

**Silicon PNP Power Transistors**

**2SA699 2SA699A**

**DESCRIPTION**

- With TO-202 package
- Complement to type 2SC1226/1226A

**APPLICATIONS**

- Power amplifier applications

**PINNING(see Fig.2)**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

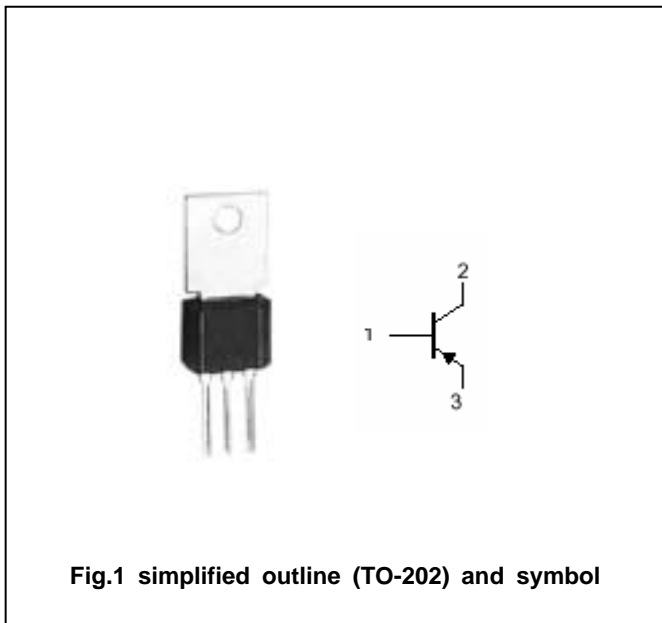


Fig.1 simplified outline (TO-202) and symbol

**Absolute maximum ratings (Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2SA699	-40	V
		2SA699A	-50	
V <sub>CEO</sub>	Collector-emitter voltage	2SA699	-32	V
		2SA699A	-40	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-2	A
I <sub>CM</sub>	Collector current-peak		-3	A
I <sub>B</sub>	Base current		-0.6	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	10	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 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =-1.5A ; I <sub>B</sub> =-0.15A		-0.4	-1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =-2A ; I <sub>B</sub> =-0.2 A			-1.5	V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	2SA699	I <sub>C</sub> =-1mA; I <sub>E</sub> =0	-40			V
		2SA699A		-50			
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SA699	I <sub>C</sub> =-10mA; I <sub>B</sub> =0	-32			V
		2SA699A		-40			
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =-20V; I <sub>E</sub> =0			-1	μA
I <sub>CEO</sub>	Collector cut-off current		V <sub>CE</sub> =-12V; I <sub>B</sub> =0			-100	μA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-100	μA
h <sub>FE</sub>	DC current gain		I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V	50		220	
C <sub>OB</sub>	Output capacitance		I <sub>E</sub> =0; V <sub>CB</sub> =-5V; f=1MHz		70		pF
f <sub>T</sub>	Transition frequency		I <sub>E</sub> =0.5A ; V <sub>CB</sub> =-5V		150		MHz

