

TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

# 2SC3547A

TV Tuner, UHF Oscillator Applications  
(common collector)

Unit: mm

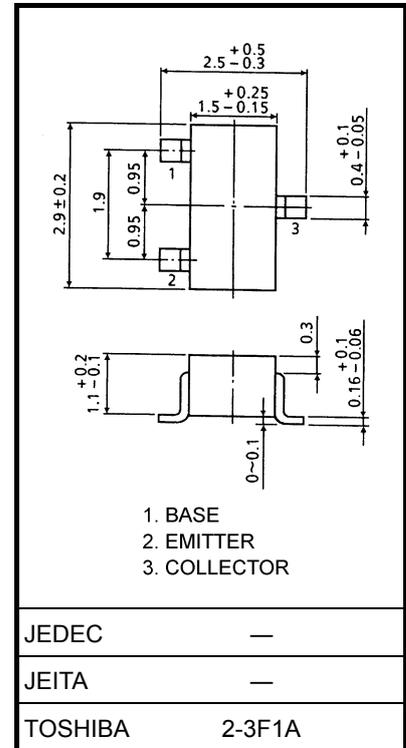
- Transition frequency is high and dependent on current excellently.

## Absolute Maximum Ratings (Ta = 25°C)

| Characteristics             | Symbol           | Rating  | Unit |
|-----------------------------|------------------|---------|------|
| Collector-base voltage      | V <sub>CB0</sub> | 20      | V    |
| Collector-emitter voltage   | V <sub>CEO</sub> | 12      | V    |
| Emitter-base voltage        | V <sub>EBO</sub> | 3       | V    |
| Base current                | I <sub>B</sub>   | 15      | mA   |
| Collector current           | I <sub>C</sub>   | 30      | mA   |
| Collector power dissipation | P <sub>C</sub>   | 150     | mW   |
| Junction temperature        | T <sub>j</sub>   | 125     | °C   |
| Storage temperature range   | T <sub>stg</sub> | -55~125 | °C   |

