

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 |

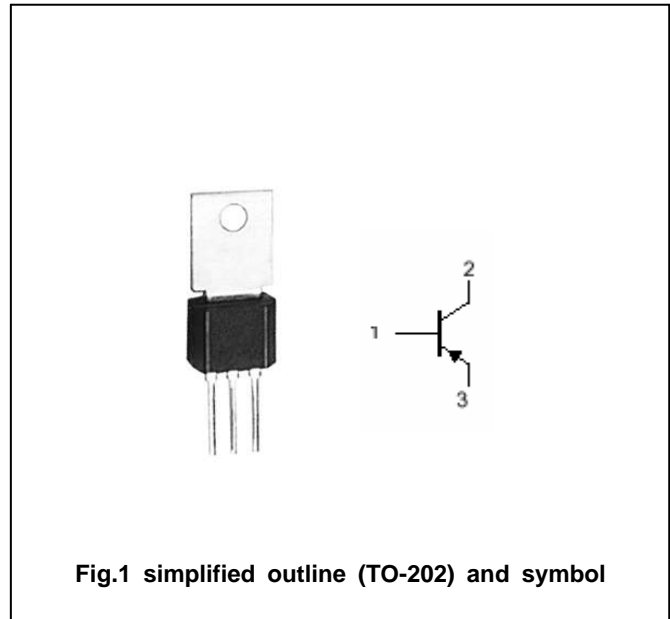


Fig.1 simplified outline (TO-202) and symbol

Absolute maximum ratings (Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|-----------------------------|------------------------|---------|------------------|
| V_{CBO} | Collector-base voltage | 2SA699 | -40 | V |
| | | 2SA699A | -50 | |
| V_{CEO} | Collector-emitter voltage | 2SA699 | -32 | V |
| | | 2SA699A | -40 | |
| V_{EBO} | Emitter-base voltage | Open collector | -5 | V |
| I_C | Collector current | | -2 | A |
| I_{CM} | Collector current-peak | | -3 | A |
| I_B | Base current | | -0.6 | A |
| P_C | Collector power dissipation | $T_C=25^\circ\text{C}$ | 10 | W |
| T_j | Junction temperature | | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | -55~150 | $^\circ\text{C}$ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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

