

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

## 2SC3265

Low Frequency Power Amplifier Applications

Power Switching Applications

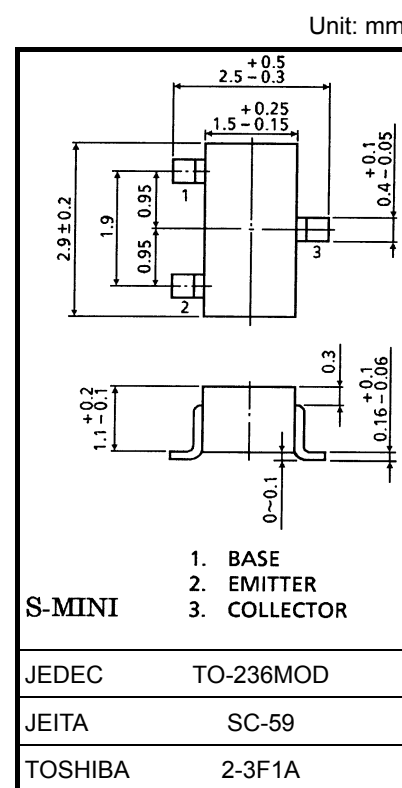
- High DC current gain:  $h_{FE(1)} = 100 \sim 320$
- Low saturation voltage:  $V_{CE(sat)} = 0.4 \text{ V (max)}$   
( $I_C = 500 \text{ mA}$ ,  $I_B = 20 \text{ mA}$ )
- Complementary to 2SA1298

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristics             | Symbol    | Rating         | Unit             |
|-----------------------------|-----------|----------------|------------------|
| Collector-base voltage      | $V_{CBO}$ | 30             | V                |
| Collector-emitter voltage   | $V_{CEO}$ | 25             | V                |
| Emitter-base voltage        | $V_{EBO}$ | 5              | V                |
| Collector current           | $I_C$     | 800            | mA               |
| Base current                | $I_B$     | 160            | mA               |
| Collector power dissipation | $P_C$     | 200            | mW               |
| Junction temperature        | $T_j$     | 150            | $^\circ\text{C}$ |
| Storage temperature range   | $T_{stg}$ | $-55 \sim 150$ | $^\circ\text{C}$ |

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).



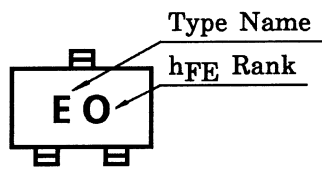
Weight: 0.012 g (typ.)

