

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC3666

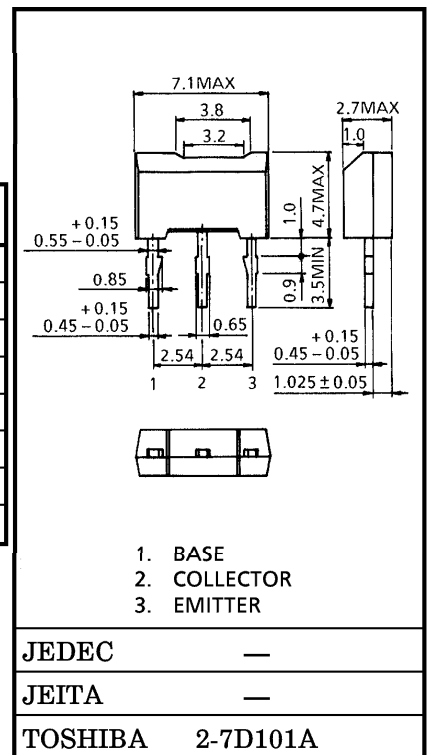
AUDIO POWER AMPLIFIER APPLICATIONS

Unit in mm

- High DC Current Gain :  $h_{FE(1)} = 100 \sim 320$

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT |
|-----------------------------|-----------|---------|------|
| Collector-Base Voltage      | $V_{CB0}$ | 30      | V    |
| Collector-Emitter Voltage   | $V_{CE0}$ | 30      | V    |
| Emitter-Base Voltage        | $V_{EB0}$ | 5       | V    |
| Collector Current           | $I_C$     | 1       | A    |
| Base Current                | $I_B$     | 0.1     | A    |
| Collector Power Dissipation | $P_C$     | 1000    | mW   |
| Junction Temperature        | $T_j$     | 150     | °C   |
| Storage Temperature Range   | $T_{stg}$ | -55~150 | °C   |

