

## Silicon NPN Power Transistors

2SC3549

## DESCRIPTION

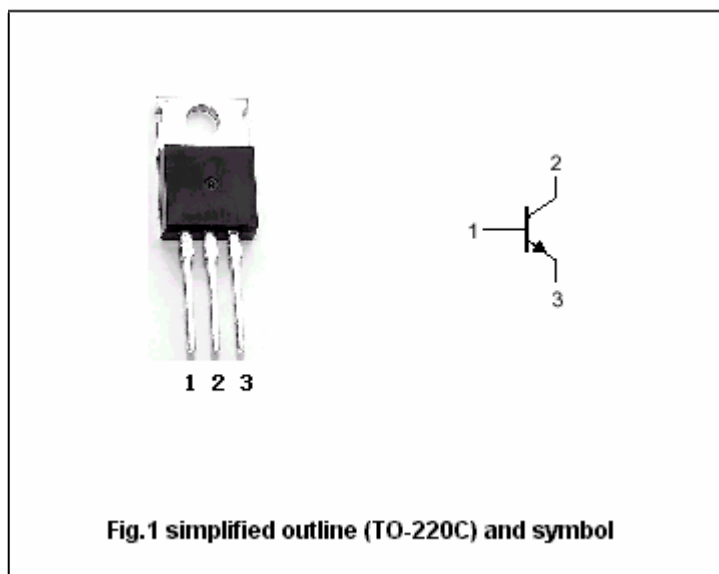
- With TO-220C package
- High voltage ,high speed switching
- High reliability

## APPLICATIONS

- Switching regulators
- DC-DC convertor
- Solids state relay
- General purpose power amplifiers

## PINNING

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

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

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE   | UNIT             |
|-----------|-----------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | 900     | V                |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | 800     | V                |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | 10      | V                |
| $I_C$     | Collector current           |                        | 3       | A                |
| $I_B$     | Base current                |                        | 1       | A                |
| $P_C$     | Collector power dissipation | $T_C=25^\circ\text{C}$ | 40      | W                |
| $T_j$     | Junction temperature        |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature         |                        | -55~150 | $^\circ\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                        | MAX | UNIT                      |
|---------------|----------------------------------|-----|---------------------------|
| $R_{th\ j-C}$ | Thermal resistance junction case | 3.0 | $^\circ\text{C}/\text{W}$ |

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## CHARACTERISTICS

Tj=25°C unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS              | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|-------------------------|-----|------|-----|------|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=10mA$ ; $I_B=0$    | 800 |      |     | V    |
| $V_{(BR)CBO}$ | Collector-base breakdown voltage     | $I_C=1mA$ ; $I_E=0$     | 900 |      |     | V    |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=1mA$ ; $I_C=0$     | 10  |      |     | V    |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=1A$ ; $I_B=0.2A$   |     |      | 1.0 | V    |
| $V_{BEsat}$   | Base-emitter saturation voltage      | $I_C=1A$ ; $I_B=0.2A$   |     |      | 1.5 | V    |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=900V$ ; $I_E=0$ |     |      | 1.0 | mA   |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB}=10V$ ; $I_C=0$  |     |      | 1.0 | mA   |
| $h_{FE}$      | DC current gain                      | $I_C=1A$ ; $V_{CE}=5V$  | 10  |      |     |      |

## Switching times

|          |              |                                                              |  |  |     |         |
|----------|--------------|--------------------------------------------------------------|--|--|-----|---------|
| $t_{on}$ | Turn-on time | $I_C=2A$ ; $I_{B1}=0.4A$<br>$I_{B2}=-0.8A$ ; $R_L=150\Omega$ |  |  | 1.0 | $\mu s$ |
| $t_s$    | Storage time |                                                              |  |  | 4.0 | $\mu s$ |
| $t_f$    | Fall time    |                                                              |  |  | 0.8 | $\mu s$ |

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## PACKAGE OUTLINE

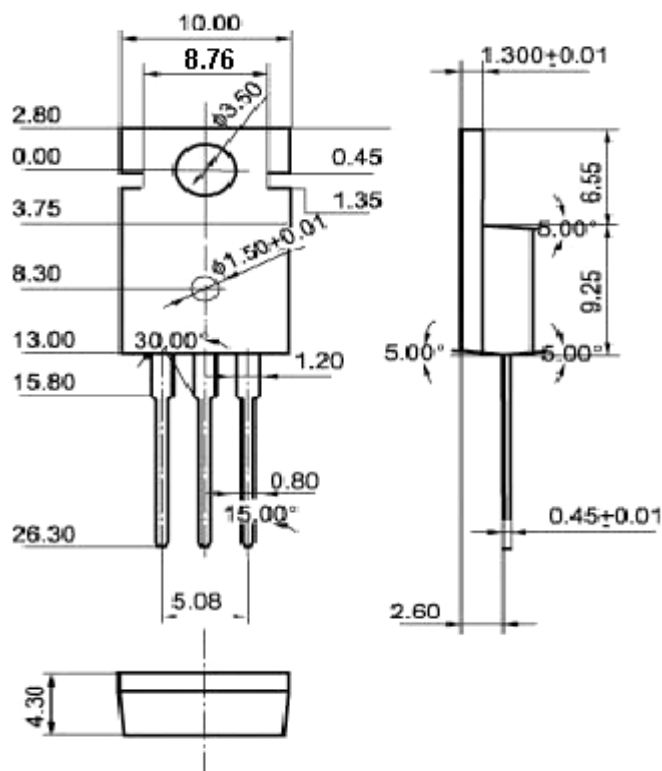


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)

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