◆ h<sub>FE</sub> classifications

P	Q	R
50-100	80-160	100-220

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PACKAGE OUTLINE

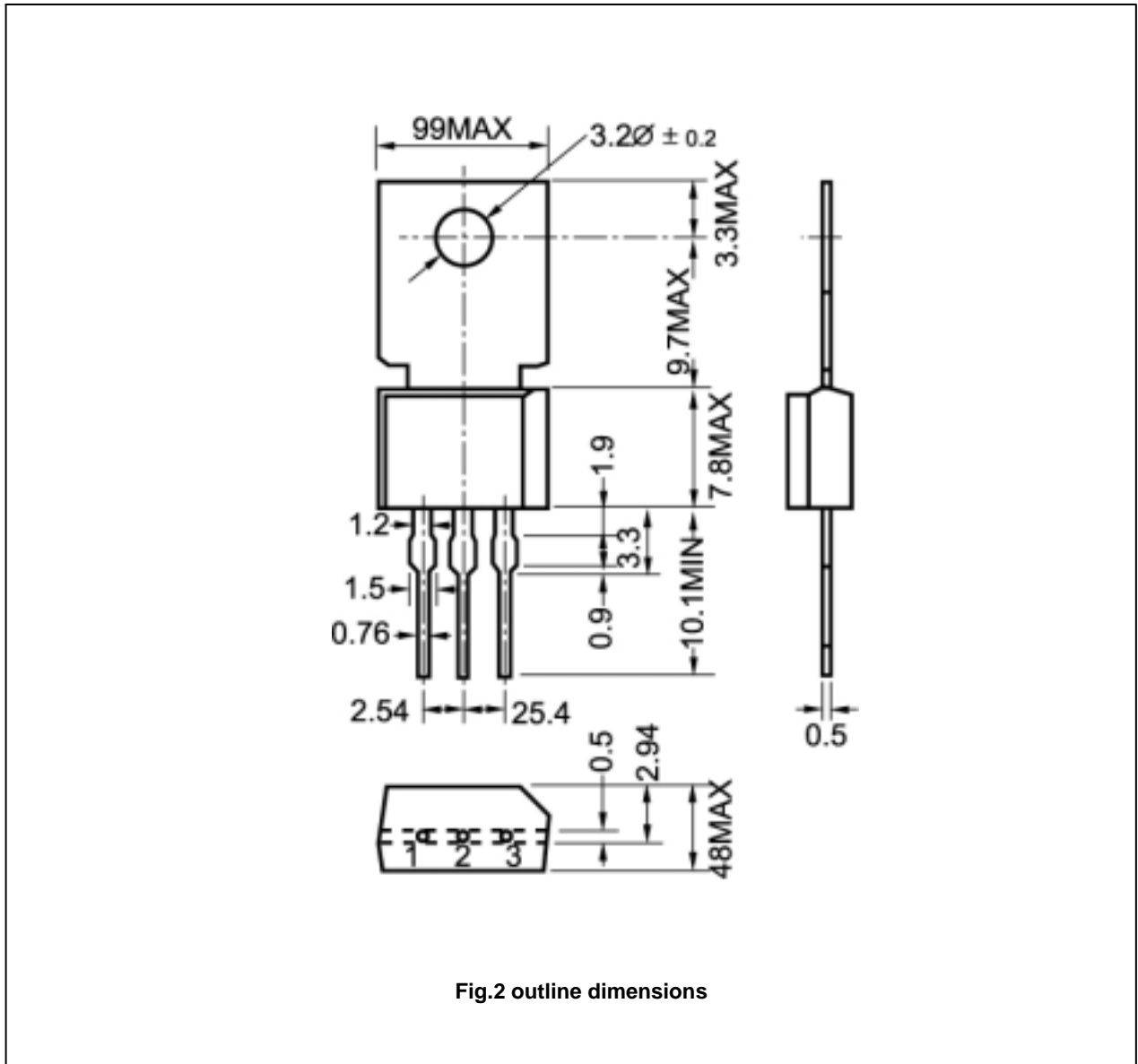