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

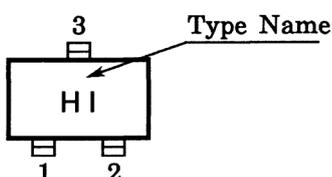


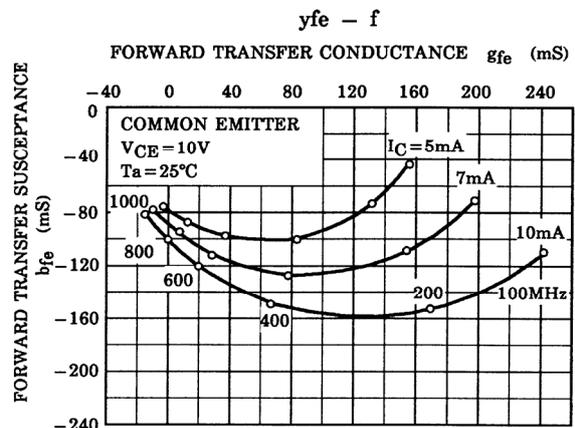
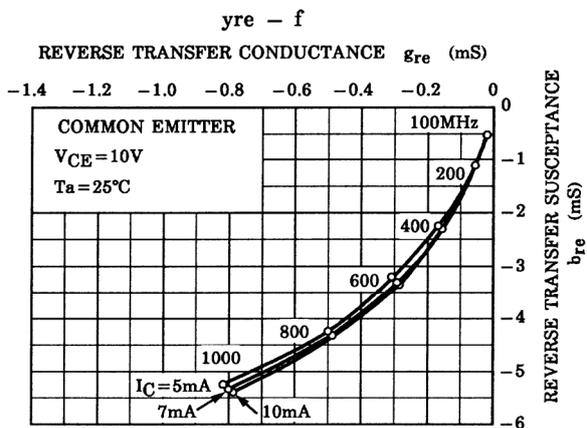
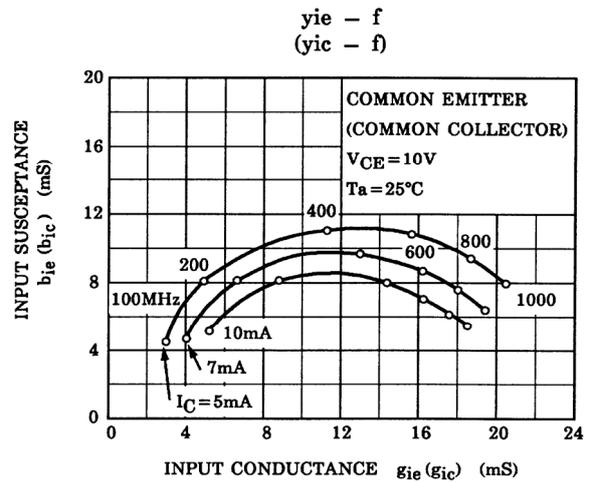
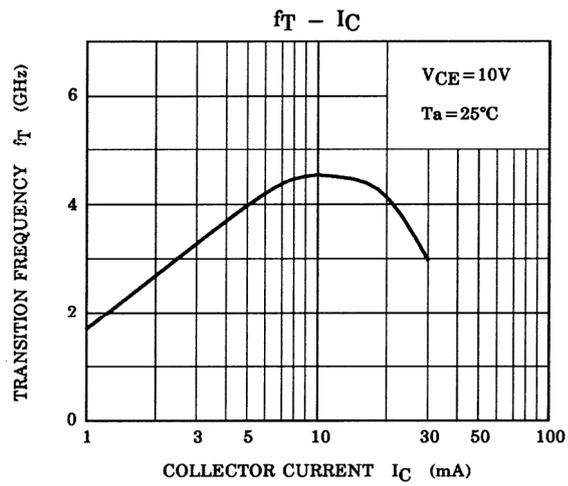
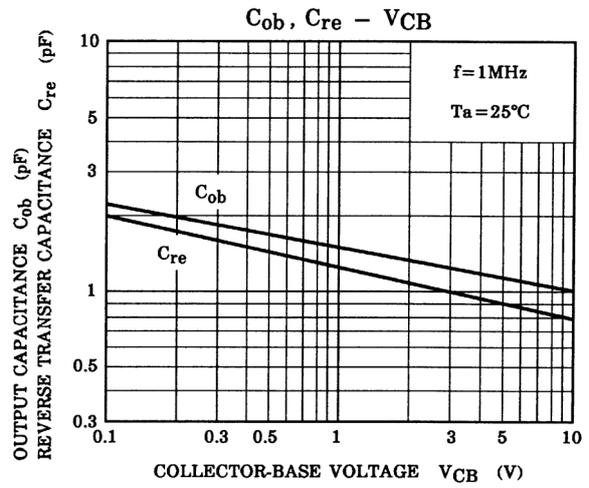
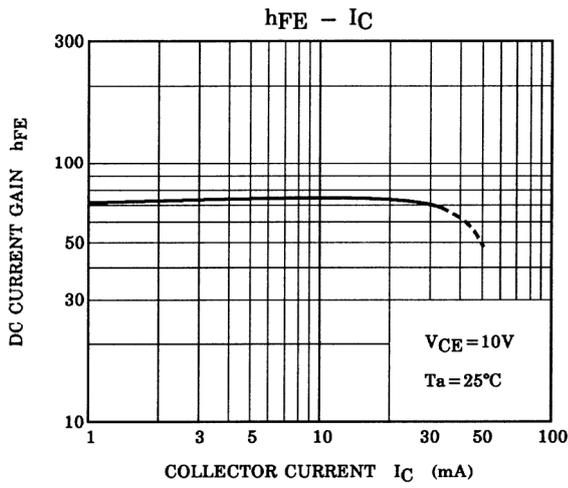
Weight: 0.012 g (typ.)

