

## SavantIC Semiconductor

## Product Specification

## Silicon PNP Power Transistors

## 2N6107 2N6109 2N6111

## DESCRIPTION

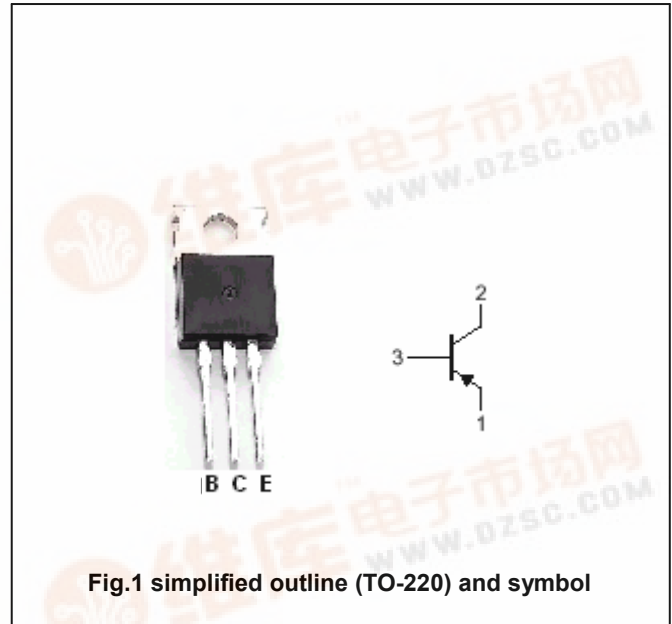
- With TO-220 package
- Complement to NPN type:  
2N6288; 2N6290 ;2N6292

## APPLICATIONS

- Power amplifier and switching circuits applications

## PINNING

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

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                 | CONDITIONS             | VALUE   | UNIT             |
|-----------|---------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | 2N6107                 | -40     | V                |
|           |                           | 2N6109                 | -60     |                  |
|           |                           | 2N6111                 | -80     |                  |
| $V_{CEO}$ | Collector-emitter voltage | 2N6107                 | -30     | V                |
|           |                           | 2N6109                 | -50     |                  |
|           |                           | 2N6111                 | -70     |                  |
| $V_{EBO}$ | Emitter-base voltage      | Open collector         | -5      | V                |
| $I_C$     | Collector current         |                        | -7      | A                |
| $I_{CM}$  | Collector current-peak    |                        | -10     | A                |
| $I_B$     | Base current              |                        | -3      | A                |
| $P_T$     | Total power dissipation   | $T_C=25^\circ\text{C}$ | 40      | W                |
| $T_j$     | Junction temperature      |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                        | -65~150 | $^\circ\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                                | MAX   | UNIT               |
|---------------|------------------------------------------|-------|--------------------|
| $R_{th\ j-c}$ | Thermal resistance from junction to case | 3.125 | $^\circ\text{C/W}$ |