◆ h_{FE} classifications

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

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PACKAGE OUTLINE

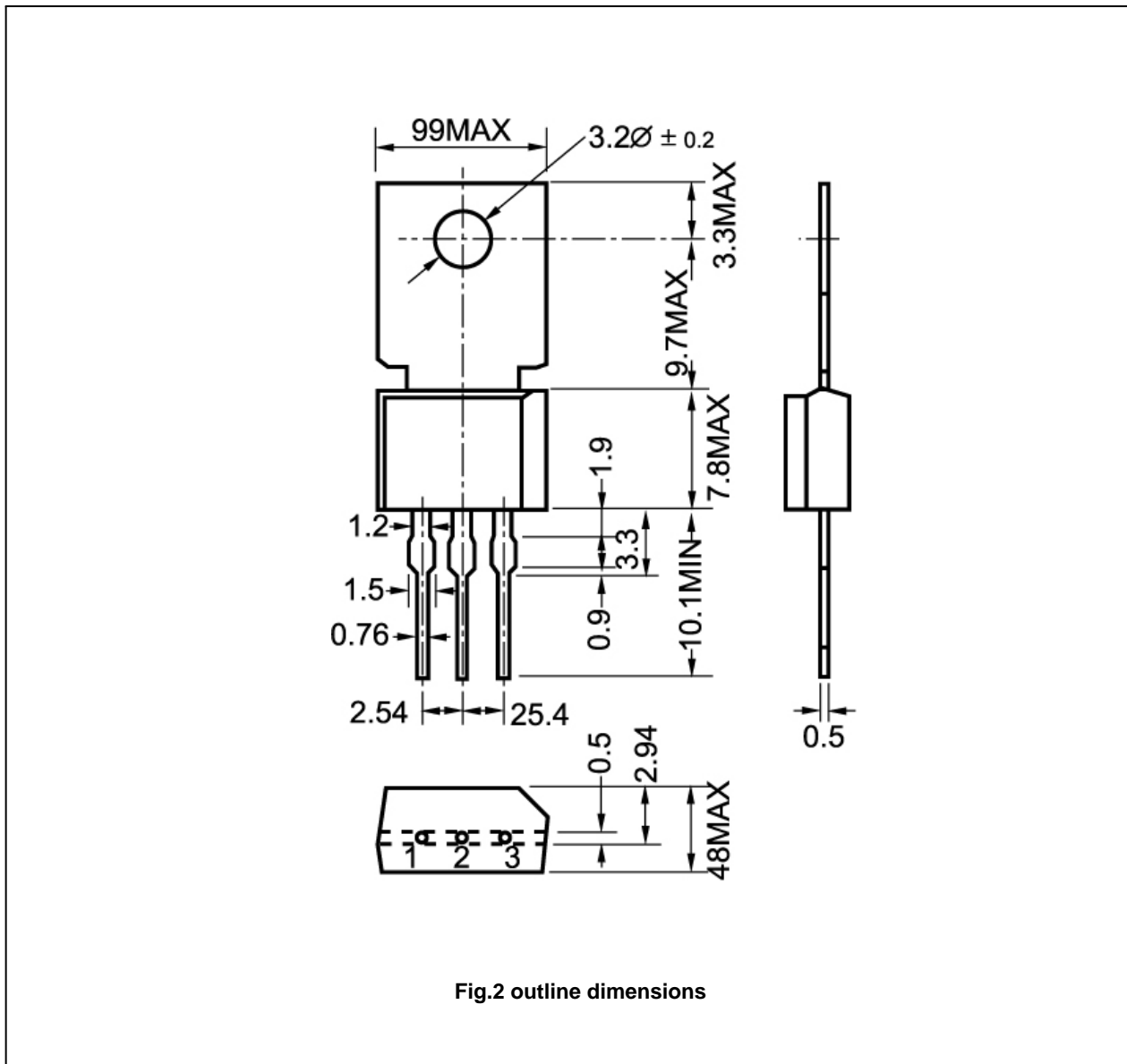
