

Silicon PNP Power Transistors

BD896/898/900/902

DESCRIPTION

- With TO-220C package
- Complement to type BD895/897/899/901
- DARLINGTON

APPLICATIONS

- For use in output stages in audio equipment, general amplifier, and analogue switching applications

PINNING

| PIN | DESCRIPTION |
|-----|---------------------------------------|
| 1 | Base |
| 2 | Collector; connected to mounting base |
| 3 | Emitter |

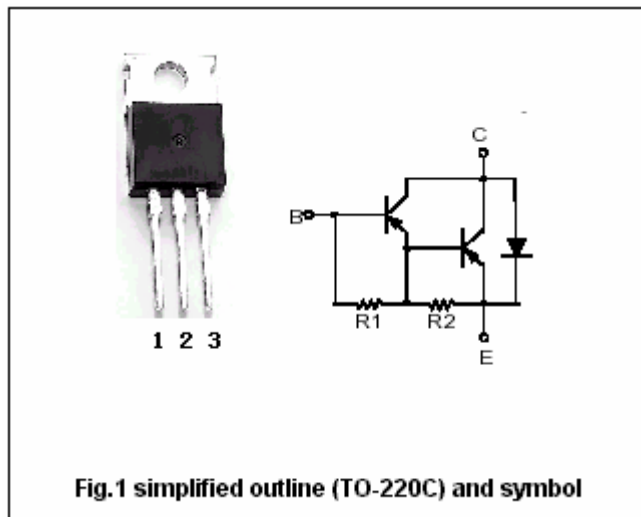


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT | |
|------------------|---------------------------|--------------------|---------|------|---|
| V _{CBO} | Collector-base voltage | Open emitter | BD896 | -45 | V |
| | | | BD898 | -60 | |
| | | | BD900 | -80 | |
| | | | BD902 | -100 | |
| V _{CEO} | Collector-emitter voltage | Open base | BD896 | -45 | V |
| | | | BD898 | -60 | |
| | | | BD900 | -80 | |
| | | | BD902 | -100 | |
| V _{EBO} | Emitter-base voltage | Open collector | -5 | V | |
| I _C | Collector current-DC | | -8 | A | |
| I _B | Base current | | -300 | mA | |
| P _T | Total power dissipation | T _C =25 | 70 | W | |
| | | T _a =25 | 2 | | |
| T _j | Junction temperature | | 150 | | |
| T _{stg} | Storage temperature | | -65~150 | | |

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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 | BD896 | I _C =-100mA, I _B =0 | -45 | | | V |
| | | BD898 | | -60 | | | |
| | | BD900 | | -80 | | | |
| | | BD902 | | -100 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =-3A, I _B =-12mA | | | -2.5 | V |
| V _{BE} | Base-emitter on voltage | | I _C =-3A; V _{CE} =-3V | | | -2.5 | V |
| I _{CBO} | Collector cut-off current | BD896 | V _{CB} =-45V, I _E =0 T _C =100 | | | -0.2 -2.0 | mA |
| | | BD898 | V _{CB} =-60V, I _E =0 T _C =100 | | | -0.2 -2.0 | |
| | | BD900 | V _{CB} =-80V, I _E =0 T _C =100 | | | -0.2 -2.0 | |
| | | BD902 | V _{CB} =-100V, I _E =0 T _C =100 | | | -0.2 -2.0 | |
| I _{CEO} | Collector cut-off current | BD896 | V _{CE} =-30V, I _B =0 | | | -0.5 | mA |
| | | BD898 | V _{CE} =-30V, I _B =0 | | | | |
| | | BD900 | V _{CE} =-40V, I _B =0 | | | | |
| | | BD902 | V _{CE} =-50V, I _B =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =-5V; I _C =0 | | | -2 | mA |
| h _{FE} | DC current gain | | I _C =-3A; V _{CE} =-3V | 750 | | | |
| V _{EC} | Diode forward voltage | | I _E =-8A | | | -3.5 | V |
| ton | Turn-on time | | I _C =-3A; I _{B1} =-I _{B2} =-12mA V _{BE} =3.5V; R _L =10Ω; t _p =20μs | | 1 | | μs |
| toff | Turn-off time | | | | 5 | | μs |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|-------------------------------------|------|------|
| R _{th j-c} | Thermal resistance junction to case | 1.79 | /W |

