

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC5242

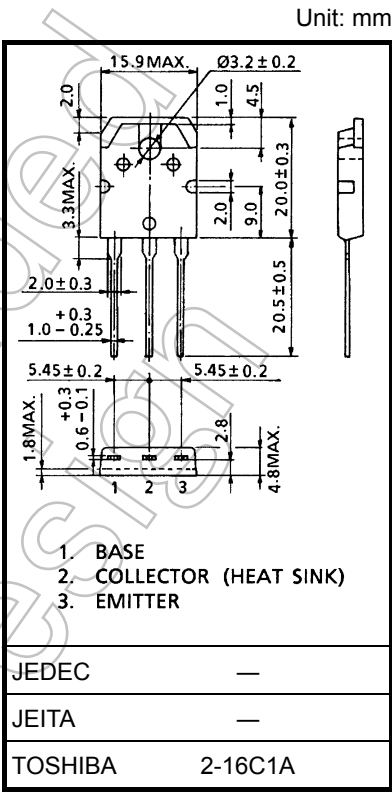
Power Amplifier Applications

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

Absolute Maximum Ratings (Ta = 25°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>(Tc = 25°C) | $P_C$     | 130        | W    |
| Junction temperature                       | $T_j$     | 150        | °C   |
| Storage temperature range                  | $T_{stg}$ | -55 to 150 | °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: 4.7 g (typ.)

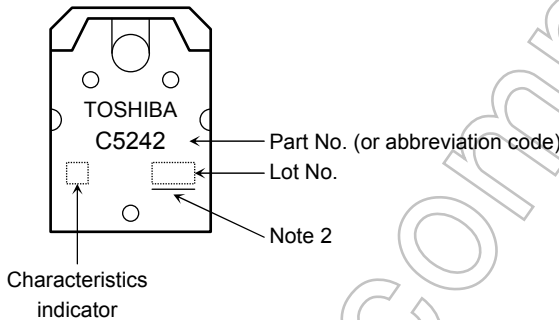
Start of commercial production  
1994-09

Electrical Characteristics (Ta = 25°C)

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

Note 1:h<sub>FE</sub> (1) classification R: 55 to 110, O: 80 to 160

Marking



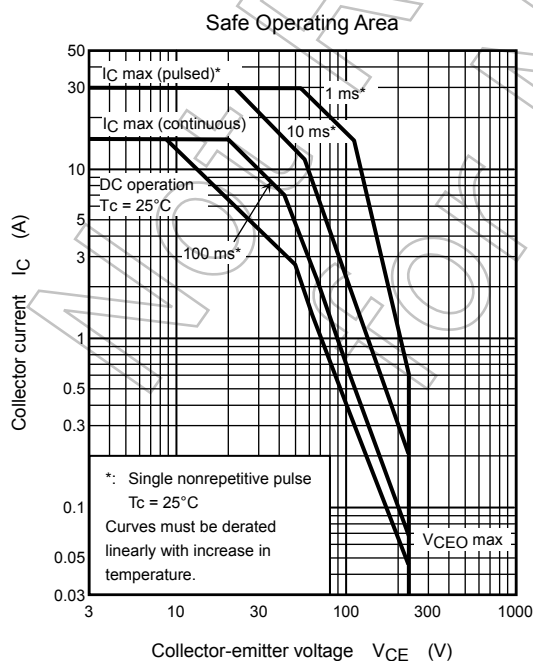
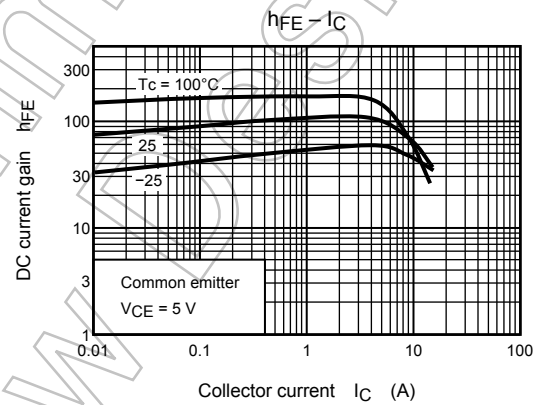
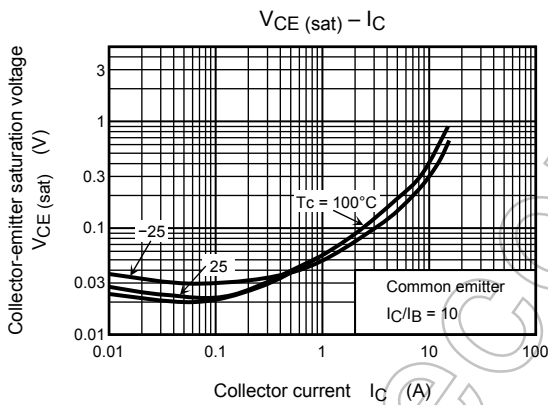
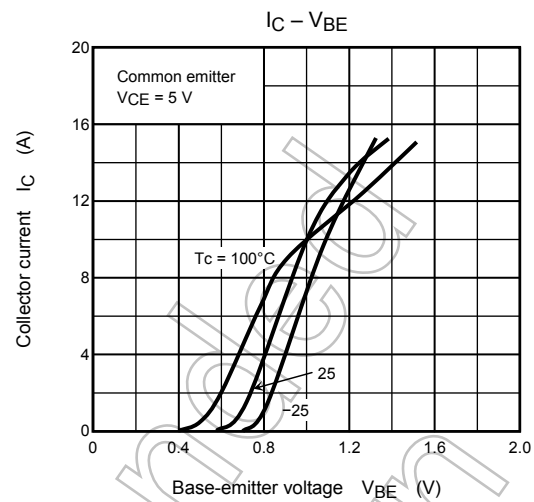
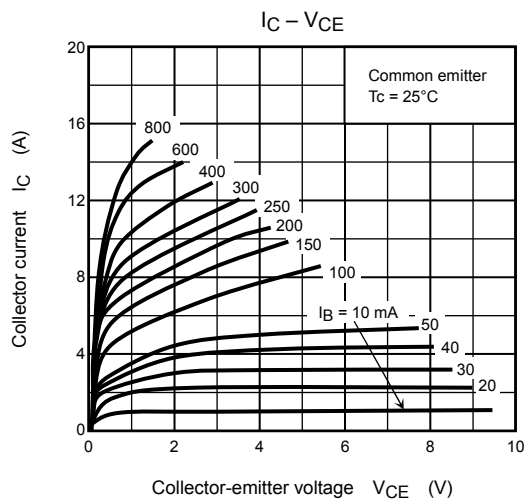
Note 2: A line under a Lot No. identifies the indication of product Labels.

Not underlined : [[Pb]]/INCLUDES > MCV

Underlined : [[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.



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