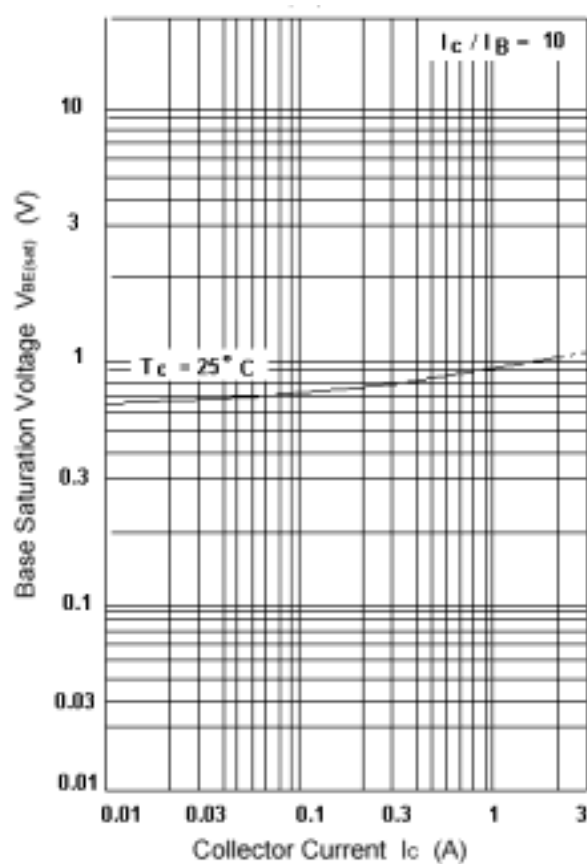
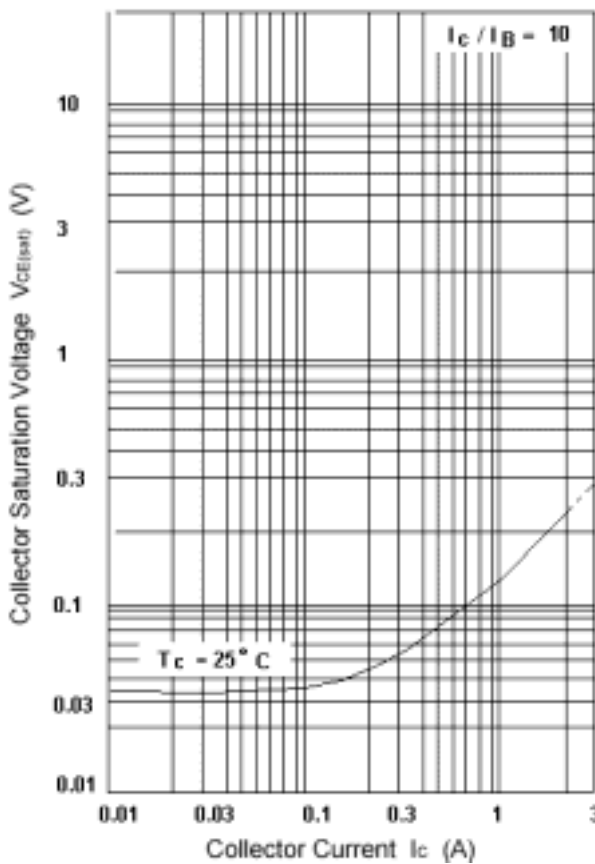
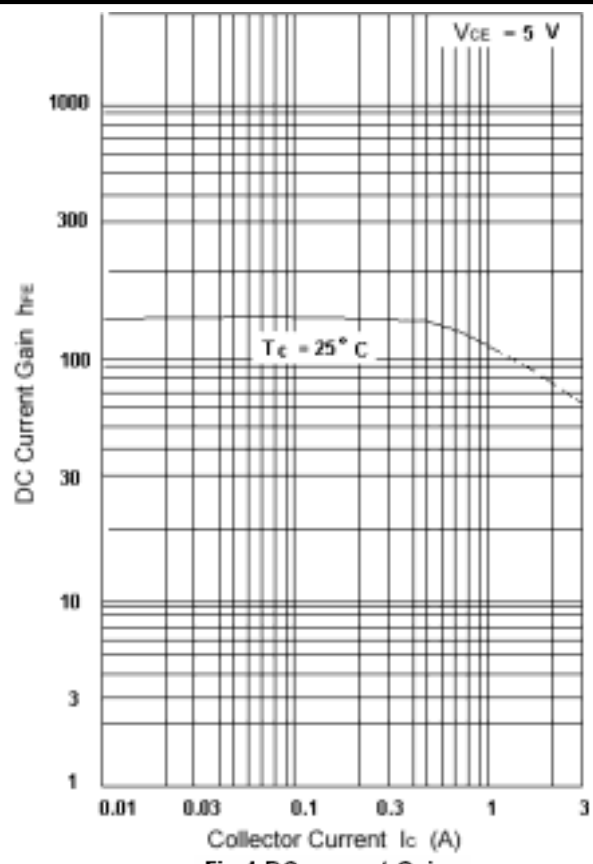
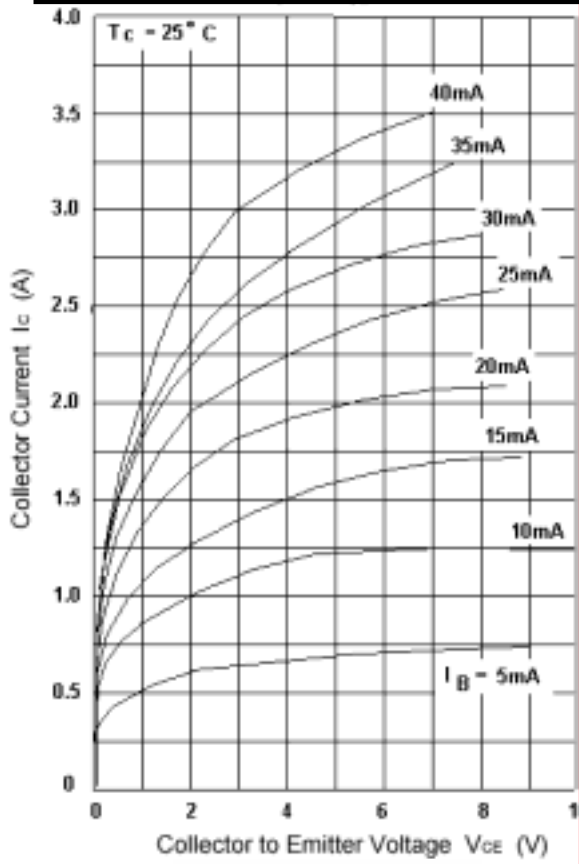