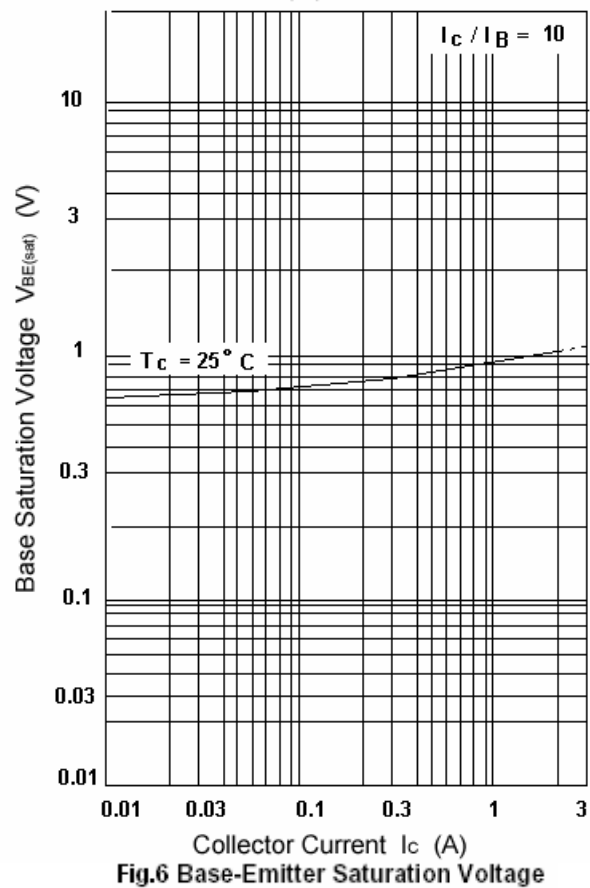
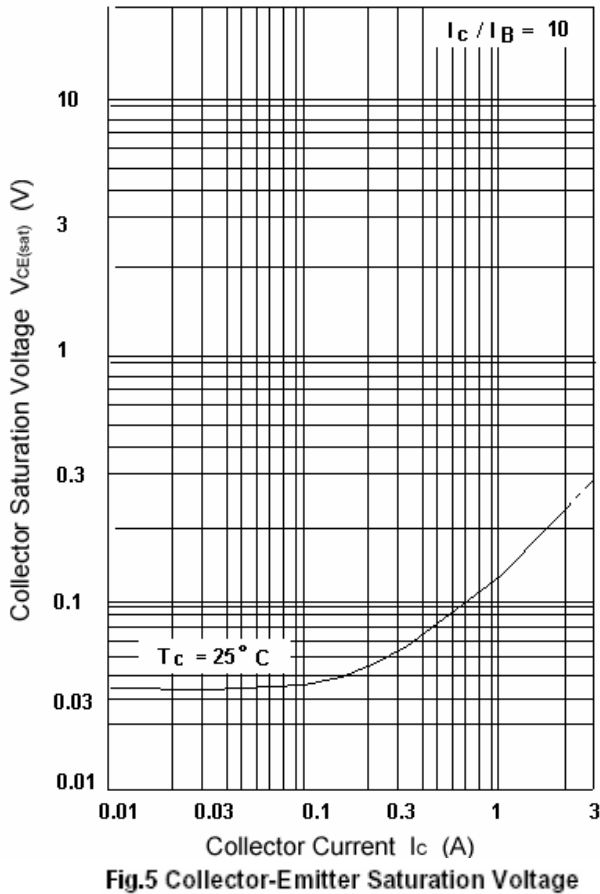
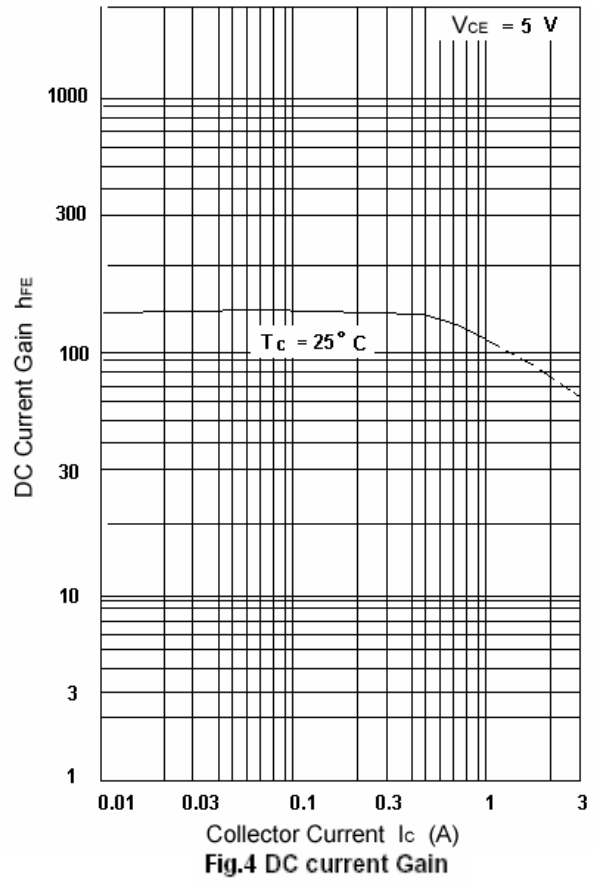
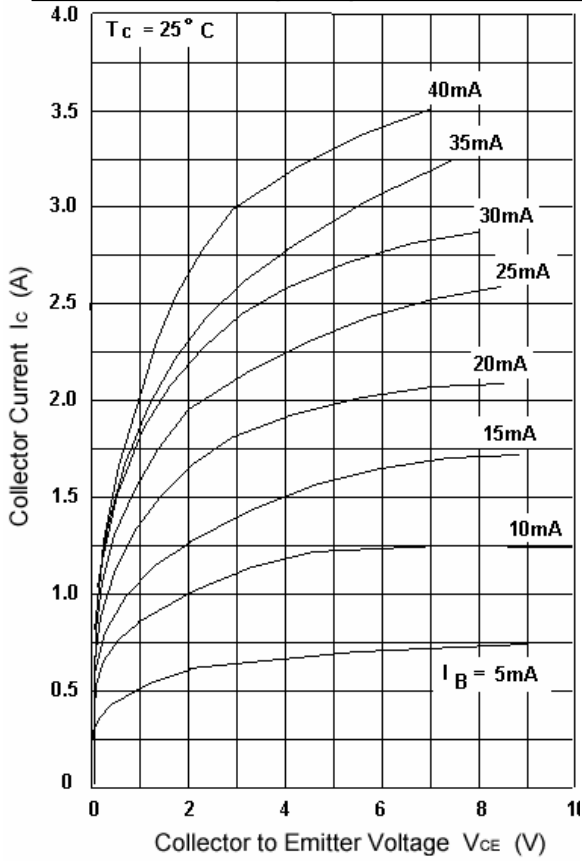


