

Silicon NPN Power Transistors

2N6473 2N6474

DESCRIPTION

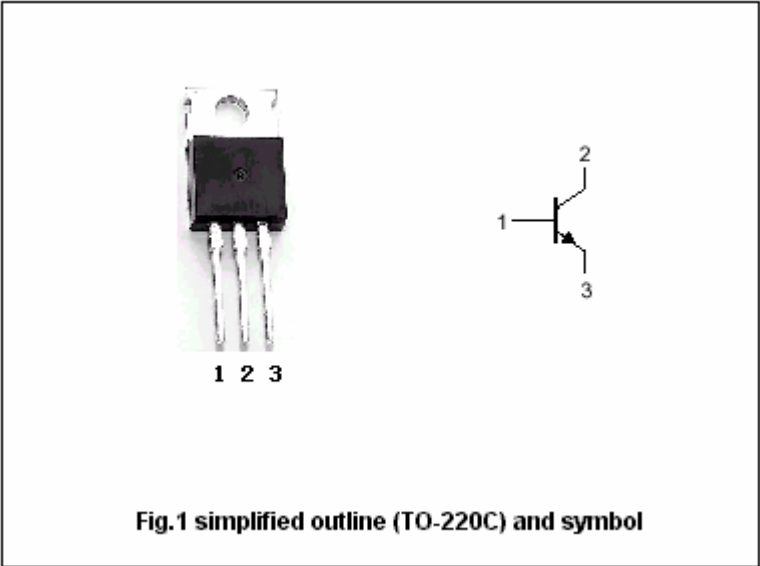
- With TO-220 package
- Low collector saturation voltage
- Excellent safe operating area

APPLICATIONS

- General-purpose medium power for switching and amplifier applications

PINNING

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



Absolute maximum ratings(Ta=25℃)

| SYMBOL           | PARAMETER                 |        | CONDITIONS          | VALUE   | UNIT |
|------------------|---------------------------|--------|---------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | 2N6473 | Open emitter        | 110     | V    |
|                  |                           | 2N6474 |                     | 130     |      |
| V <sub>CEO</sub> | Collector-emitter voltage | 2N6473 | Open base           | 100     | V    |
|                  |                           | 2N6474 |                     | 120     |      |
| V <sub>EBO</sub> | Emitter-base voltage      |        | Open collector      | 5       | V    |
| I <sub>C</sub>   | Collector current         |        |                     | 4       | A    |
| I <sub>B</sub>   | Base current              |        |                     | 2       | A    |
| P <sub>T</sub>   | Total power dissipation   |        | T <sub>C</sub> =25℃ | 40      | W    |
| T <sub>j</sub>   | Junction temperature      |        |                     | 150     | ℃    |
| T <sub>stg</sub> | Storage temperature       |        |                     | -65~150 | ℃    |

THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER                                | MAX   | UNIT |
|---------------------|------------------------------------------|-------|------|
| R <sub>th j-c</sub> | Thermal resistance from junction to case | 3.125 | ℃/W  |

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## CHARACTERISTICS

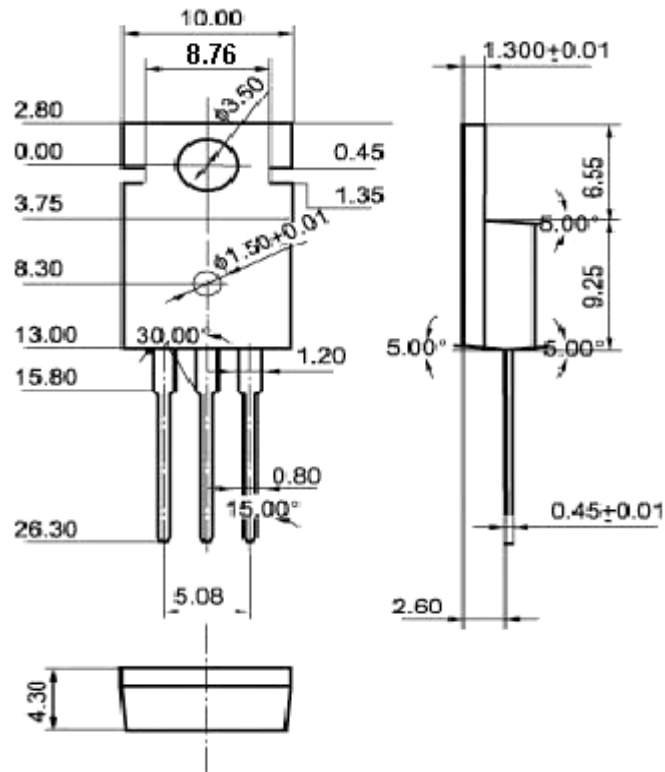
T<sub>j</sub>=25℃ unless otherwise specified

| SYMBOL                | PARAMETER                            |        | CONDITIONS                                                            | MIN | TYP. | MAX        | UNIT |
|-----------------------|--------------------------------------|--------|-----------------------------------------------------------------------|-----|------|------------|------|
| V <sub>CE0(SUS)</sub> | Collector-emitter sustaining voltage | 2N6473 | I <sub>C</sub> =0.1A ; I <sub>B</sub> =0                              | 100 |      |            | V    |
|                       |                                      | 2N6474 |                                                                       | 120 |      |            |      |
| V <sub>CEsat-1</sub>  | Collector-emitter saturation voltage |        | I <sub>C</sub> =1.5A; I <sub>B</sub> =0.15A                           |     |      | 1.2        | V    |
| V <sub>CEsat-2</sub>  | Collector-emitter saturation voltage |        | I <sub>C</sub> =4A; I <sub>B</sub> =2A                                |     |      | 2.5        | V    |
| V <sub>BE-1</sub>     | Base-emitter on voltage              |        | I <sub>C</sub> =1.5A ; V <sub>CE</sub> =4V                            |     |      | 2.0        | V    |
| V <sub>BE-2</sub>     | Base-emitter on voltage              |        | I <sub>C</sub> =4A ; V <sub>CE</sub> =2.5V                            |     |      | 3.5        | V    |
| I <sub>CEx</sub>      | Collector cut-off current            | 2N6473 | V <sub>CE</sub> =100V; V <sub>BE</sub> =-1.5V<br>T <sub>C</sub> =100℃ |     |      | 0.1<br>2.0 | mA   |
|                       |                                      | 2N6474 | V <sub>CE</sub> =120V; V <sub>BE</sub> =-1.5V<br>T <sub>C</sub> =100℃ |     |      | 0.1<br>2.0 |      |
| I <sub>CEO</sub>      | Collector cut-off current            | 2N6473 | V <sub>CE</sub> =50V; I <sub>B</sub> =0                               |     |      | 1.0        | mA   |
|                       |                                      | 2N6474 | V <sub>CE</sub> =60V; I <sub>B</sub> =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                      |        | I <sub>C</sub> =1.5A ; V <sub>CE</sub> =4V                            | 15  |      | 150        |      |
| h <sub>FE-2</sub>     | DC current gain                      |        | I <sub>C</sub> =4A ; V <sub>CE</sub> =2.5V                            | 2   |      |            |      |
| C <sub>OB</sub>       | Output capacitance                   |        | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz                      |     |      | 250        | pF   |
| f <sub>T</sub>        | Transition frequency                 |        | I <sub>C</sub> =0.5A ; V <sub>CE</sub> =4V                            | 4   |      |            | MHz  |

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## PACKAGE OUTLINE

Fig.2 Outline dimensions(unindicated tolerance:  $\pm 0.10$  mm)