

## Silicon PNP Power Transistors

## 2SA1908

**DESCRIPTION**

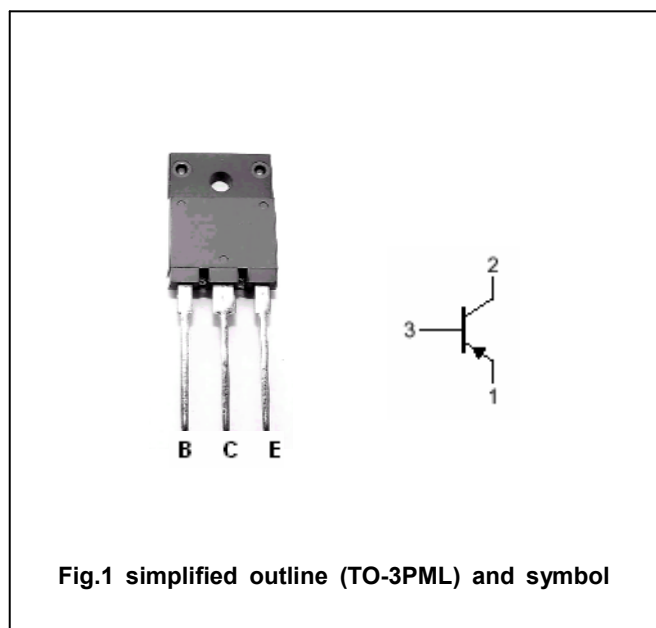
- With TO-3PML package
- Complement to type 2SC5100

**APPLICATIONS**

- Audio and general purpose

**PINNING**

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

**Absolute maximum ratings(Tc=25℃)**

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE   | UNIT |
|-----------|-----------------------------|------------------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | -120    | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | -120    | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | -6      | V    |
| $I_C$     | Collector current           |                        | -8      | A    |
| $I_B$     | Base current                |                        | -3      | A    |
| $P_C$     | Collector power dissipation | $T_C=25^\circ\text{C}$ | 75      | W    |
| $T_j$     | Junction temperature        |                        | 150     | ℃    |
| $T_{stg}$ | Storage temperature         |                        | -55~150 | ℃    |

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## CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                         | MIN  | TYP. | MAX  | UNIT    |
|---------------|--------------------------------------|------------------------------------|------|------|------|---------|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=-50mA$ ; $I_B=0$              | -120 |      |      | V       |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=-3A$ ; $I_B=-0.3A$            |      |      | -0.5 | V       |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=-120V$ ; $I_E=0$           |      |      | -10  | $\mu A$ |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB}=-6V$ ; $I_C=0$             |      |      | -10  | $\mu A$ |
| $h_{FE}$      | DC current gain                      | $I_C=-3A$ ; $V_{CE}=-4V$           | 50   |      | 180  |         |
| $f_T$         | Transition frequency                 | $I_C=-0.5A$ ; $V_{CE}=-12V$        |      | 20   |      | MHz     |
| $C_{OB}$      | Output capacitance                   | $I_E=0$ ; $V_{CB}=-10V$ ; $f=1MHz$ |      | 300  |      | pF      |

## Switching times

|          |              |                                                                       |  |      |  |         |
|----------|--------------|-----------------------------------------------------------------------|--|------|--|---------|
| $t_{on}$ | Turn-on time | $I_C=-4A$ ; $R_L=10\Omega$<br>$I_{B1}=-I_{B2}=-0.4A$<br>$V_{CC}=-40V$ |  | 0.14 |  | $\mu s$ |
| $t_s$    | Storage time |                                                                       |  | 1.40 |  | $\mu s$ |
| $t_f$    | Fall time    |                                                                       |  | 0.21 |  | $\mu s$ |