## Silicon PNP Power Transistors

## 2N6107 2N6109 2N6111

## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            |        | CONDITIONS                                                                                                            | MIN | TYP. | MAX          | UNIT |
|-----------------------|--------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------|-----|------|--------------|------|
| V <sub>CEQ(SUS)</sub> | Collector-emitter sustaining voltage | 2N6107 | I <sub>C</sub> =-0.1A ; I <sub>B</sub> =0                                                                             | -30 |      |              | V    |
|                       |                                      | 2N6109 |                                                                                                                       | -50 |      |              |      |
|                       |                                      | 2N6111 |                                                                                                                       | -70 |      |              |      |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage |        | I <sub>C</sub> =-7A; I <sub>B</sub> =-3A                                                                              |     |      | -3.5         | V    |
| V <sub>BE</sub>       | Base-emitter on voltage              |        | I <sub>C</sub> =-7A ; V <sub>CE</sub> =-4V                                                                            |     |      | -3.0         | V    |
| I <sub>CEO</sub>      | Collector cut-off current            | 2N6107 | V <sub>CE</sub> =-20V; I <sub>B</sub> =0                                                                              |     |      | -1.0         | mA   |
|                       |                                      | 2N6109 | V <sub>CE</sub> =-40V; I <sub>B</sub> =0                                                                              |     |      |              |      |
|                       |                                      | 2N6111 | V <sub>CE</sub> =-60V; I <sub>B</sub> =0                                                                              |     |      |              |      |
| I <sub>CEX</sub>      | Collector cut-off current            | 2N6107 | V <sub>CE</sub> =-40V; V <sub>BE</sub> =-1.5V<br>V <sub>CE</sub> =-30V; V <sub>BE</sub> =-1.5V, T <sub>C</sub> =125°C |     |      | -0.1<br>-2.0 | mA   |
|                       |                                      | 2N6109 | V <sub>CE</sub> =-60V; V <sub>BE</sub> =-1.5V<br>V <sub>CE</sub> =-50V; V <sub>BE</sub> =-1.5V, T <sub>C</sub> =125°C |     |      | -0.1<br>-2.0 |      |
|                       |                                      | 2N6111 | V <sub>CE</sub> =-80V; V <sub>BE</sub> =-1.5V<br>V <sub>CE</sub> =-70V; V <sub>BE</sub> =-1.5V, T <sub>C</sub> =125°C |     |      | -0.1<br>-2.0 |      |
| I <sub>EBO</sub>      | Emitter cut-off current              |        | V <sub>EB</sub> =-5V; I <sub>C</sub> =0                                                                               |     |      | -1.0         | mA   |
| h <sub>FE-1</sub>     | DC current gain                      | 2N6107 | I <sub>C</sub> =-2A ; V <sub>CE</sub> =-4V                                                                            | 30  |      | 150          |      |
|                       |                                      | 2N6109 | I <sub>C</sub> =-2.5A ; V <sub>CE</sub> =-4V                                                                          |     |      |              |      |
|                       |                                      | 2N6111 | I <sub>C</sub> =-3A ; V <sub>CE</sub> =-4V                                                                            |     |      |              |      |
| h <sub>FE-2</sub>     | DC current gain                      |        | I <sub>C</sub> =-7A ; V <sub>CE</sub> =-4V                                                                            | 2.3 |      |              |      |
| f <sub>T</sub>        | Transition frequency                 |        | I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-4V; f=1MHz                                                                  | 10  |      |              | MHz  |

Silicon PNP Power Transistors

2N6107 2N6109 2N6111

PACKAGE OUTLINE

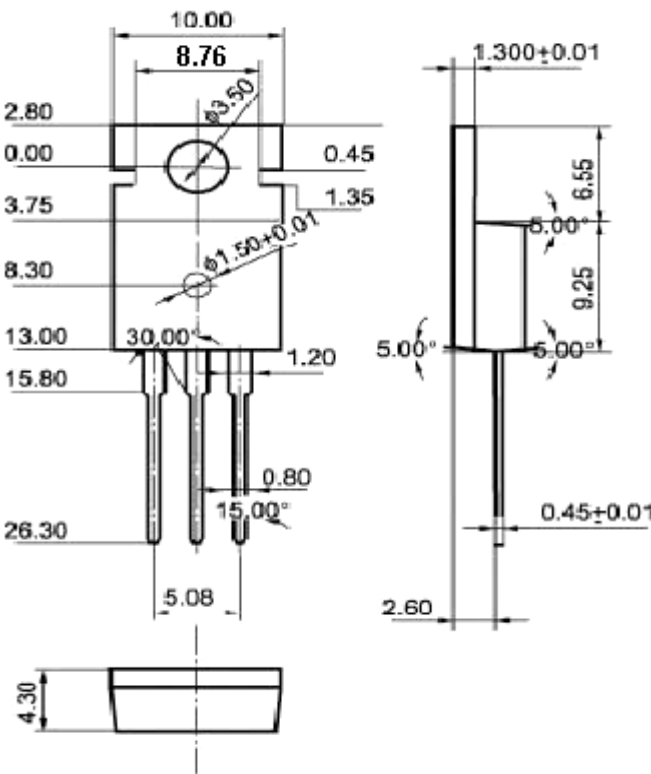


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)