

Silicon NPN Power Transistors

2SD745/745A/745B

DESCRIPTION

- With MT-200 package
- Complement to type 2SB705/705A/705B

APPLICATIONS

- Audio frequency power amplifier
- Suitable for output stages of 60~120W audio amplifiers and voltage regulators

PINNING(see Fig.2)

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

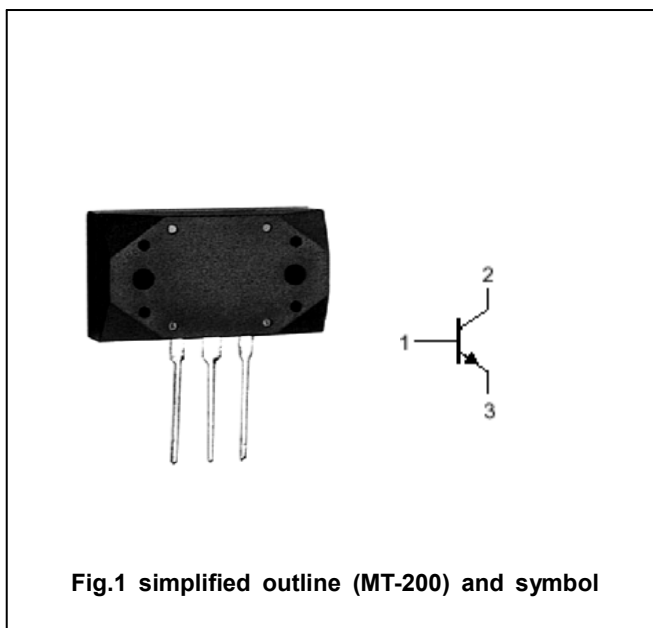


Fig.1 simplified outline (MT-200) and symbol

Absolute maximum ratings (Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2SD745 | 140 | V |
| | | 2SD745A | 150 | |
| | | 2SD745B | 160 | |
| V _{CEO} | Collector-emitter voltage | 2SD745 | 140 | V |
| | | 2SD745A | 150 | |
| | | 2SD745B | 160 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 10 | A |
| I _{CM} | Collector current-peak | | 15 | A |
| P _T | Total power dissipation | T _C =25°C | 120 | W |
| 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)CEO} | Collector-emitter breakdown voltage | 2SD745 | 140 | | | V |
| | | 2SD745A | 150 | | | |
| | | 2SD745B | 160 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | I _C =5A; I _B =0.5 A | | | 1.5 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =5A; I _B =0.5 A | | | 2.0 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =140V; I _E =0 | | | 50 | μA |
| I _{EBO} | Emitter cut-off current | V _{EB} =3V; I _C =0 | | | 50 | μA |
| h _{FE-1} | DC current gain | I _C =50mA ; V _{CE} =5V | 20 | | | |
| h _{FE-2} | DC current gain | I _C =2A ; V _{CE} =5V | 40 | | 200 | |
| f _T | Transition frequency | I _C =0.2A ; V _{CE} =5V | | 15 | | MHz |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =10V; f=1MHz | | 270 | | pF |

◆ h_{FE-2} classifications

| S | R | Q |
|-------|--------|---------|
| 40-80 | 60-120 | 100-200 |

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PACKAGE OUTLINE

