

**Silicon NPN Power Transistors**

**2SD743 2SD743A**

**DESCRIPTION**

- With TO-220C package
- Complement to type 2SB703/703A

**APPLICATIONS**

- Designed for use in audio frequency power amplifier ,low speed switching applications

**PINNING**

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

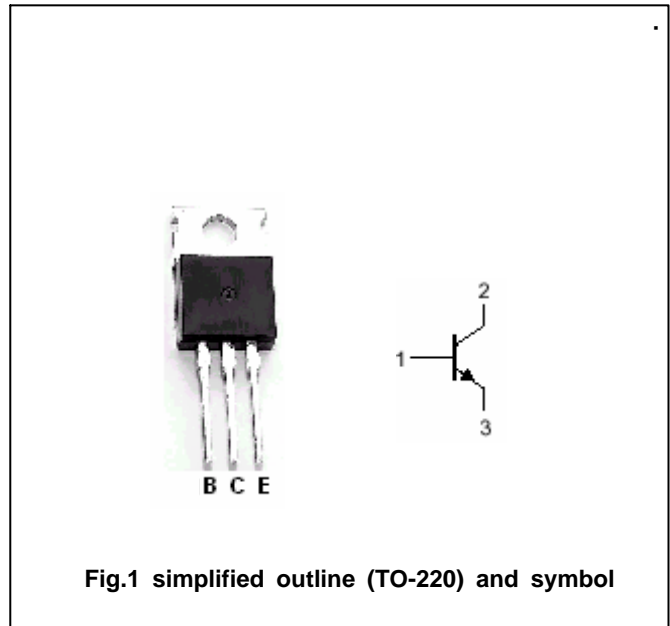


Fig.1 simplified outline (TO-220) and symbol

**Maximum absolute ratings(Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	100	V
$V_{CEO}$	Collector-emitter voltage	2SD743	80	V
		2SD743A	100	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		4	A
$I_{CM}$	Collector current-Peak		6	A
$I_B$	Base current		1	A
$P_C$	Collector power dissipation	$T_C=25$	40	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-50~150	

**THERMAL CHARACTERISTICS**

SYMBOL	CHARACTERISTICS	MAX	UNIT
$R_{jc}$	Thermal resistance junction to case	3.125	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SD743	I <sub>C</sub> =10mA; I <sub>B</sub> =0	80			V
		2SD743A		100			
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage		I <sub>C</sub> =1.0mA; I <sub>E</sub> =0	100			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =1.0mA; I <sub>C</sub> =0	5			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			2.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =3A; I <sub>B</sub> =0.3A			2.0	V
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =80V; I <sub>E</sub> =0			10	μA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =3V; I <sub>C</sub> =0			10	μA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =20mA; V <sub>CE</sub> =5V	20			
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V	40		200	
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V; f=1.0MHz	10			MHz

◆ h<sub>FE-2</sub> Classifications

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

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )