

**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

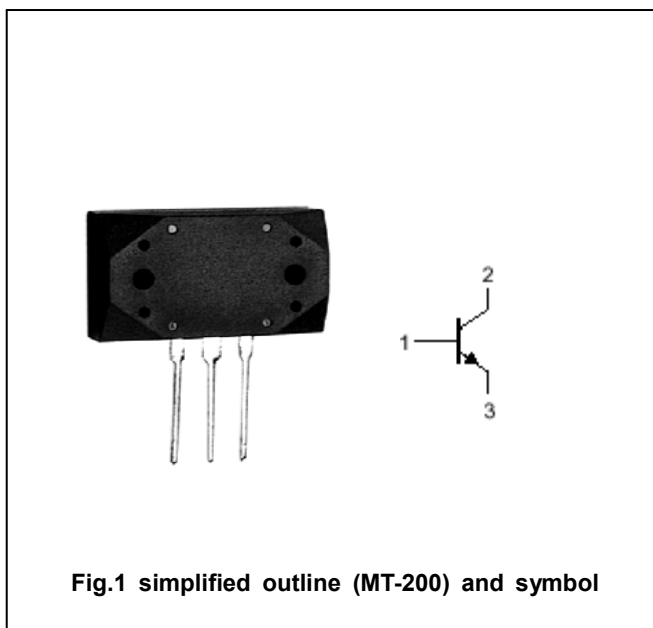


Fig.1 simplified outline (MT-200) and symbol

**Absolute maximum ratings (Ta=25℃)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2SD745	140	V
		2SD745A	150	
		2SD745B	160	
V <sub>CEO</sub>	Collector-emitter voltage	2SD745	140	V
		2SD745A	150	
		2SD745B	160	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		10	A
I <sub>CM</sub>	Collector current-peak		15	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25℃	120	W
T <sub>j</sub>	Junction temperature		150	℃
T <sub>stg</sub>	Storage temperature		-55~150	℃

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SD745	140			V
		2SD745A	150			
		2SD745B	160			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5 A			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5 A			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =140V; I <sub>E</sub> =0			50	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =3V; I <sub>C</sub> =0			50	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =50mA; V <sub>CE</sub> =5V	20			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =2A; V <sub>CE</sub> =5V	40		200	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.2A; V <sub>CE</sub> =5V		15		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		270		pF

◆ h<sub>FE-2</sub> classifications

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

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PACKAGE OUTLINE

