.8 | V |
| I _{CBO} | Collector cut-off current | 2SD1275 | V _{CB} =60V; I _E =0 | | | 1.0 | mA |
| | | 2SD1275A | V _{CB} =80V; I _E =0 | | | | |
| I _{CEO} | Collector cut-off current | 2SD1275 | V _{CE} =30V; I _B =0 | | | 2.0 | mA |
| | | 2SD1275A | V _{CE} =40V; I _B =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =5V; I _C =0 | | | 2.0 | mA |
| h _{FE-1} | DC current gain | | I _C =1A; V _{CE} =4V | 1000 | | | |
| h _{FE-2} | DC current gain | | I _C =2A; V _{CE} =4V | 2000 | | 10000 | |
| f _T | Transition frequency | | I _C =0.5A; V _{CE} =10V; f=1MHz | | 20 | | MHz |

Switching times

| | | | | | | |
|-----------------|--------------|-----------------------------------------------------------------------------------------|--|-----|--|----|
| t _{on} | Turn-on time | I _C =2A; I _{B1} =8mA I _{B2} =-8mA; V _{CC} =50V | | 0.5 | | μs |
| t _s | Storage time | | | 4.0 | | μs |
| t _f | Fall time | | | 1.0 | | μs |

◆ h_{FE-2} Classifications

| Q | R |
|-----------|------------|
| 2000-5000 | 4000-10000 |

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PACKAGE OUTLINE

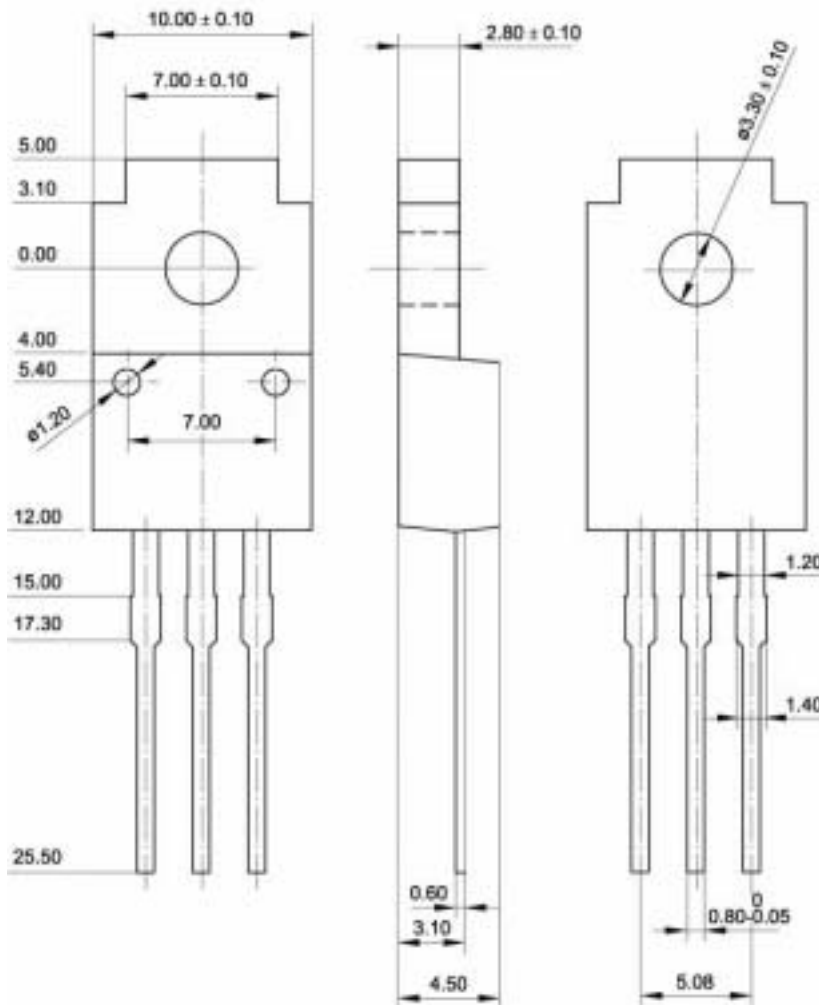


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)