

Silicon PNP Power Transistors

BD708 BD710 BD712

DESCRIPTION

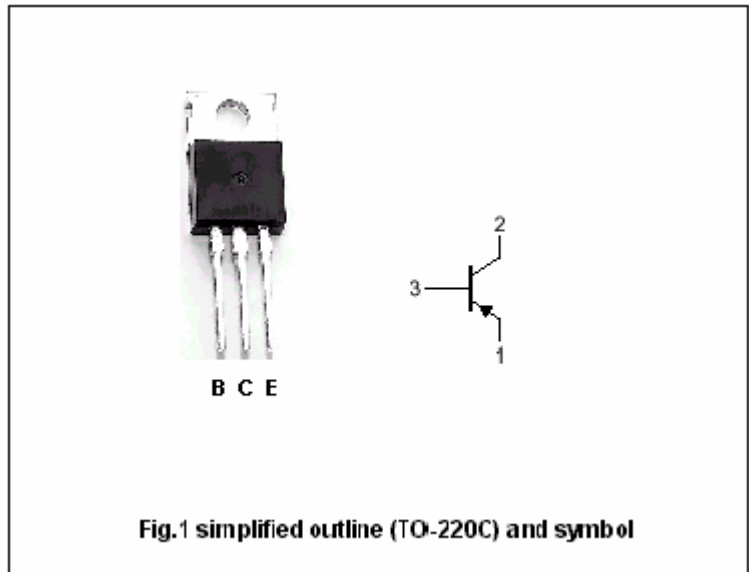
- With TO-220C package
- Complement to type BD707/709/711

APPLICATIONS

- Intended for use in power linear and switching applications.

PINNING

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



Absolute maximum ratings(Ta=25□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|---------------------|---------|------|
| V _{CBO} | Collector-base voltage | BD708 | -60 | V |
| | | BD710 | -80 | |
| | | BD712 | -100 | |
| V _{CEO} | Collector-emitter voltage | BD708 | -60 | V |
| | | BD710 | -80 | |
| | | BD712 | -100 | |
| V _{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I _C | Collector current-DC | | -12 | A |
| I _{CM} | Collector current-Pulse | | -18 | A |
| I _B | Base current | | -5 | A |
| P _T | Total dissipation | T _C =25□ | 75 | W |
| T _j | Junction temperature | | 150 | □ |
| T _{stg} | Storage temperature | | -65~150 | □ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|-------------------------------------|------|------|
| R _{th j-c} | Thermal resistance junction to case | 1.67 | □/W |

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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 | BD708 | I _C =-0.1A, I _B =0 | -60 | | | V |
| | | BD710 | | -80 | | | |
| | | BD712 | | -100 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =-4A, I _B =-0.4A | | | -1.0 | V |
| V _{BE} | Base-emitter voltage | | I _C =-4A, V _{CE} =-4V | | | -1.5 | V |
| I _{CBO} | Collector cut-off current | BD708 | V _{CB} =-60V, I _E =0 T _C =150°C | | | -0.1 -1.0 | mA |
| | | BD710 | V _{CB} =-80V, I _E =0 T _C =150°C | | | -0.1 -1.0 | |
| | | BD712 | V _{CB} =-100V, I _E =0 T _C =150°C | | | -0.1 -1.0 | |
| I _{CEO} | Collector cut-off current | BD708 | V _{CE} =-30V, I _B =0 | | | -0.1 | mA |
| | | BD710 | V _{CE} =-40V, I _B =0 | | | | |
| | | BD712 | V _{CE} =-50V, I _B =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =-5V; I _C =0 | | | -1.0 | mA |
| h _{FE-1} | DC current gain | | I _C =-0.5A; V _{CE} =-2V | 40 | 120 | 400 | |
| h _{FE-2} | DC current gain only for BD708 | | I _C =-2A; V _{CE} =-2V | 30 | | | |
| h _{FE-3} | DC current gain | | I _C =-4A; V _{CE} =-4V | 15 | | 150 | |
| h _{FE-4} | DC current gain | BD708 | I _C =-10A; V _{CE} =-4V | 5 | 10 | | |
| | | BD710 | | 8 | | | |
| | | BD712 | | 8 | | | |
| f _T | Transition frequency | | I _C =-0.3A; V _{CE} =-3V; | 3 | | | MHz |

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PACKAGE OUTLINE

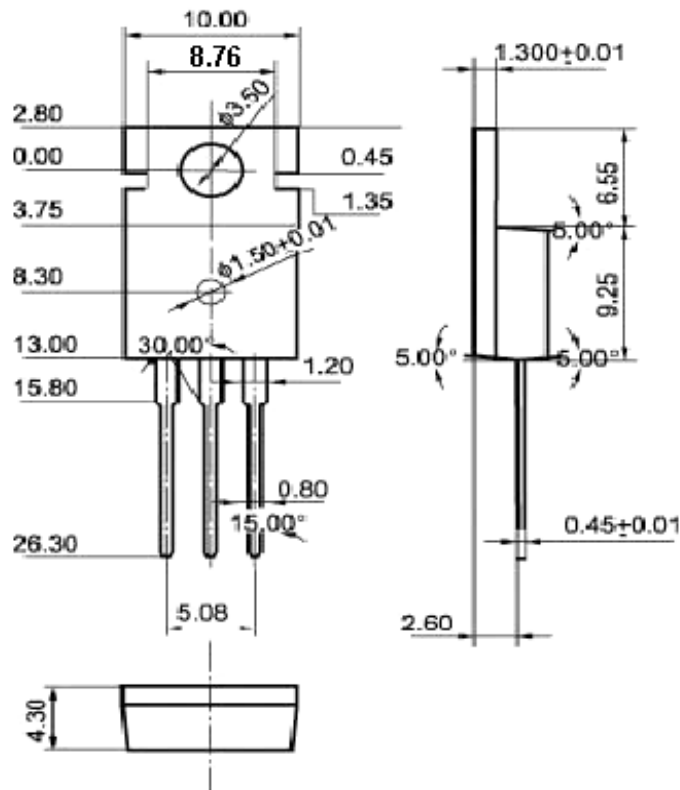


Fig.2 Outline dimensions