

**Silicon PNP Power Transistors****2SA1644****DESCRIPTION**

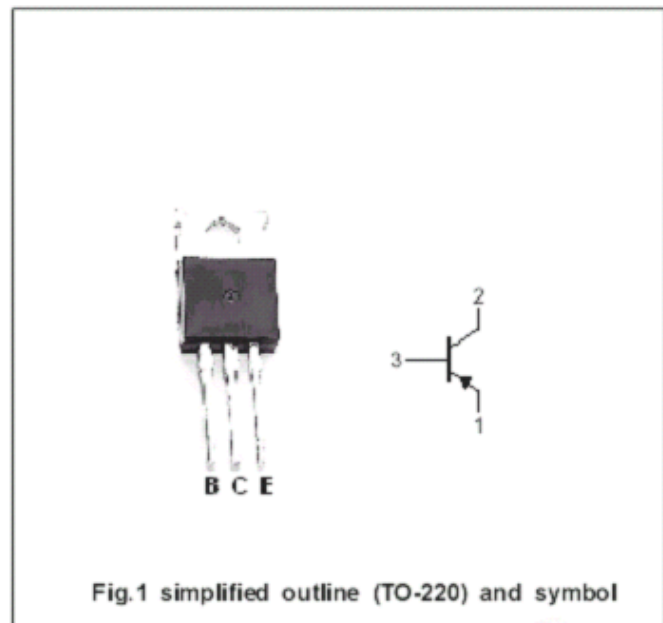
- With TO-220 package
- Fast switching speed
- Low collector saturation voltage

**APPLICATIONS**

- For use in switching power supplies,DC-DC converters,motor drivers,solenoid drivers, and other low-voltage power supply devices, as well as for high current switching

**PINNING**

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

**Fig.1 simplified outline (TO-220) and symbol****Absolute maximum ratings(Ta=25℃)**

| SYMBOL           | PARAMETER                 | CONDITIONS              | VALUE   | UNIT |
|------------------|---------------------------|-------------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | Open emitter            | -150    | V    |
| V <sub>CEO</sub> | Collector-emitter voltage | Open base               | -100    | V    |
| V <sub>EB0</sub> | Emitter-base voltage      | Open collector          | -7      | V    |
| I <sub>C</sub>   | Collector current         |                         | -5      | A    |
| I <sub>CM</sub>  | Collector current-peak    | PW≤300 μ s, duty cycle≤ |         |      |
| I <sub>B</sub>   | Base current              |                         | -3      | A    |
| P <sub>T</sub>   | Total power dissipation   | T <sub>a</sub> =25℃     | 1.5     | W    |
|                  |                           | T <sub>c</sub> =25℃     | 35      |      |
| T <sub>j</sub>   | Junction temperature      |                         | 150     | ℃    |
| T <sub>stg</sub> | Storage temperature       |                         | -55~150 | ℃    |



## Silicon PNP Power Transistors

## 2SA1644

## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS                                   | MIN | TYP. | MAX  | UNIT |
|-----------------------|--------------------------------------|----------------------------------------------|-----|------|------|------|
| V <sub>CEsat-1</sub>  | Collector-emitter saturation voltage | I <sub>C</sub> =-3A; I <sub>B</sub> =-0.15A  |     |      | -0.3 | V    |
| V <sub>CEsat-2</sub>  | Collector-emitter saturation voltage | I <sub>C</sub> =-4A; I <sub>B</sub> =-0.2A   |     |      | -0.5 | V    |
| V <sub>BE sat-1</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =-3A; I <sub>B</sub> =-0.15A  |     |      | -1.2 | V    |
| V <sub>BE sat-2</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =-4A; I <sub>B</sub> =-0.2A   |     |      | -1.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =-100V; I <sub>E</sub> =0    |     |      | -10  | μ A  |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =-5V; I <sub>C</sub> =0      |     |      | -10  | μ A  |
| h <sub>FE-1</sub>     | DC current gain                      | I <sub>C</sub> =-0.2A ; V <sub>CE</sub> =-2V | 100 |      |      |      |
| h <sub>FE-2</sub>     | DC current gain                      | I <sub>C</sub> =-1A ; V <sub>CE</sub> =-2V   | 100 |      | 400  |      |
| h <sub>FE-3</sub>     | DC current gain                      | I <sub>C</sub> =-3A ; V <sub>CE</sub> =-2V   | 60  |      |      |      |

◆ h<sub>FE-2</sub> Classifications

| M       | L       | K       |
|---------|---------|---------|
| 100-200 | 150-300 | 200-400 |



Silicon PNP Power Transistors

2SA1644

PACKAGE OUTLINE

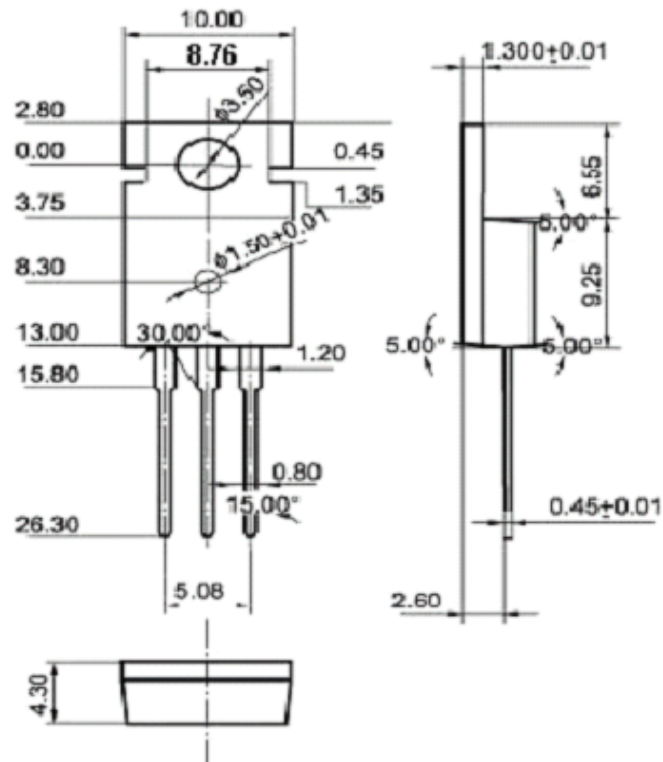


Fig.2 Outline dimensions