Fig.2 outline dimensions

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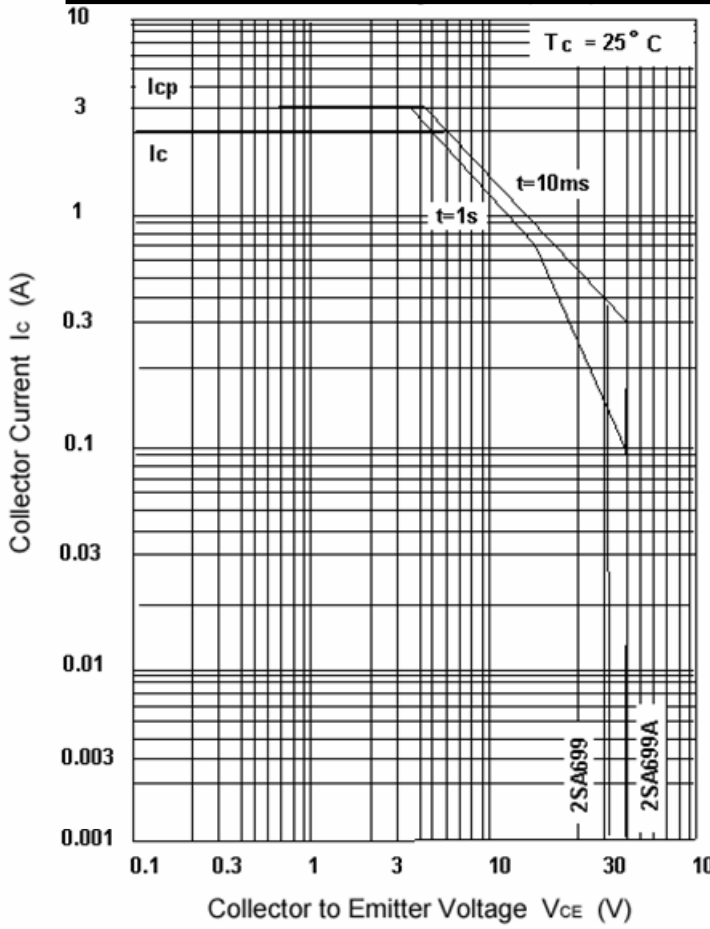


Fig.7 Safe Operating Area