◆  $h_{FE}$  classifications

| O      | P      | Y      |
|--------|--------|--------|
| 50-100 | 70-140 | 90-180 |

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PACKAGE OUTLINE

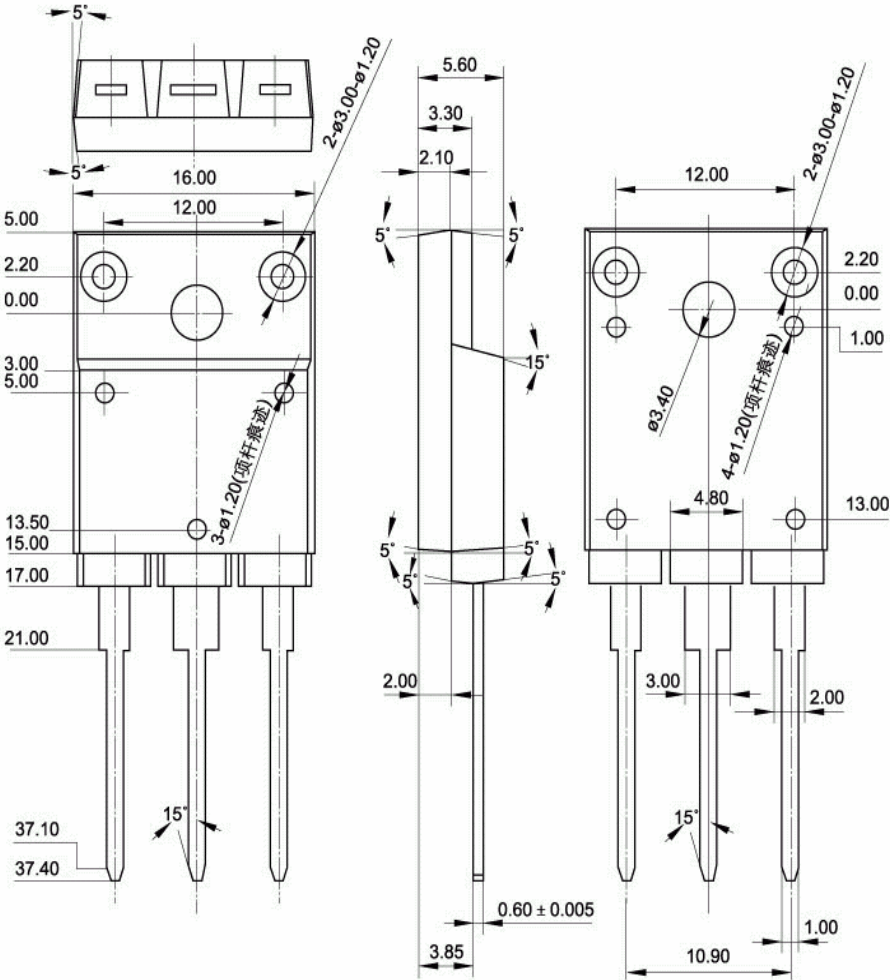


Fig.2 Outline dimensions

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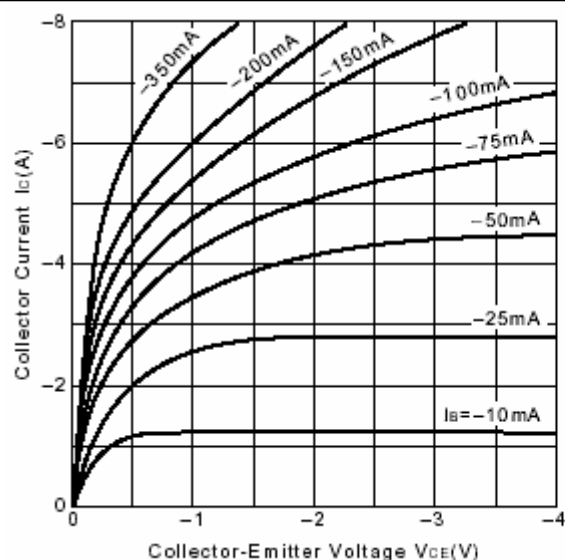


Fig.3 Static Characteristic

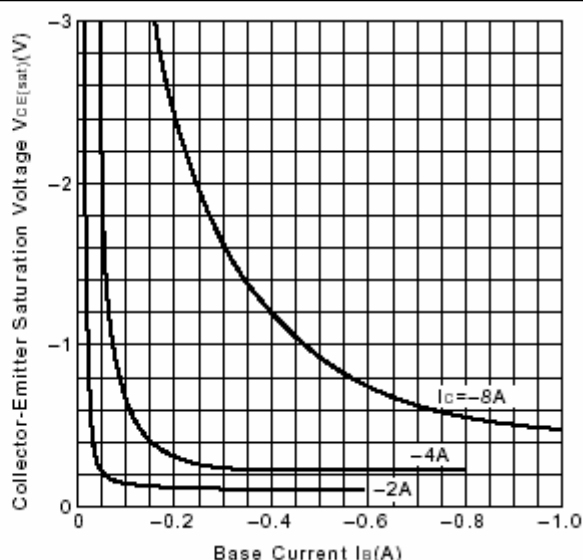
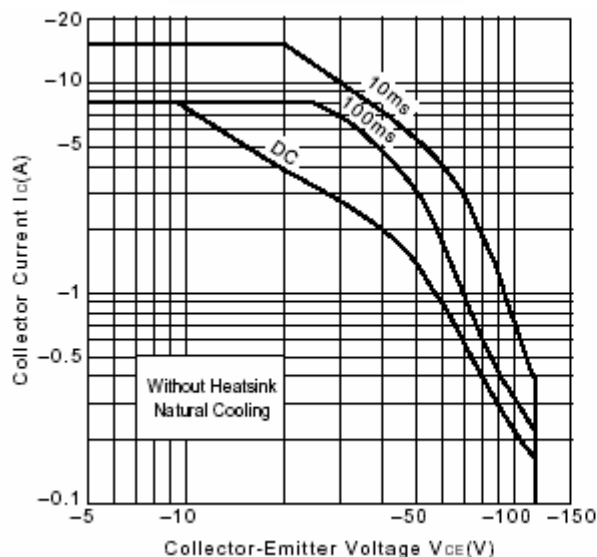
Fig.4  $V_{CE(sat)} - I_B$  Characteristics

