

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5200

Power Amplifier Applications

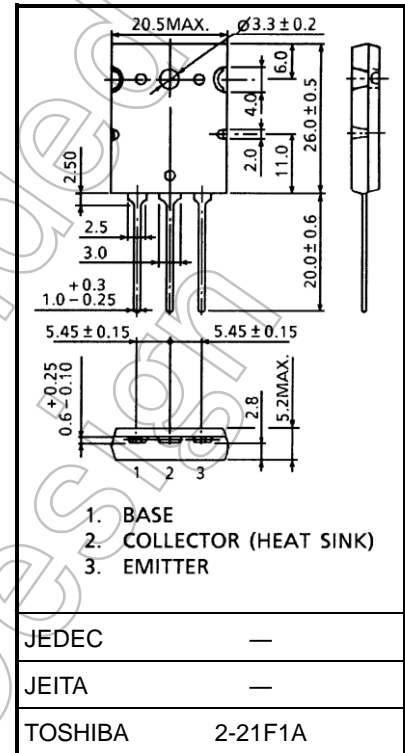
- High breakdown voltage: $V_{CEO} = 230 \text{ V (min)}$
- Complementary to 2SA1943
- Suitable for use in 100-W high fidelity audio amplifier's output stage

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

| 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 ($T_c = 25^\circ\text{C}$) | P_C | 150 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to 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).

Unit: mm



Weight: 9.75 g (typ.)

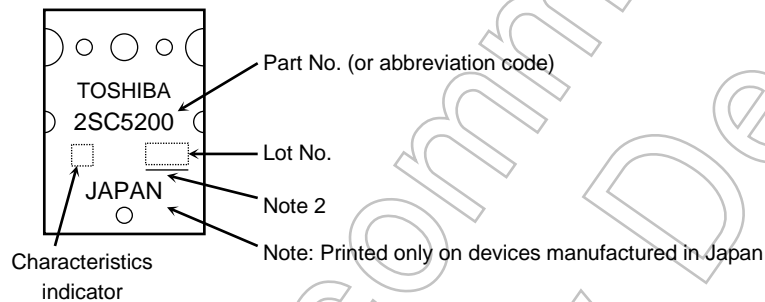
Start of commercial production
1994-09

Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-------------------------------|---|-----|------|-----|------|
| Collector cut-off current | ICBO | V _{CB} = 230 V, I _E = 0 A | — | — | 5.0 | μA |
| Emitter cut-off current | IEBO | V _{EB} = 5 V, I _C = 0 A | — | — | 5.0 | μA |
| Collector-emitter breakdown voltage | V (BR) CEO | I _C = 50 mA, I _B = 0 A | 230 | — | — | V |
| DC current gain | h _{FE} (1) (Note) | V _{CE} = 5 V, I _C = 1 A | 55 | — | 160 | |
| | h _{FE} (2) | V _{CE} = 5 V, I _C = 7 A | 35 | 60 | — | |
| Collector-emitter saturation voltage | V _{CE} (sat) | I _C = 8 A, I _B = 0.8 A | — | 0.4 | 3.0 | V |
| Base-emitter voltage | V _{BE} | V _{CE} = 5 V, I _C = 7 A | — | 1.0 | 1.5 | V |
| Transition frequency | f _T | V _{CE} = 5 V, I _C = 1 A | — | 30 | — | MHz |
| Collector output capacitance | C _{ob} | V _{CB} = 10 V, I _E = 0 A, f = 1 MHz | — | 200 | — | pF |

