

## Inchange Semiconductor

## Product Specification

### Silicon NPN Power Transistors

### 2SC3322

#### DESCRIPTION

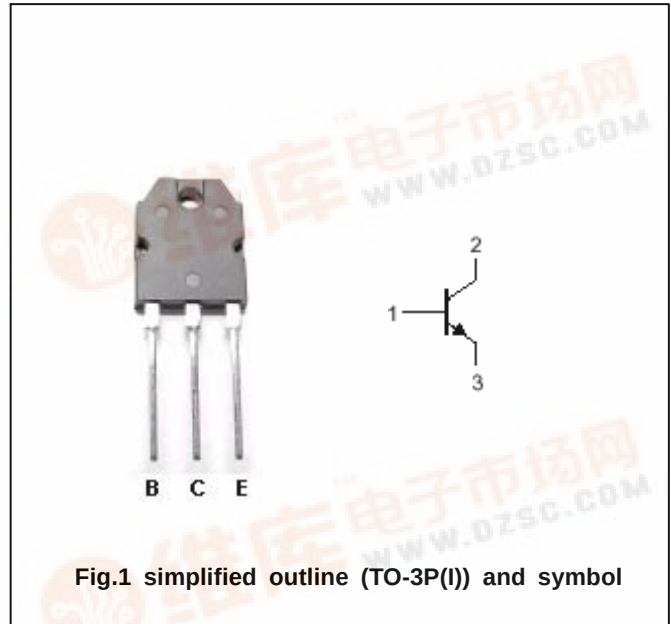
- With TO-3P(I) package
- High voltage
- High speed

#### APPLICATIONS

- High power switching applications

#### 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         | 7       | V                |
| $I_C$     | Collector current         |                        | 5       | A                |
| $I_{CM}$  | Collector current-peak    |                        | 10      | A                |
| $I_B$     | Base current              |                        | 2.5     | A                |
| $P_T$     | Total power dissipation   | $T_C=25^\circ\text{C}$ | 80      | W                |
| $T_j$     | Junction temperature      |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                        | -55~150 | $^\circ\text{C}$ |

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## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS                                        | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---------------------------------------------------|-----|------|-----|------|
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =0.2A, L=100mH; R <sub>BE</sub> =∞ | 800 |      |     | V    |
| V <sub>(BR)EBO</sub>  | Base-emitter breakdown voltage       | I <sub>E</sub> =10mA; I <sub>C</sub> =0           | 7   |      |     | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3A        |     |      | 1.0 | V    |
| V <sub>BE sat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3A        |     |      | 1.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =750V; I <sub>E</sub> =0          |     |      | 100 | μA   |
| I <sub>CEO</sub>      | Collector cut-off current            | V <sub>CE</sub> =650V; R <sub>BE</sub> =∞         |     |      | 100 | μA   |
| h <sub>FE-1</sub>     | DC current gain                      | I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V         | 15  |      |     |      |
| h <sub>FE-2</sub>     | DC current gain                      | I <sub>C</sub> =3A; V <sub>CE</sub> =5V           | 7   |      |     |      |

## Switching times

|                  |              |                                                                                            |  |  |     |    |
|------------------|--------------|--------------------------------------------------------------------------------------------|--|--|-----|----|
| t <sub>on</sub>  | Turn-on time | I <sub>C</sub> =3A; V <sub>CC</sub> ≈250V<br>I <sub>B1</sub> =0.6A; I <sub>B2</sub> =-1.5A |  |  | 1.0 | μs |
| t <sub>stg</sub> | Storage time |                                                                                            |  |  | 3.0 | μs |
| t <sub>f</sub>   | Fall time    |                                                                                            |  |  | 1.0 | μs |

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PACKAGE OUTLINE

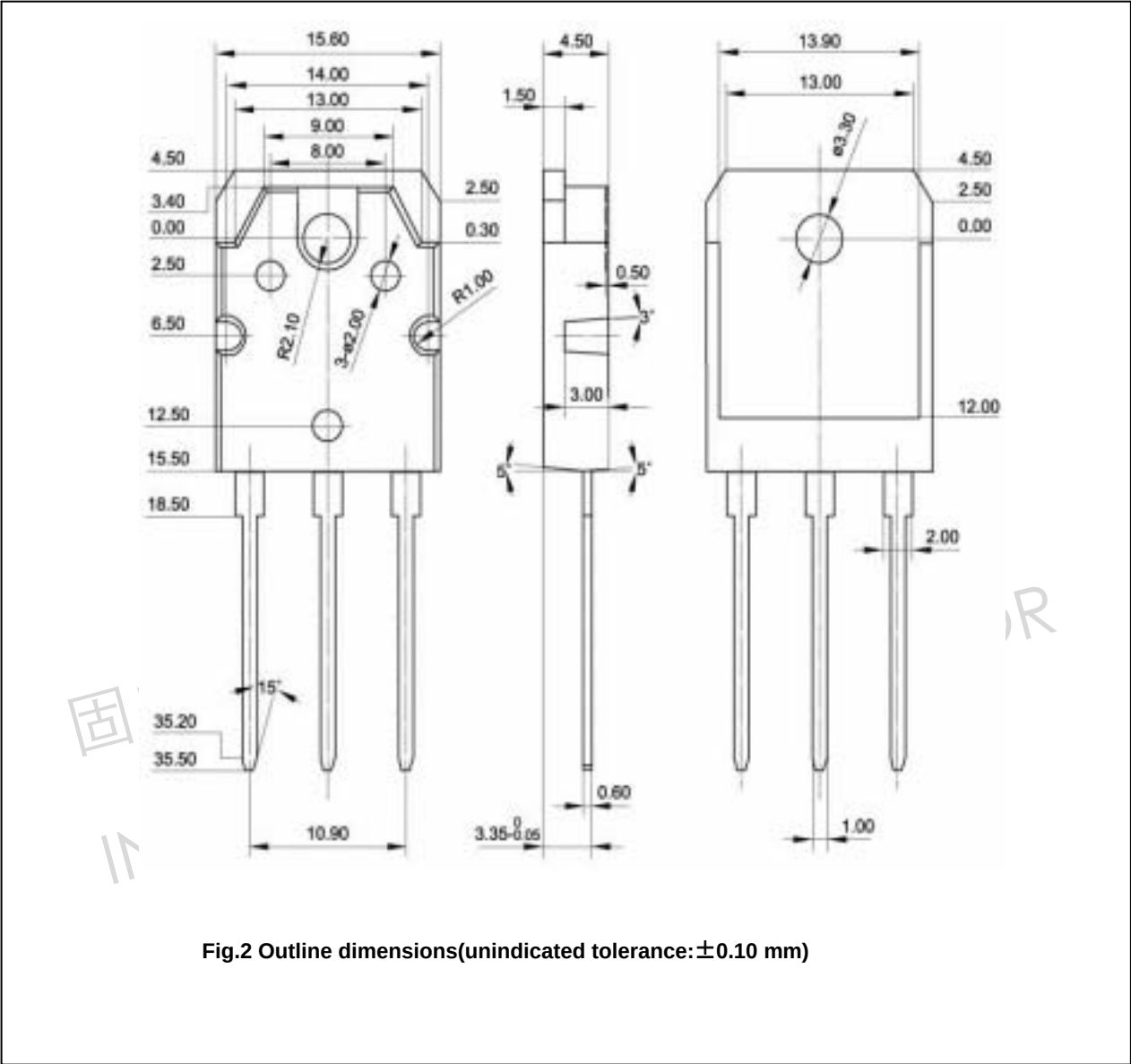


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)