

Silicon NPN Power Transistors

2SD1276 2SD1276A

DESCRIPTION

- With TO-220Fa package
- Complement to type 2SB950 and 2SB950A
- High forward current transfer ratio h_{FE}
- High-speed switching

APPLICATIONS

- For power amplification

PINNING

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

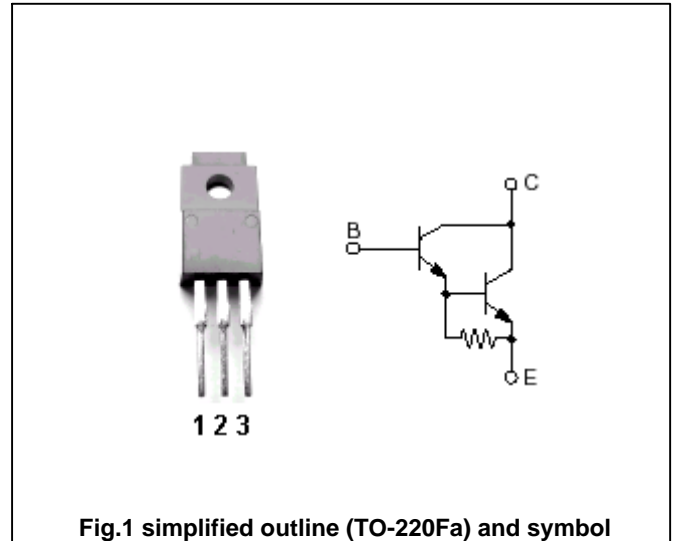


Fig.1 simplified outline (TO-220Fa) and symbol

ABSOLUTE MAXIMUM RATINGS AT $T_c=25$

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| V_{CBO} | Collector-base voltage | 2SD1276 | 60 | V |
| | | 2SD1276A | 80 | |
| V_{CEO} | Collector-emitter voltage | 2SD1276 | 60 | V |
| | | 2SD1276A | 80 | |
| V_{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I_C | Collector current (DC) | | 4 | A |
| I_{CM} | Collector current-Peak | | 8 | A |
| P_C | Collector power dissipation | $T_c=25$ | 40 | 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} | Collector-emitter breakdown voltage | 2SD1276 | I _C =30mA, I _B =0 | 60 | | | V |
| | | 2SD1276A | | 80 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =3A I _B =12mA | | | 2 | V | |
| | | I _C =5A I _B =20mA | | | 4 | V | |
| V _{BE} | Base-emitter voltage | V _{CE} =3V I _C =3A | | | 2.5 | V | |
| I _{CBO} | Collector cut-off current | 2SD1276 | V _{CB} =60V I _E =0 | | | 0.2 | mA |
| | | 2SD1276A | | V _{CB} =80V I _E =0 | | | 0.2 |
| I _{CEO} | Collector cut-off current | 2SD1276 | V _{CE} =30V I _B =0 | | | 0.5 | mA |
| | | 2SD1276A | | V _{CE} =40V I _B =0 | | | 0.5 |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 2 | mA | |
| h _{FE-1} | DC current gain | I _C =3A; V _{CE} =0.5V | 1000 | | | | |
| h _{FE-2} | DC current gain | I _C =3A; V _{CE} =3V | 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 | | μs |
| t _f | Fall time | | | 1 | | μs |

◆ h_{FE-2} Classifications

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

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PACKAGE OUTLINE