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

Marking

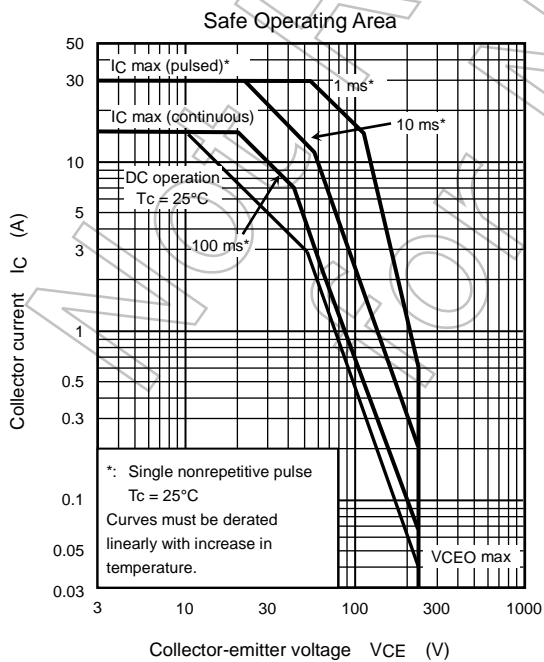
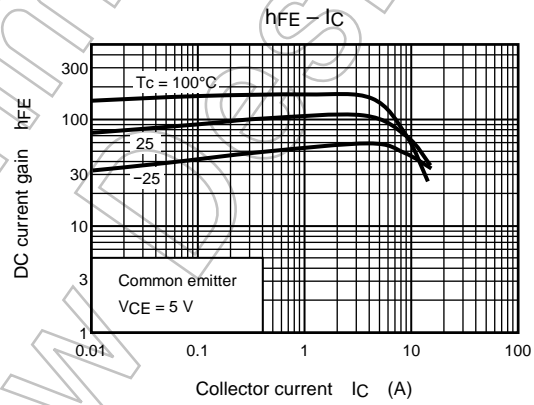
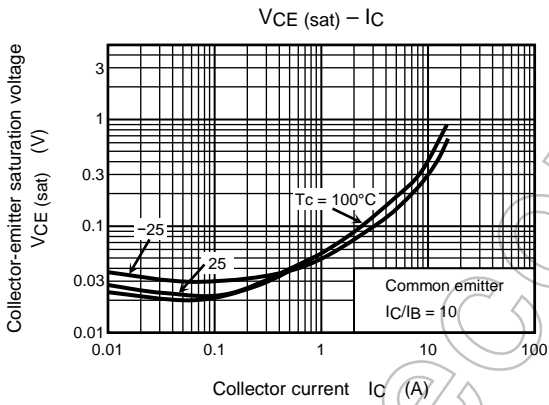
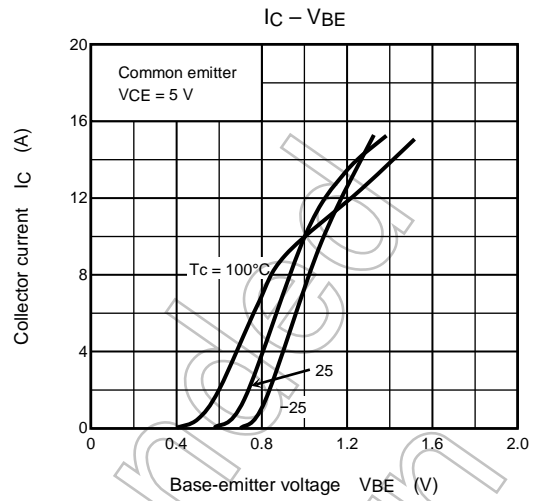
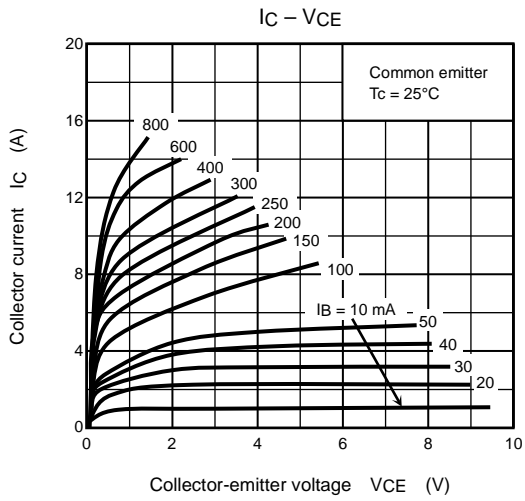


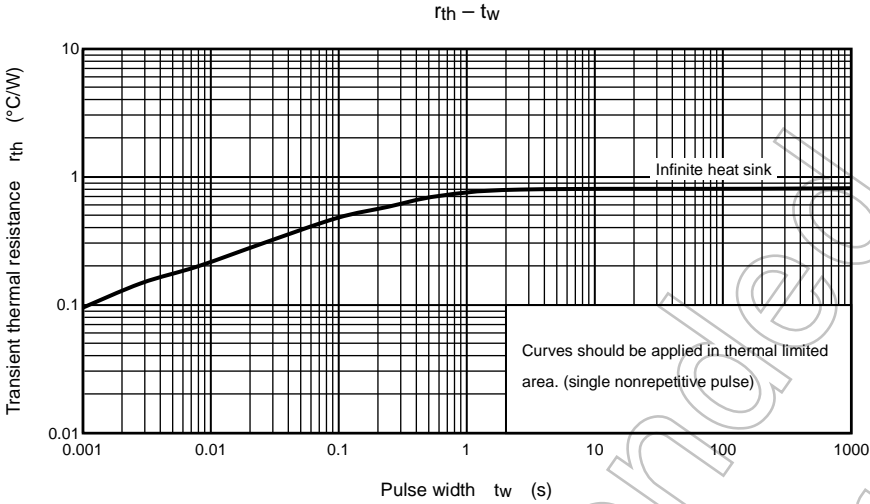
Note 2 : A line under a Lot No. identifies the indication of product Labels.

[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

The RoHS is the Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.





Not Recommended for New Design

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