

Silicon NPN Power Transistors

2SC2690 2SC2690A

**DESCRIPTION**

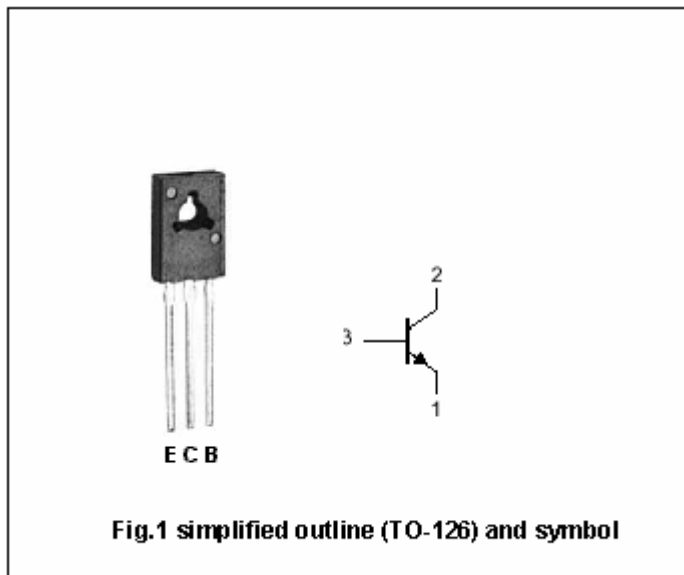
- With TO-126 package
- Complement to type 2SA1220/1220A

**APPLICATIONS**

- For use in audio and radio frequency power amplifiers

**PINNING**

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



**Absolute maximum ratings(Ta=25°C)**

| SYMBOL           | PARAMETER                 | CONDITIONS           | VALUE     | UNIT |
|------------------|---------------------------|----------------------|-----------|------|
| V <sub>CB0</sub> | Collector-base voltage    | 2SC2690              | 120       | V    |
|                  |                           | 2SC2690A             | 160       |      |
| V <sub>CEO</sub> | Collector-emitter voltage | 2SC2690              | 120       | V    |
|                  |                           | 2SC2690A             | 160       | V    |
| V <sub>EBO</sub> | Emitter-base voltage      | Open collector       | 5         | V    |
| I <sub>C</sub>   | Collector current         |                      | 1.2       | A    |
| I <sub>CM</sub>  | Collector current-Peak    |                      | 2.5       | A    |
| I <sub>B</sub>   | Base current              |                      | 0.3       | A    |
| P <sub>D</sub>   | Total power dissipation   | T <sub>a</sub> =25°C | 1.2       | W    |
|                  |                           | T <sub>C</sub> =25°C | 20        |      |
| T <sub>j</sub>   | Junction temperature      |                      | 150       | °C   |
| T <sub>stg</sub> | Storage temperature       |                      | -55°C+150 | °C   |

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## CHARACTERISTICS

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

| SYMBOL             | PARAMETER                            | CONDITIONS                                     | MIN | TYP. | MAX | UNIT |
|--------------------|--------------------------------------|--|-----|------|-----|------|
| V <sub>CEsat</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =1A; I <sub>B</sub> =0.2A       |     |      | 0.7 | V    |
| V <sub>BEsat</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =1A; I <sub>B</sub> =0.2A       |     |      | 1.3 | V    |
| I <sub>CBO</sub>   | Collector cut-off current            | V <sub>CB</sub> =120V; I <sub>E</sub> =0       |     |      | 1   | μA   |
| I <sub>EBO</sub>   | Emitter cut-off current              | V <sub>EB</sub> =3V; I <sub>C</sub> =0         |     |      | 1   | μA   |
| h <sub>FE-1</sub>  | DC current gain                      | I <sub>C</sub> =5mA; V <sub>CE</sub> =5V       | 35  |      |     |      |
| h <sub>FE-2</sub>  | DC current gain                      | I <sub>C</sub> =0.3A; V <sub>CE</sub> =5V      | 60  |      | 320 |      |
| C <sub>ob</sub>    | Output capacitance                   | I <sub>E</sub> =0; V <sub>CB</sub> =10V f=1MHz |     | 19   |     | pF   |
| f <sub>T</sub>     | Transition frequency                 | I <sub>C</sub> =0.2A; V <sub>CE</sub> =5V      |     | 155  |     | MHz  |