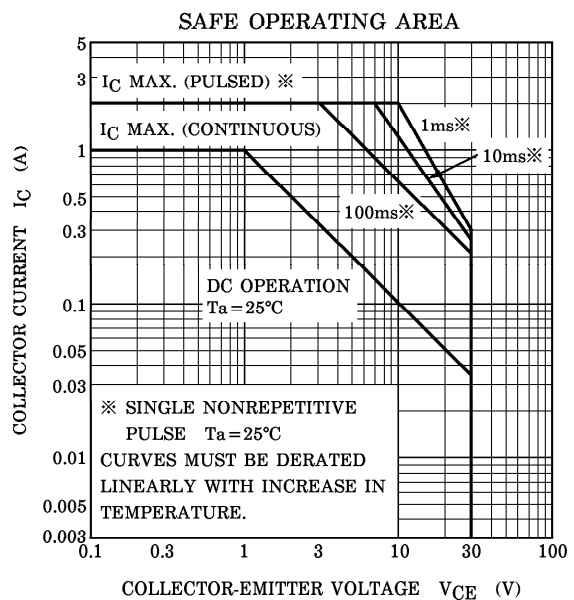
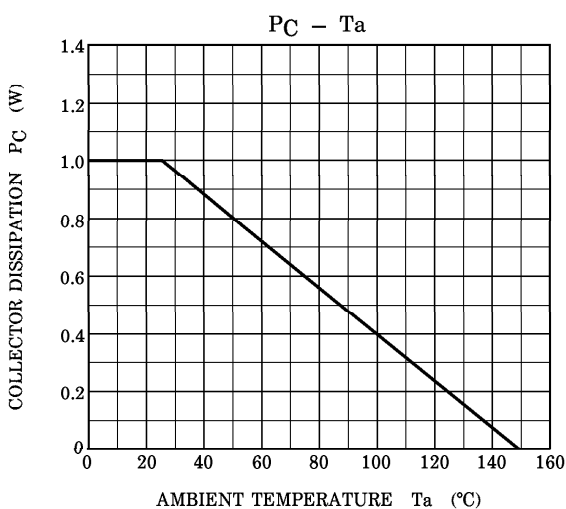
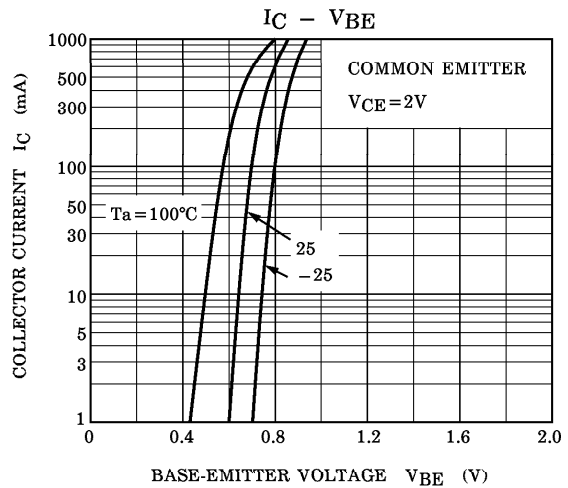
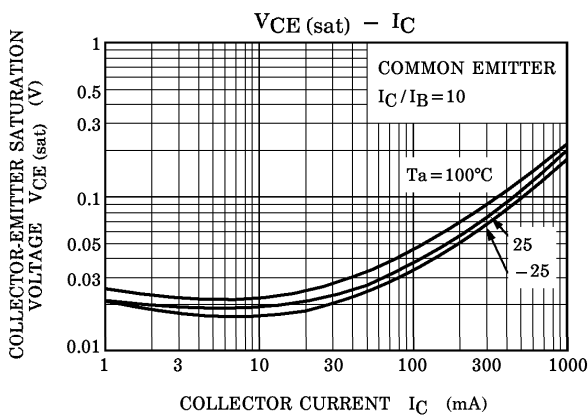
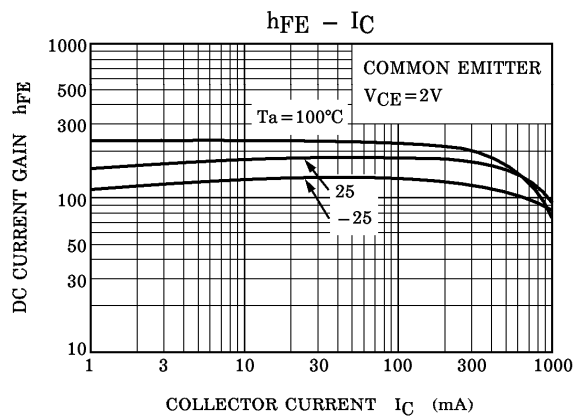
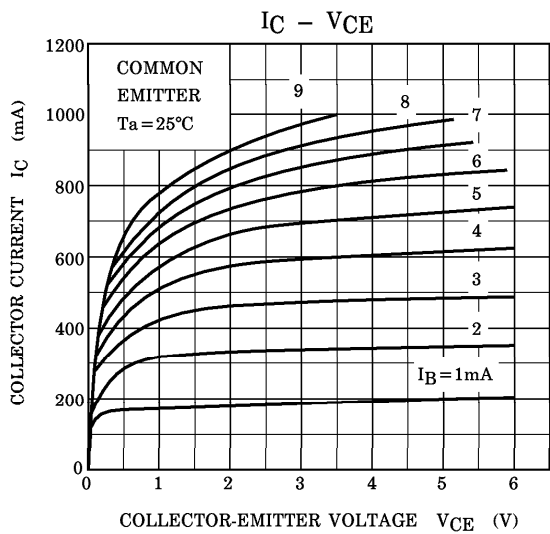


Weight : 0.2g (Typ.)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC                       | SYMBOL                | TEST CONDITION             | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-----------------------|----------------------------|------|------|------|------|
| Collector Cut-off Current            | $I_{CBO}$             | $V_{CB} = 30V, I_E = 0$    | —    | —    | 100  | nA   |
| Emitter Cut-off Current              | $I_{EBO}$             | $V_{EB} = 5V, I_C = 0$     | —    | —    | 100  | nA   |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CE0}$         | $I_C = 10mA, I_B = 0$      | 30   | —    | —    | V    |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = 2V, I_C = 100mA$ | 100  | —    | 320  |      |
|                                      | $h_{FE(2)}$           | $V_{CE} = 2V, I_C = 800mA$ | 40   | —    | —    |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$         | $I_C = 800mA, I_B = 80mA$  | —    | —    | 0.5  | V    |
| Base-Emitter Voltage                 | $V_{BE}$              | $V_{CE} = 2V, I_C = 800mA$ | —    | 0.9  | 1.5  | V    |
| Transition Frequency                 | $f_T$                 | $V_{CE} = 2V, I_C = 100mA$ | —    | 150  | —    | MHz  |
| Collector Output Capacitance         | $C_{ob}$              | $V_{CB} = 10V, f = 1MHz$   | —    | 13   | —    | pF   |

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



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