

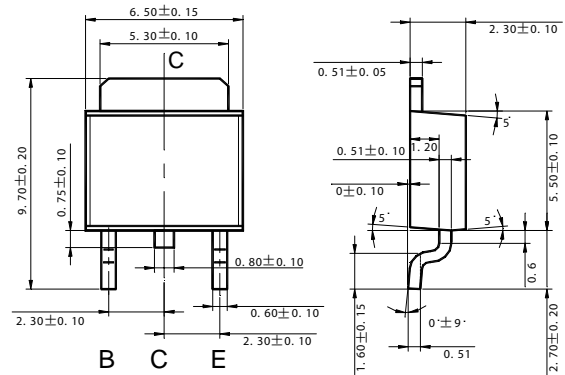
RoHS Compliant Product

TO-252

**FEATURES**

- Large current capacitance
- Low collector-to-emitter saturation voltage
- High-speed switching
- High allowable power dissipation

MARKING : 5706  
(With Date Code)



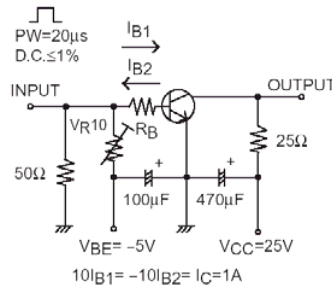
**MAXIMUM RATINGS\* T<sub>A</sub>=25°C unless otherwise noted**

| Parameter                 | Symbol                                | Ratings  | Unit |
|---------------------------|---------------------------------------|----------|------|
| Collector-Base Voltage    | V <sub>CB0</sub>                      | 80       | V    |
| Collector-Emitter Voltage | V <sub>CES</sub>                      | 80       | V    |
| Collector-Emitter Voltage | V <sub>CEO</sub>                      | 50       | V    |
| Emitter-Base Voltage      | V <sub>EBO</sub>                      | 6        | V    |
| Collector Current         | I <sub>CBO</sub>                      | 5        | A    |
| Collector Current (Pulse) | I <sub>CP</sub>                       | 7.5      | A    |
| Base Current              | I <sub>B</sub>                        | 1.2      | A    |
| Junction Temperature      | T <sub>j</sub>                        | +150     | °C   |
| Storage Temperature       | T <sub>STG</sub>                      | -55~+150 | °C   |
| Total Power Dissipation   | P <sub>D</sub>                        | 0.8      | W    |
|                           | P <sub>D</sub> (T <sub>C</sub> =25°C) | 15       | W    |

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)**

| Parameter                           | Symbol                 | Min | Typ. | Max | Unit. | Test Conditions                             |
|-------------------------------------|------------------------|-----|------|-----|-------|---|
| Collector-Base Breakdown Voltage    | BV <sub>CB0</sub>      | 80  | -    | -   | V     | I <sub>C</sub> =10μA, I <sub>E</sub> =0     |
| Collector-Emitter Breakdown Voltage | BV <sub>CES</sub>      | 80  | -    | -   | V     | I <sub>C</sub> =100μA, R <sub>BE</sub> =0   |
| Collector-Emitter Breakdown Voltage | BV <sub>CEO</sub>      | 50  | -    | -   | V     | I <sub>C</sub> =1mA, R <sub>BE</sub> =∞     |
| Emitter-Base Breakdown Voltage      | BV <sub>EBO</sub>      | 6   | -    | -   | V     | I <sub>E</sub> =10μA, I <sub>C</sub> =0     |
| Collector-Base Cutoff Current       | I <sub>CBO</sub>       | -   | -    | 1   | μA    | V <sub>CB</sub> =40V, I <sub>E</sub> =0     |
| Emitter-Base Cutoff Current         | I <sub>EBO</sub>       | -   | -    | 1   | μA    | V <sub>EB</sub> =4V, I <sub>C</sub> =0      |
| Collector Saturation Voltage 1      | *V <sub>CE(sat)1</sub> | -   | -    | 135 | mV    | I <sub>C</sub> =1A, I <sub>B</sub> =50mA    |
| Collector Saturation Voltage 2      | *V <sub>CE(sat)2</sub> | -   | -    | 240 | mV    | I <sub>C</sub> =2A, I <sub>B</sub> =100mA   |
| Base Saturation Voltage             | *V <sub>BE(sat)</sub>  | -   | -    | 1.2 | V     | I <sub>C</sub> =2A, I <sub>B</sub> =100mA   |
| DC Current Gain                     | *h <sub>FE</sub>       | 200 | -    | 560 |       | V <sub>CE</sub> =2V, I <sub>C</sub> =500mA  |
| Gain-Bandwidth Product              | f <sub>T</sub>         | -   | 400  | -   | MHz   | V <sub>CE</sub> =10V, I <sub>C</sub> =500mA |
| Output Capacitance                  | C <sub>ob</sub>        | -   | 15   | -   | pF    | V <sub>CB</sub> =10V, f=1MHz                |
| Turn-On Time                        | t <sub>on</sub>        | -   | 35   | -   | ns    | See specified test circuit.                 |
| Storage Time                        | t <sub>stg</sub>       | -   | 300  | -   | ns    | See specified test circuit.                 |
| Fall Time                           | t <sub>f</sub>         | -   | 20   | -   | ns    | See specified test circuit.                 |

**Switching Time Test Circuit**



**Characteristics Curve**