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PACKAGE OUTLINE

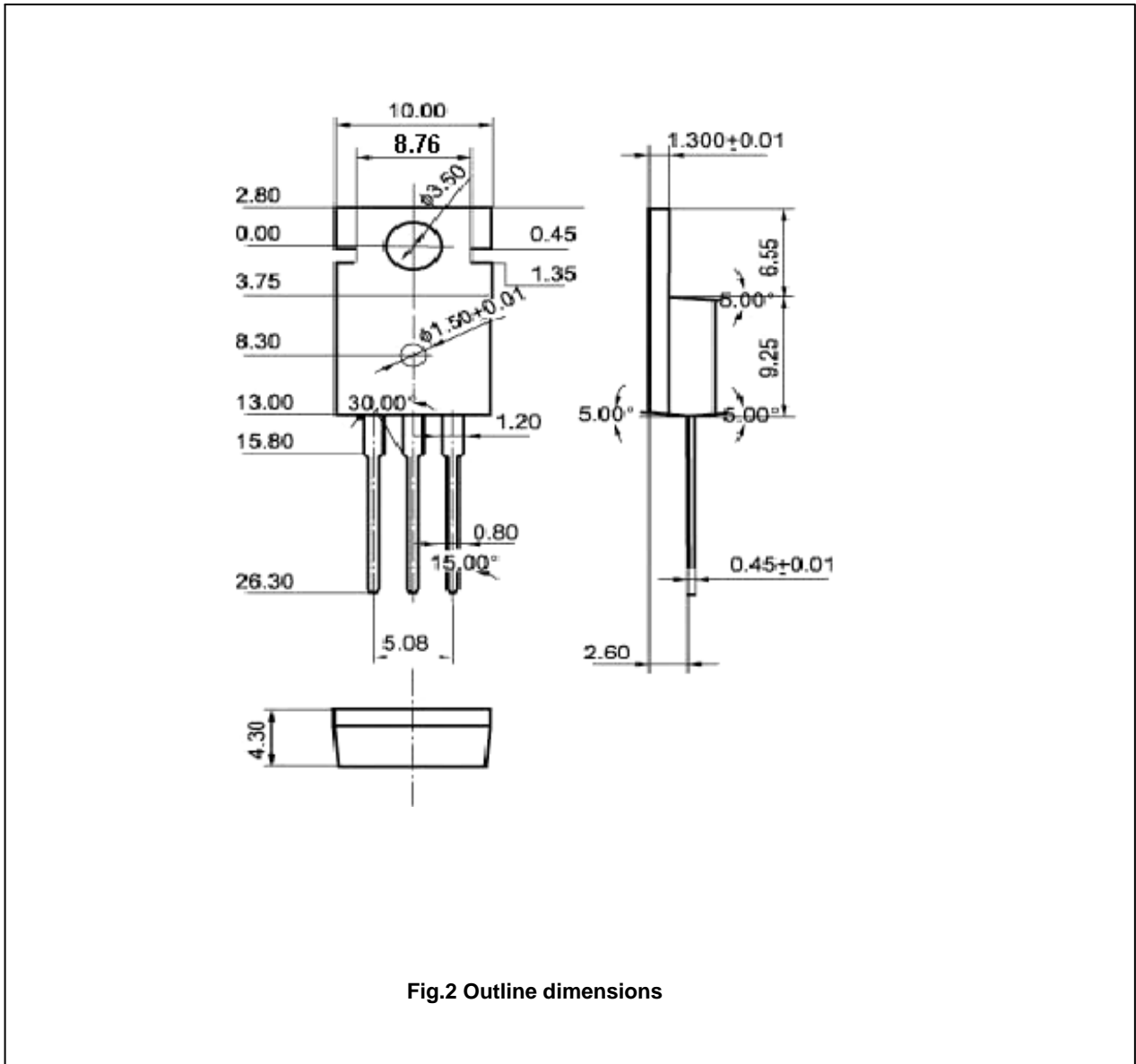


Fig.2 Outline dimensions