

TOSHIBA Transistor Silicon NPN Triple Diffused Type

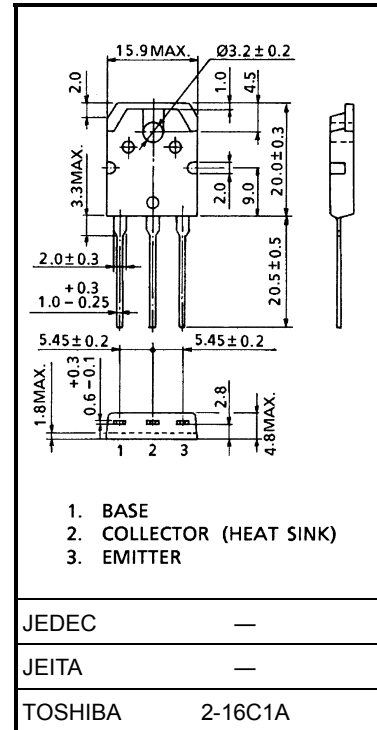
# 2SC5242

## Power Amplifier Applications

- High Collector breakdown voltage:  $V_{CE0} = 230 \text{ V}$  (min)
- Complementary to 2SA1962
- Suitable for use in 80-W high fidelity audio amplifier's output stage

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

| Characteristics   | Symbol    | Rating     | Unit             |
|---|-----------|------------|------------------|
| Collector-base voltage                                      | $V_{CBO}$ | 230        | V                |
| Collector-emitter voltage                                   | $V_{CEO}$ | 230        | V                |
| Emitter-base voltage  | $V_{EBO}$ | 5          | V                |
| Collector current   | $I_C$     | 15         | A                |
| Base current  | $I_B$     | 1.5        | A                |
| Collector power dissipation<br>( $T_c = 25^\circ\text{C}$ ) | $P_C$     | 130        | W                |
| Junction temperature  | $T_j$     | 150        | $^\circ\text{C}$ |
| Storage temperature range                                   | $T_{stg}$ | -55 to 150 | $^\circ\text{C}$ |



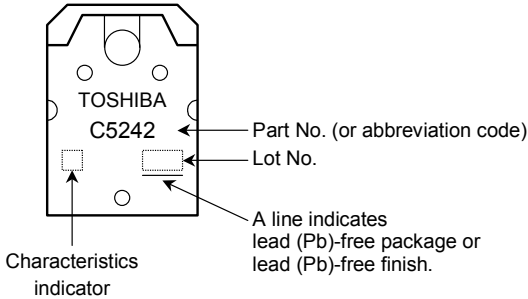
## Electrical Characteristics ( $T_c = 25^\circ\text{C}$ )