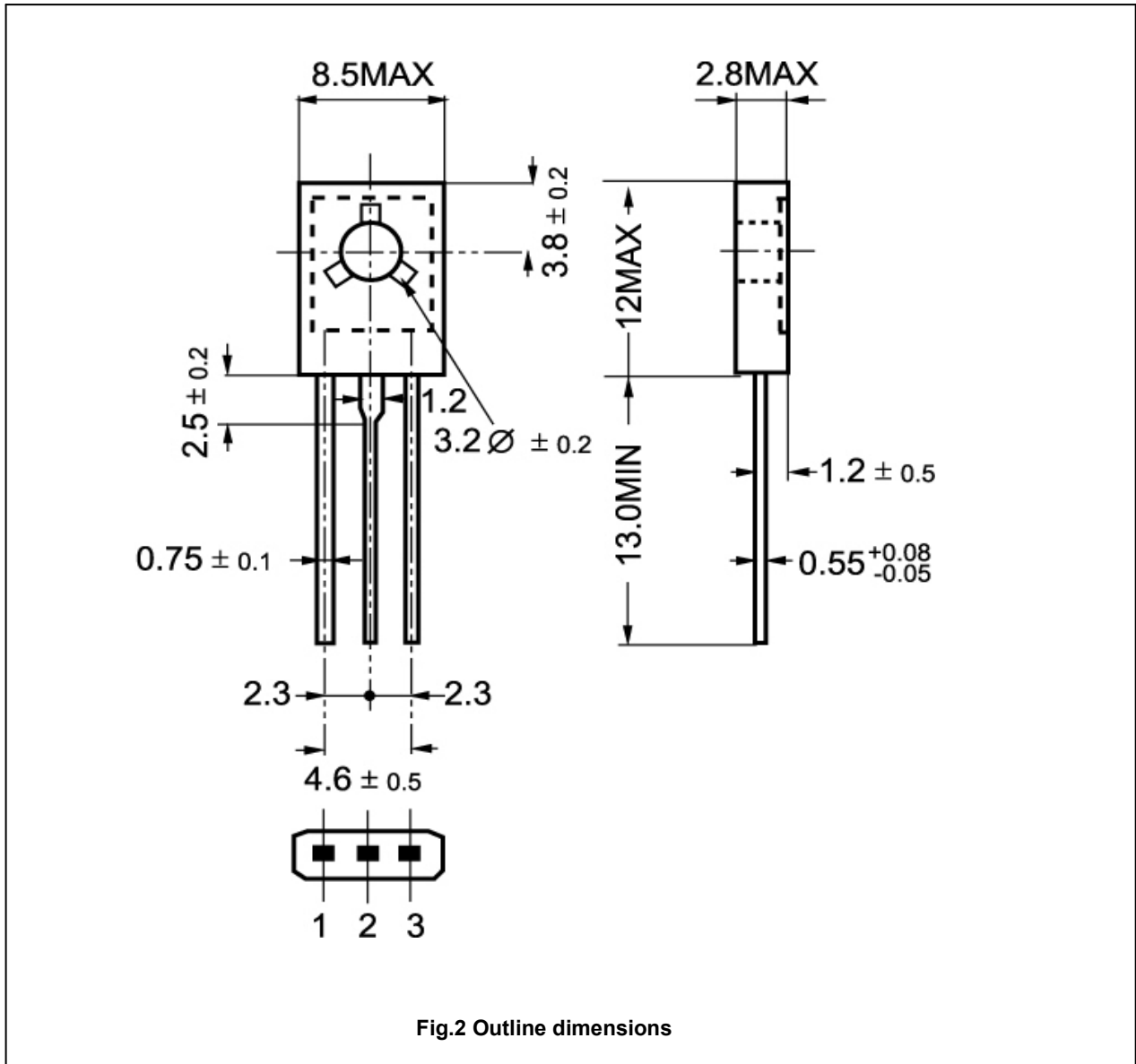
◆ h<sub>FE-2</sub> Classifications

| R      | Q       | P       |
|--------|---------|---------|
| 60-120 | 100-200 | 160-320 |

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PACKAGE OUTLINE