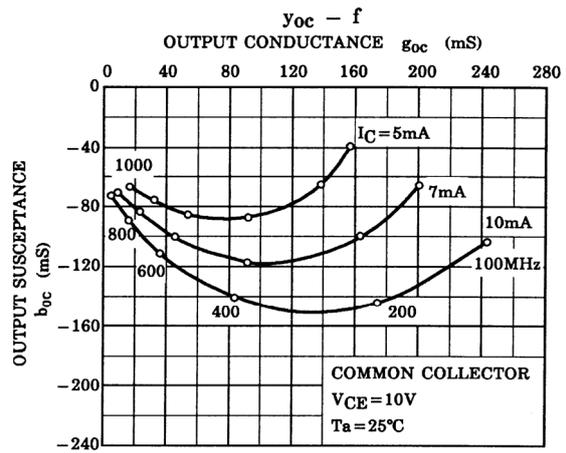
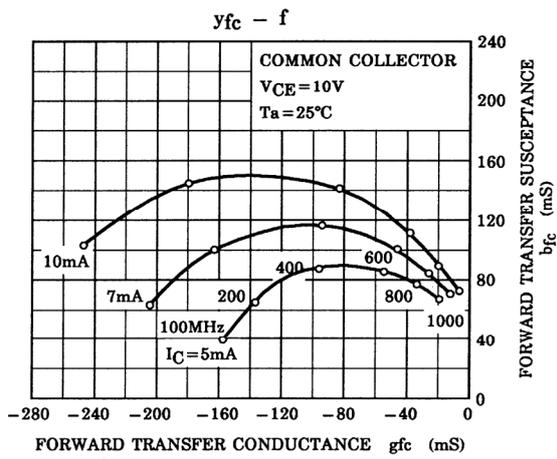
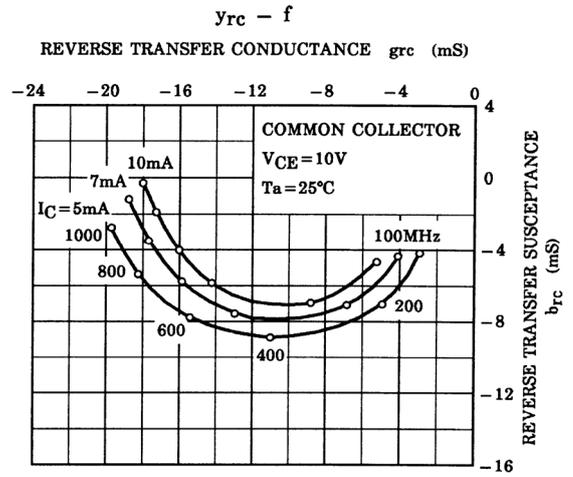
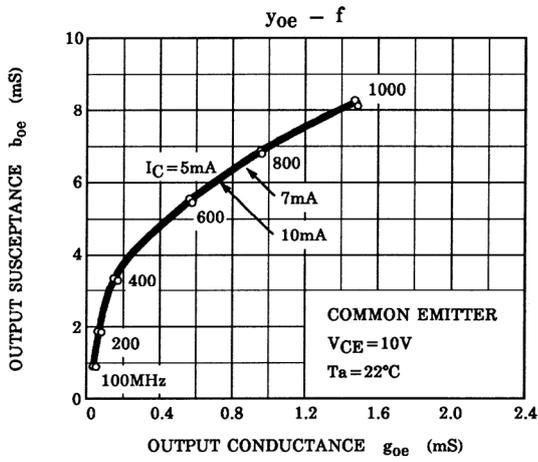
## Electrical Characteristics (Ta = 25°C)

| Characteristics                     | Symbol               | Test Condition  | Min | Typ. | Max  | Unit |
|-------------------------------------|----------------------|---|-----|------|------|------|
| Collector cut-off current           | I <sub>CBO</sub>     | V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0                | —   | —    | 0.1  | μA   |
| Emitter cut-off current             | I <sub>EBO</sub>     | V <sub>EB</sub> = 1 V, I <sub>C</sub> = 0                 | —   | —    | 1.0  | μA   |
| Collector-emitter breakdown voltage | V <sub>(BR)CEO</sub> | I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0                 | 12  | —    | —    | V    |
| DC current gain                     | h <sub>FE</sub>      | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 5 mA             | 35  | —    | 130  |      |
| Transition frequency                | f <sub>T</sub>       | V <sub>CE</sub> = 10 V, I <sub>C</sub> = 10 mA            | 3   | 4    | —    | GHz  |
| Output capacitance                  | C <sub>ob</sub>      | V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz     | —   | 1.05 | 1.35 | pF   |
| Collector-base time constant        | C <sub>c-rbb'</sub>  | V <sub>CB</sub> = 10 V, I <sub>C</sub> = 5 mA, f = 30 MHz | —   | 4.5  | 10   | ps   |

## Marking







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20070701-EN GENERAL

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