

Silicon PNP Power Transistors

2SB1223

DESCRIPTION

- With TO-220F package
- Complement to type 2SD1825
- High DC current gain.
- Large current capacity and wide ASO.
- DARLINGTON

APPLICATIONS

- Suitable for use in control of motor drivers, printer hammer drivers, and constant-voltage regulators.

PINNING

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

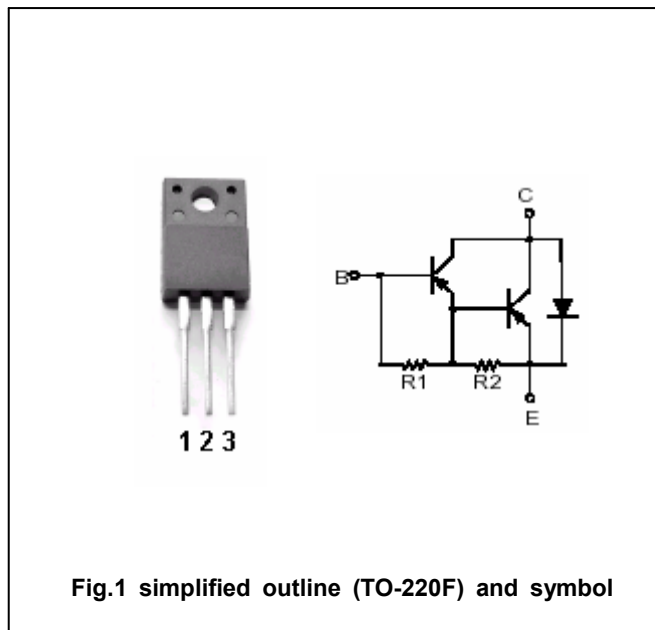


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -70 | V |
| V _{CEO} | Collector-emitter voltage | Open base | -60 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -6 | V |
| I _C | Collector current | | -4 | A |
| I _{CM} | Collector current-peak | | -6 | A |
| P _C | Collector dissipation | T _C =25°C | 20 | W |
| | | T _a =25 | 2 | |
| 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 _{(BR)CBO} | Collector-base breakdown voltage | I _C =-5mA; I _E =0 | -70 | | | V |
| V _{(BR)CEO} | Collector-emitter breakdown voltage | I _C =-50mA; R _{BE} =∞ | -60 | | | V |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =-2A; I _B =-4mA | | -1.0 | -1.5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-2A; I _B =-4mA | | | -2.0 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-40V; I _E =0 | | | -0.1 | mA |
| I _{EBO} | Emitter cut-off current | V _{EB} =-5V; I _C =0 | | | -3.0 | mA |
| h _{FE} | DC current gain | I _C =-2A; V _{CE} =-2V | 2000 | 5000 | | |
| f _T | Transition frequency | I _C =-2A; V _{CE} =-5V | | 20 | | MHz |

Switching times

| | | | | | | |
|------------------|--------------|--|--|-----|--|----|
| t _{on} | Turn-on time | I _C =500I _{B1} =-500I _{B2} =-2A V _{CC} =-20V, R _L =10Ω | | 0.5 | | μs |
| t _{stg} | Storage time | | | 1.4 | | μs |
| t _f | Fall time | | | 1.2 | | μs |

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PACKAGE OUTLINE

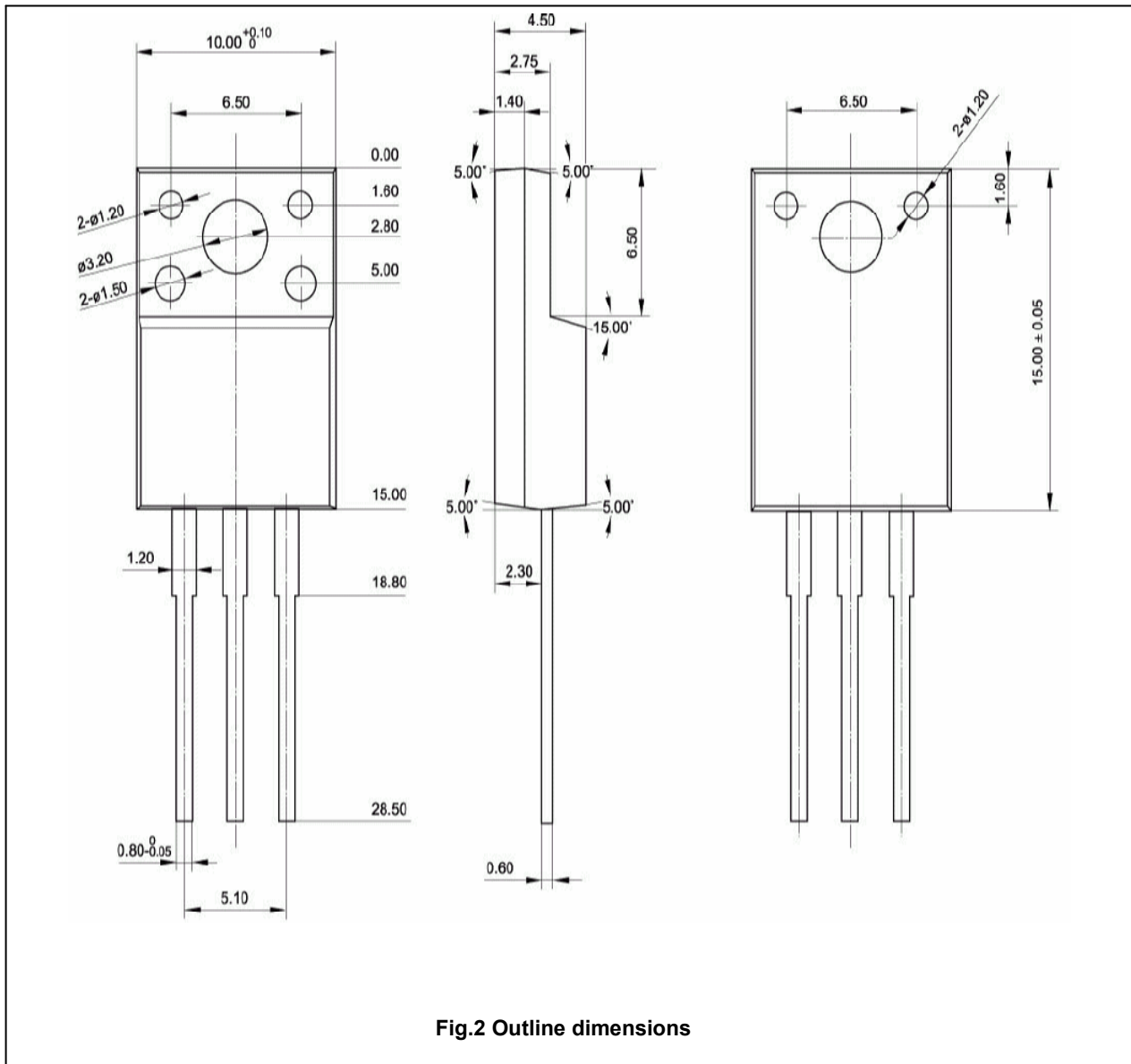


Fig.2 Outline dimensions