Fig.2 outline dimensions

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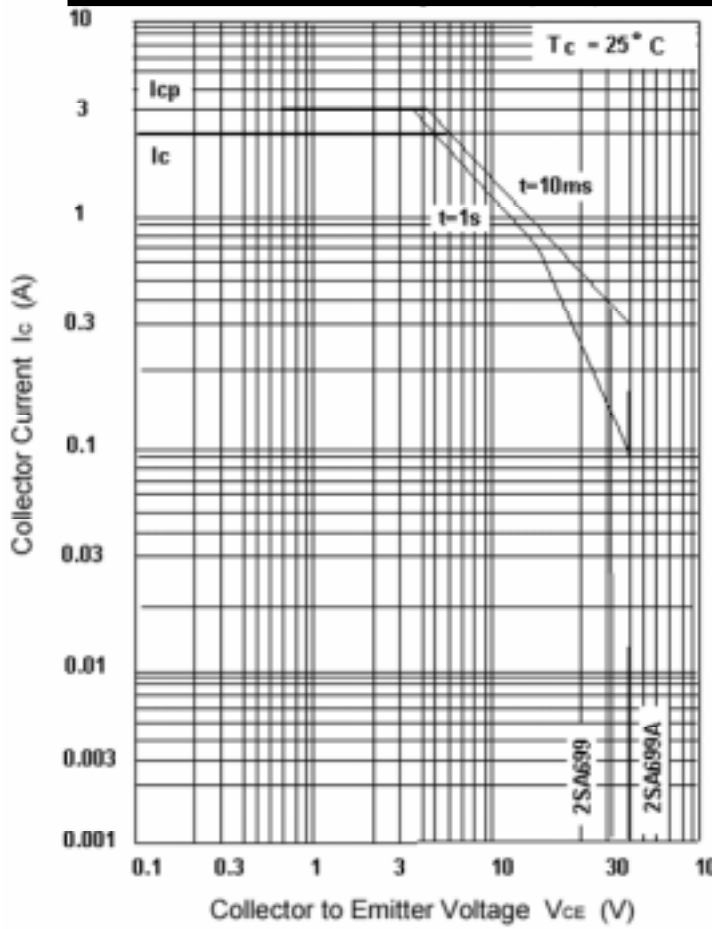


Fig.7 Safe Operating Area