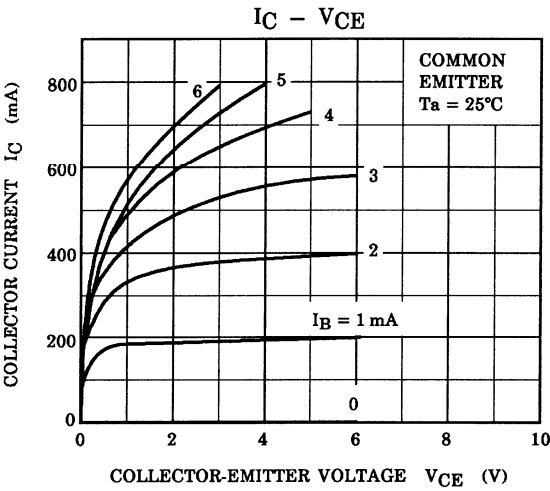
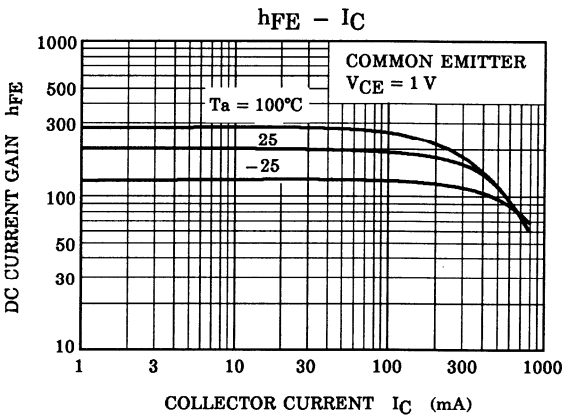
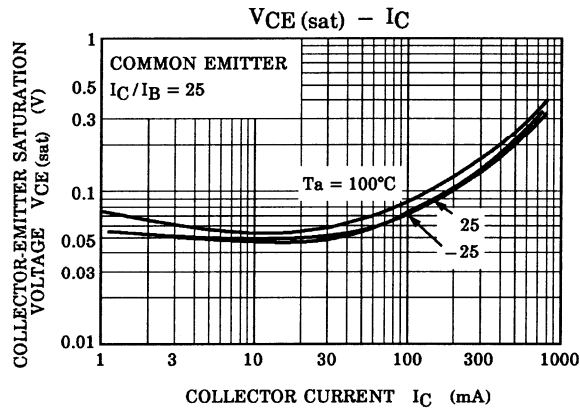
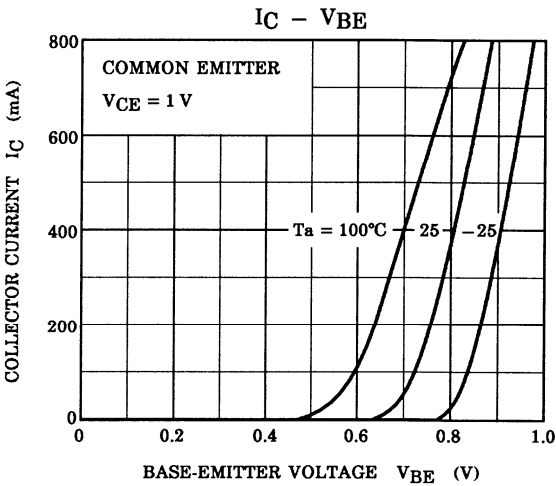
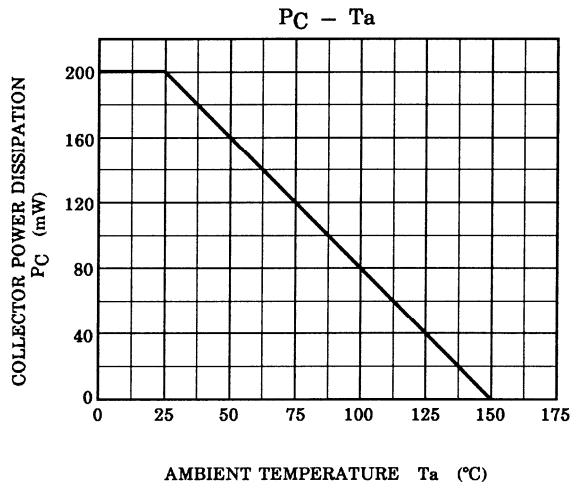
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Characteristics                      | Symbol                | Test Condition                                            | Min | Typ. | Max | Unit          |
|--------------------------------------|-----------------------|-----------------------------------------------------------|-----|------|-----|---------------|
| Collector cut-off current            | $I_{CBO}$             | $V_{CB} = 30 \text{ V}$ , $I_E = 0$                       | —   | —    | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$             | $V_{EB} = 5 \text{ V}$ , $I_C = 0$                        | —   | —    | 0.1 | $\mu\text{A}$ |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$         | $I_C = 10 \text{ mA}$ , $I_B = 0$                         | 25  | —    | —   | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$         | $I_E = 0.1 \text{ mA}$ , $I_C = 0$                        | 5   | —    | —   | V             |
| DC current gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = 1 \text{ V}$ , $I_C = 100 \text{ mA}$           | 100 | —    | 320 |               |
|                                      | $h_{FE(2)}$           | $V_{CE} = 1 \text{ V}$ , $I_C = 800 \text{ mA}$           | 40  | —    | —   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$         | $I_C = 500 \text{ mA}$ , $I_B = 20 \text{ mA}$            | —   | —    | 0.4 | V             |
| Base-emitter voltage                 | $V_{BE}$              | $V_{CE} = 1 \text{ V}$ , $I_C = 10 \text{ mA}$            | 0.5 | —    | 0.8 | V             |
| Transition frequency                 | $f_T$                 | $V_{CE} = 5 \text{ V}$ , $I_C = 10 \text{ mA}$            | —   | 120  | —   | MHz           |
| Collector output capacitance         | $C_{ob}$              | $V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$ | —   | 13   | —   | pF            |

Note:  $h_{FE(1)}$  classification O: 100~200, Y: 160~320

## Marking





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