

## Silicon NPN Power Transistors 2N5606 2N5608 2N5610 2N5612

### DESCRIPTION

- With TO-66 package
- Excellent safe operating area
- Low collector saturation voltage

### APPLICATIONS

- For general-purpose amplifier ;  
and switching applications

### PINNING(see Fig.2)

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



Fig.1 simplified outline (TO-66) and symbol

### Absolute maximum ratings(Ta= )

| SYMBOL           | PARAMETER                 | CONDITIONS         | VALUE   | UNIT |
|------------------|---------------------------|--------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | 2N5606             | 80      | V    |
|                  |                           | 2N5608/5610        | 100     |      |
|                  |                           | 2N5612             | 120     |      |
| V <sub>CEO</sub> | Collector-emitter voltage | 2N5606             | 60      | V    |
|                  |                           | 2N5608/5610        | 80      |      |
|                  |                           | 2N5612             | 100     |      |
| V <sub>EBO</sub> | Emitter-base voltage      | Open collector     | 5       | V    |
| I <sub>C</sub>   | Collector current         |                    | 5       | A    |
| P <sub>D</sub>   | Total power dissipation   | T <sub>C</sub> =25 | 25      | W    |
| T <sub>j</sub>   | Junction temperature      |                    | 150     |      |
| T <sub>stg</sub> | Storage temperature       |                    | -65~150 |      |

### THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER                           | VALUE | UNIT |
|---------------------|-------------------------------------|-------|------|
| R <sub>th j-c</sub> | Thermal resistance junction to case | 4.37  | /W   |

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## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            |             | CONDITIONS                                                   | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|-------------|--------------------------------------------------------------|-----|------|-----|------|
| V <sub>CEQ(SUS)</sub> | Collector-emitter sustaining voltage | 2N5606      | I <sub>C</sub> =50mA ; I <sub>B</sub> =0                     | 60  |      |     | V    |
|                       |                                      | 2N5608/5610 |                                                              | 80  |      |     |      |
|                       |                                      | 2N5612      |                                                              | 100 |      |     |      |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage |             | I <sub>C</sub> =1A; I <sub>B</sub> =0.1A                     |     |      | 0.5 | V    |
| V <sub>BE</sub>       | Base-emitter on voltage              |             | I <sub>C</sub> =2.5A ; V <sub>CE</sub> =5V                   |     |      | 1.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            |             | V <sub>CB</sub> =Rated V <sub>CBO</sub> ; I <sub>E</sub> =0  |     |      | 0.1 | mA   |
| I <sub>CEO</sub>      | Collector cut-off current            |             | V <sub>CE</sub> = Rated V <sub>CEO</sub> ; I <sub>B</sub> =0 |     |      | 1.0 | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              |             | V <sub>EB</sub> =5V; I <sub>C</sub> =0                       |     |      | 0.1 | mA   |
| h <sub>FE</sub>       | DC current gain                      | 2N5606/5610 | I <sub>C</sub> =2.5A ; V <sub>CE</sub> =5V                   | 70  |      | 200 |      |
|                       |                                      | 2N5608/5612 |                                                              | 30  |      | 90  |      |
| f <sub>T</sub>        | Transition frequency                 | 2N5606/5610 | I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V                  | 70  |      |     | MHz  |
|                       |                                      | 2N5608/5612 |                                                              | 60  |      |     |      |

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PACKAGE OUTLINE

