

Silicon PNP Power Transistors

2SB1193

DESCRIPTION

- With TO-220Fa package
- High DC current gain
- High speed switching
- DARLINGTON
- Complement to type 2SD1773

APPLICATIONS

- For medium speed switching applications

PINNING

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

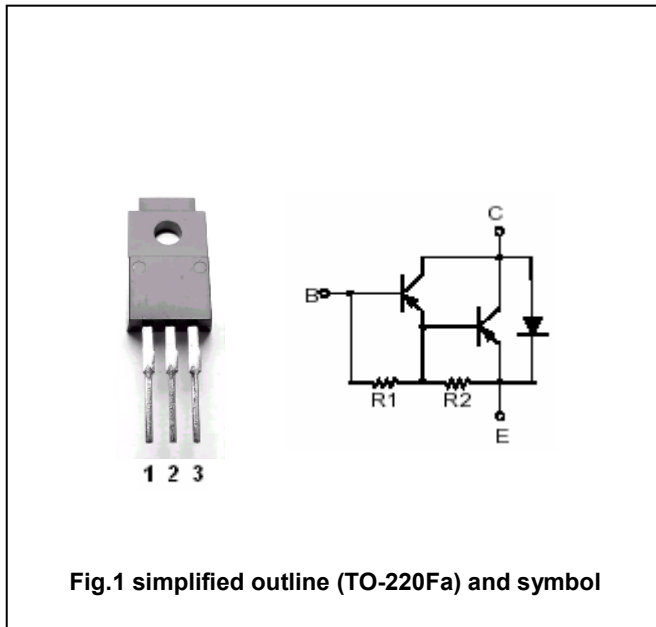


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -120 | V |
| V _{CEO} | Collector -emitter voltage | Open base | -120 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I _C | Collector current | | -8 | A |
| I _{CM} | Collector current-peak | | -12 | A |
| P _C | Collector power dissipation | T _a =25°C | 2 | W |
| | | T _C =25°C | 50 | |
| 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(SUS)} | Collector-emitter sustaining voltage | I _C =-2A; R _{BE} =∞; L=10mH | -120 | | | V |
| V _{(BR)EBO} | Emitter-base breakdown voltage | I _E =-50mA; I _C =0 | -7 | | | V |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =-4A ; I _B =-8mA | | | -1.5 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =-8A ; I _B =-80mA | | | -3.0 | V |
| V _{BEsat-1} | Base-emitter saturation voltage | I _C =-4A ; I _B =-8mA | | | -2.0 | V |
| V _{BEsat-2} | Base-emitter saturation voltage | I _C =-8A ; I _B =-80mA | | | -3.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =-120V; I _E =0 | | | -100 | μA |
| I _{CEO} | Collector cut-off current | V _{CE} =-100V; R _{BE} =∞ | | | -10 | μA |
| h _{FE} | DC current gain | I _C =-4A ; V _{CE} =-3V | 1000 | | 20000 | |

Switching times

| | | | | | | |
|------------------|--------------|--|--|-----|--|----|
| t _{on} | Turn-on time | I _C =-4A ; I _{B1} =-I _{B2} =-8mA V _{CC} =-50V | | 0.7 | | μs |
| t _{stg} | Storage time | | | 3.5 | | μs |
| t _f | Fall time | | | 2.0 | | μs |

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PACKAGE OUTLINE

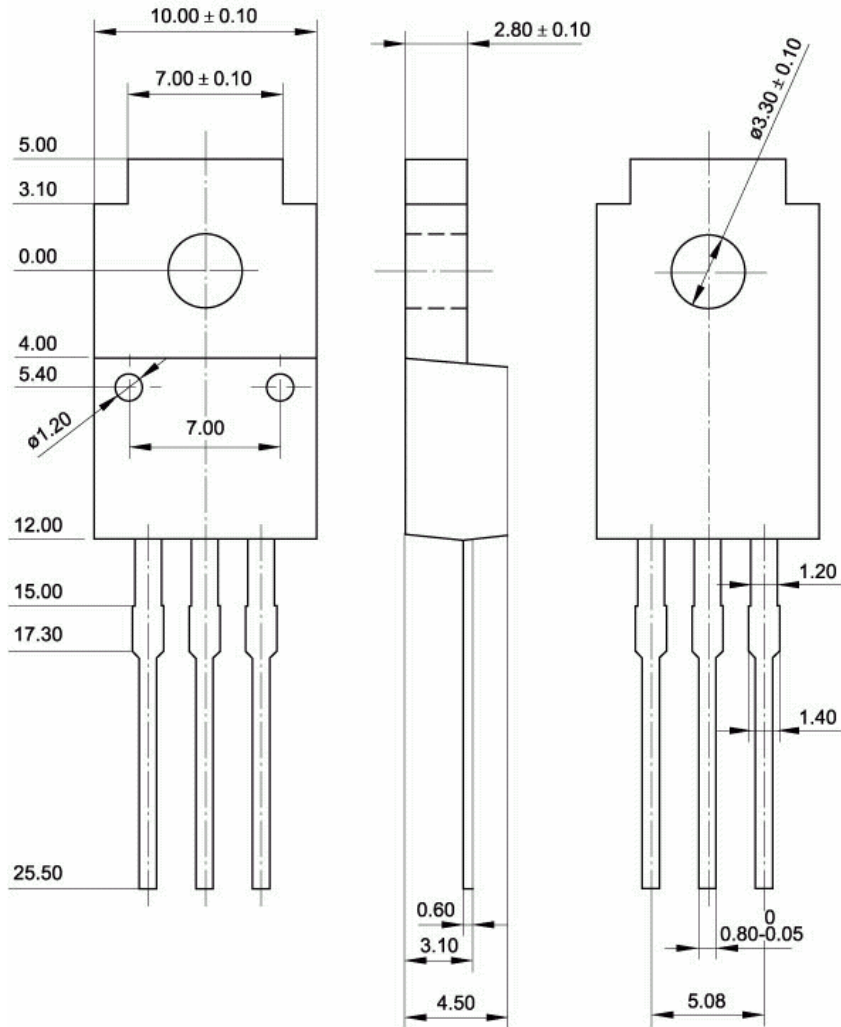


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)