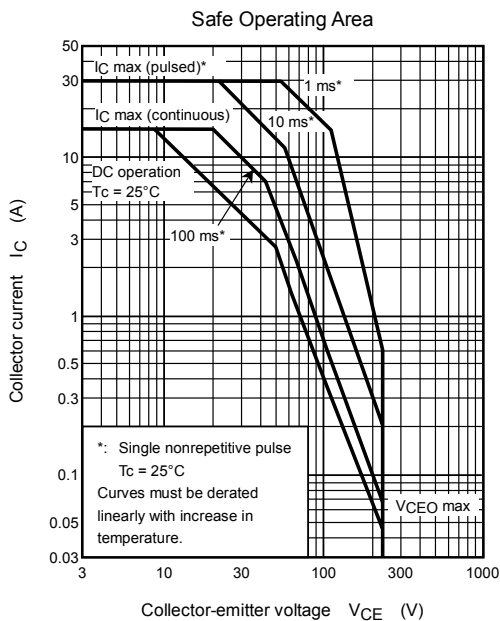
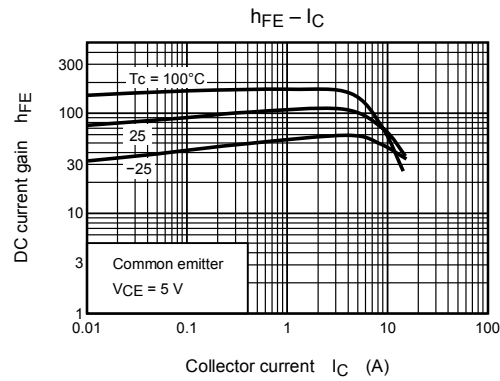
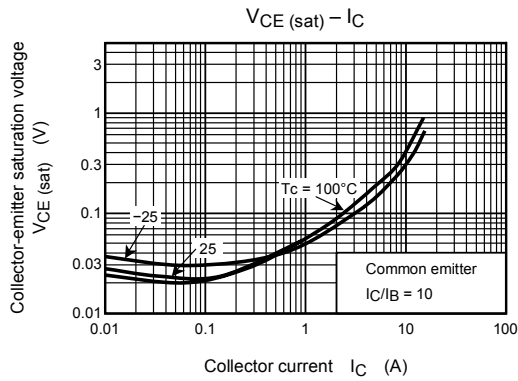
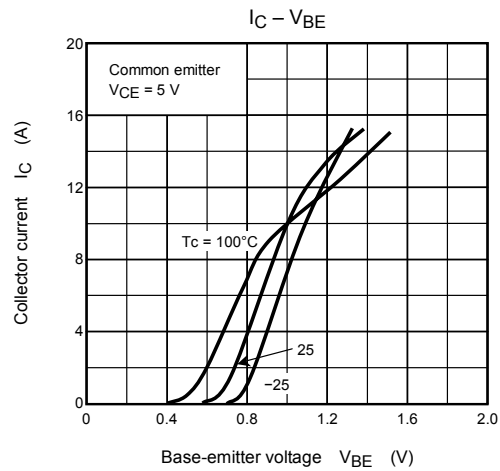
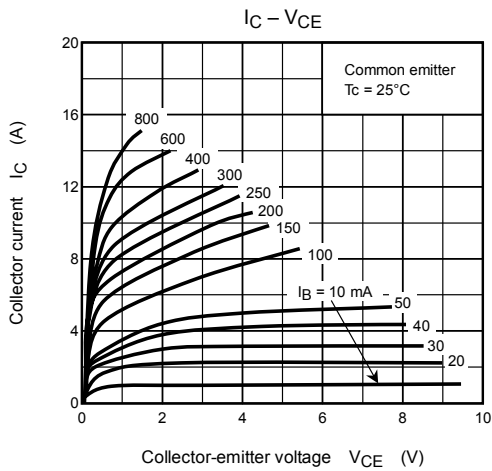
Weight: 4.7 g (typ.)

| Characteristics                      | Symbol                | Test Condition                                      | Min | Typ. | Max | Unit          |
|--------------------------------------|-----------------------|---|-----|------|-----|---------------|
| Collector cut-off current            | $I_{CBO}$             | $V_{CB} = 230 \text{ V}, I_E = 0$                   | —   | —    | 5.0 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$             | $V_{EB} = 5 \text{ V}, I_C = 0$                     | —   | —    | 5.0 | $\mu\text{A}$ |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$         | $I_C = 50 \text{ mA}, I_B = 0$                      | 230 | —    | —   | V             |
| DC current gain                      | $h_{FE(1)}$<br>(Note) | $V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$           | 55  | —    | 160 |               |
|                                      | $h_{FE(2)}$           | $V_{CE} = 5 \text{ V}, I_C = 7 \text{ A}$           | 35  | 60   | —   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$         | $I_C = 8 \text{ A}, I_B = 0.8 \text{ A}$            | —   | 0.4  | 3.0 | V             |
| Base-emitter voltage                 | $V_{BE}$              | $V_{CE} = 5 \text{ V}, I_C = 7 \text{ A}$           | —   | 1.0  | 1.5 | V             |
| Transition frequency                 | $f_T$                 | $V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$           | —   | 30   | —   | MHz           |
| Collector output capacitance         | $C_{ob}$              | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | —   | 200  | —   | pF            |

Note:  $h_{FE(1)}$  classification R: 55 to 110, O: 80 to 160

**Marking**





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