

## Inchange Semiconductor

## Product Specification

## Silicon NPN Power Transistors

## 2SC1156

## DESCRIPTION

- With TO-202 package
- High transition frequency
- Complement to type 2SA646

## APPLICATIONS

- For power amplifier switching applications

## PINNING(see Fig.2)

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Collector   |
| 3   | Emitter     |

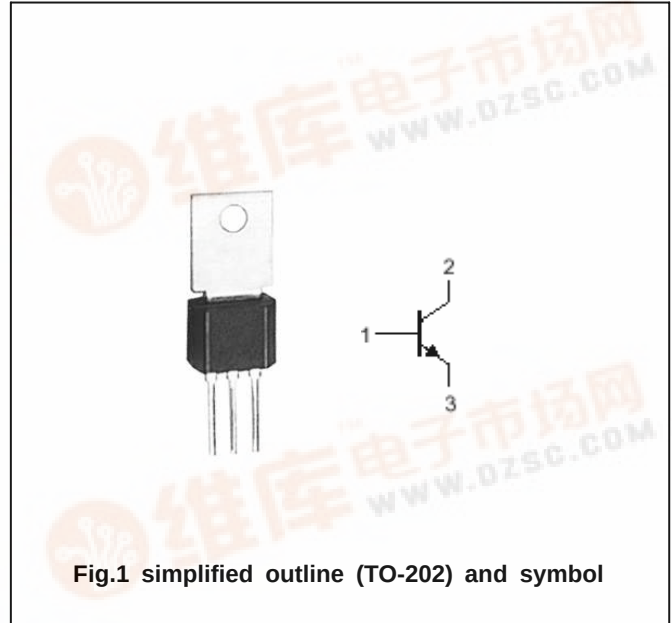


Fig.1 simplified outline (TO-202) and symbol

## Absolute maximum ratings (Ta=25°C)

| SYMBOL           | PARAMETER                   | CONDITIONS           | VALUE   | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter         | 90      | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base            | 80      | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector       | 5       | V    |
| I <sub>C</sub>   | Collector current           |                      | 0.8     | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 7       | W    |
| T <sub>j</sub>   | Junction temperature        |                      | -40~150 | °C   |
| T <sub>stg</sub> | Storage temperature         |                      | -40~150 | °C   |

## Silicon NPN Power Transistors

## 2SC1156

## CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                 | MIN | TYP. | MAX | UNIT    |
|---------------|--------------------------------------|----------------------------|-----|------|-----|---------|
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=300mA$ $I_B=30mA$     |     |      | 1.2 | V       |
| $V_{BEsat}$   | Base-emitter saturation voltage      | $I_C=300mA$ $I_B=30mA$     |     |      | 1.5 | V       |
| $V_{(BR)CBO}$ | Collector-base breakdown voltage     | $I_C=100\mu A$ ; $I_E=0$   | 90  |      |     | V       |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=1mA$ ; $I_B=0$        | 80  |      |     | V       |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=100\mu A$ ; $I_C=0$   | 5   |      |     | V       |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=90V$ ; $I_E=0$     |     |      | 1.0 | $\mu A$ |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB}=5V$ ; $I_C=0$      |     |      | 1.0 | $\mu A$ |
| $h_{FE}$      | DC current gain                      | $I_C=300mA$ ; $V_{CE}=4V$  | 20  |      | 300 |         |
| $f_T$         | Transition frequency                 | $I_E=100mA$ ; $V_{CB}=10V$ |     | 70   |     | MHz     |

Silicon NPN Power Transistors

2SC1156

PACKAGE OUTLINE

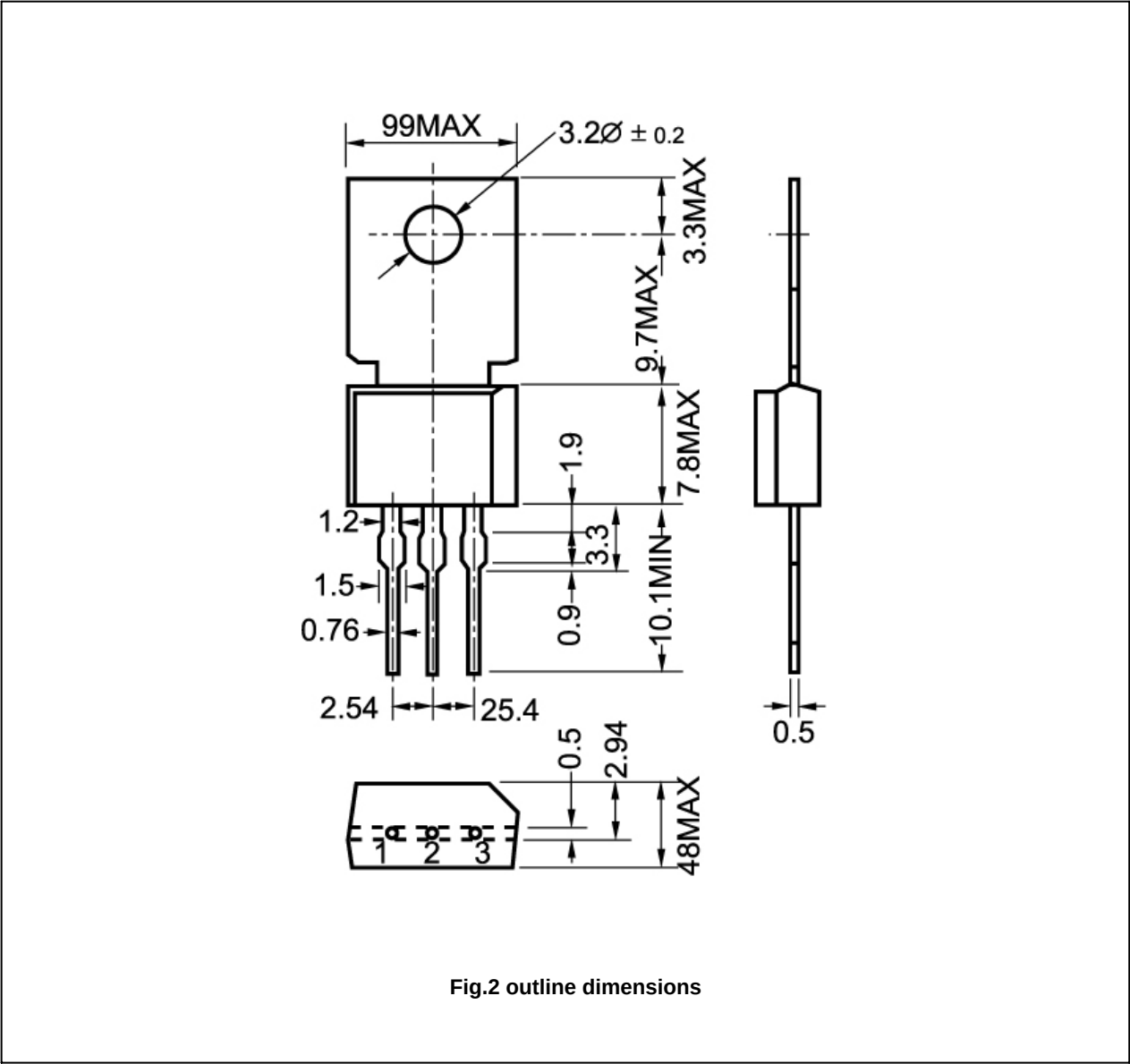


Fig.2 outline dimensions