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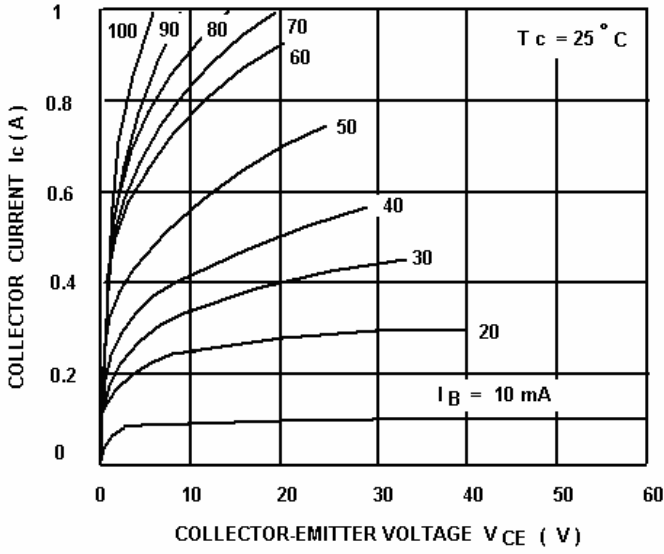


Fig.3 Static Characteristic

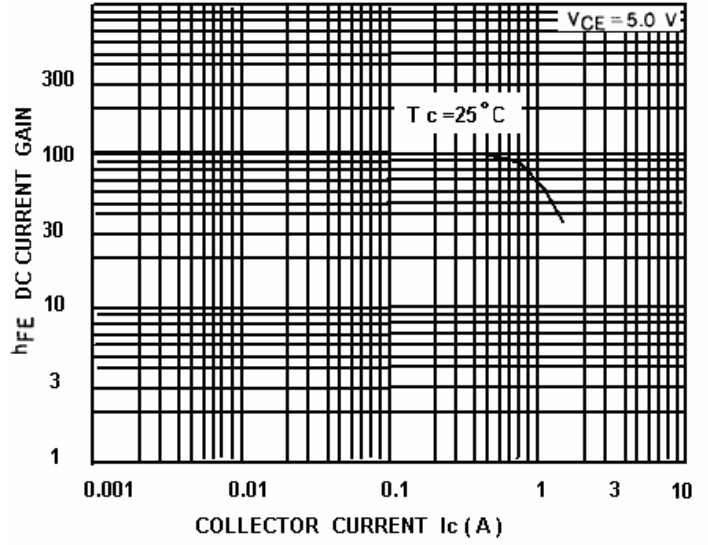


Fig.4 DC current Gain

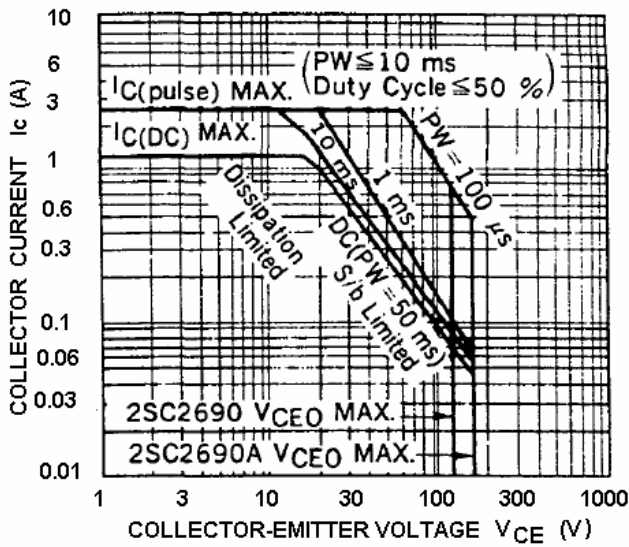


Fig.5 Safe Operating Area