Fig.5 Safe Operating Area

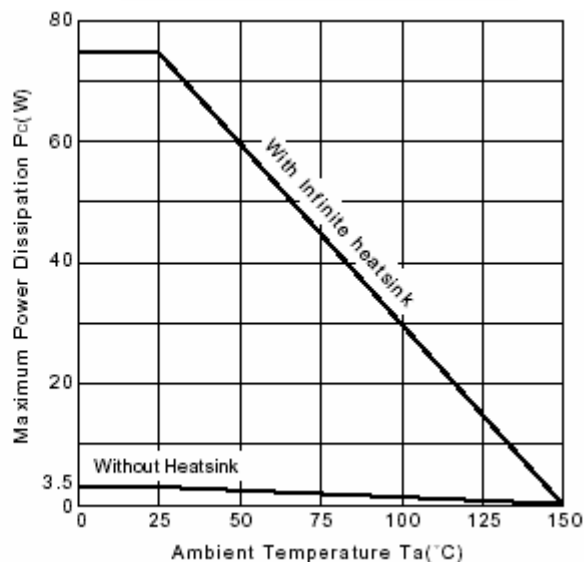
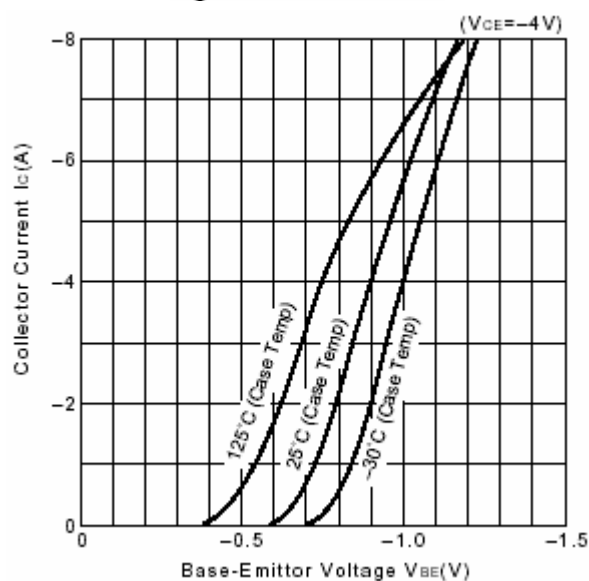
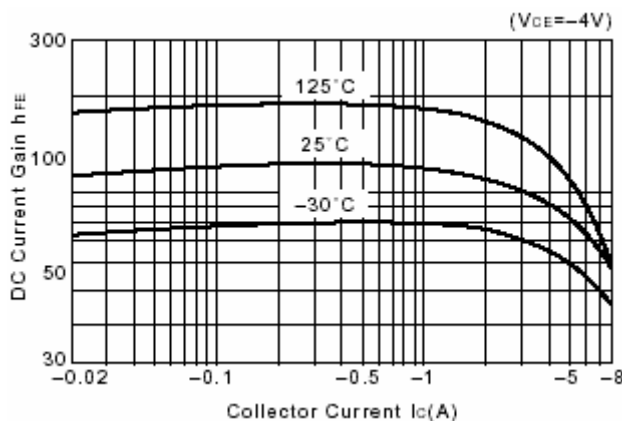
Fig.6  $P_C - T_a$  DeratingFig.7  $I_C - V_{BE}$ 

Fig.8 DC current Gain