

TOSHIBA Transistor Silicon PNP Triple Diffused Type

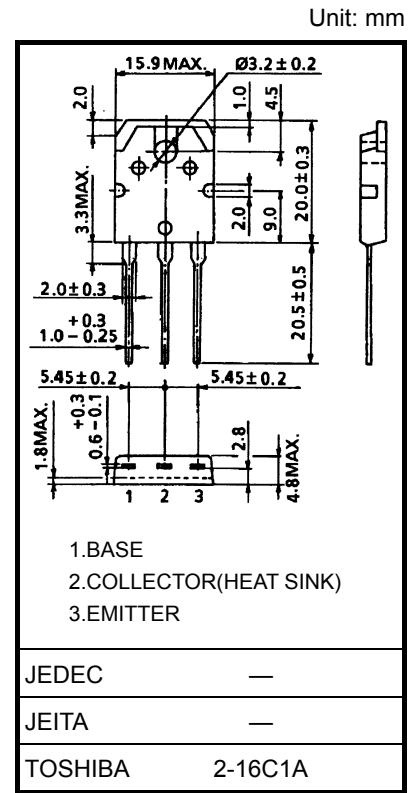
TTA0001

○ Power Amplifier Applications

- High collector voltage: $V_{CEO} = -160$ V (min.)
- Complementary to TTC0001
- Recommended for 100-W high-fidelity audio frequency amplifier output stage.

Absolute Maximum Ratings (Tc = 25°C)

| Characteristics | | Symbol | Rating | Unit |
|-----------------------------|-------|-----------|------------|------|
| Collector-base voltage | | V_{CBO} | -160 | V |
| Collector-emitter voltage | | V_{CEO} | -160 | V |
| Emitter-base voltage | | V_{EBO} | -5 | V |
| Collector current | DC | I_C | -18 | A |
| | Pulse | I_{CP} | -35 | A |
| Base current | | I_B | -9 | A |
| Collector power dissipation | | P_C | 150 | W |
| Junction temperature | | T_j | 150 | °C |
| Storage temperature range | | T_{stg} | -55 to 150 | °C |



Weight : 4.7 g (typ.)

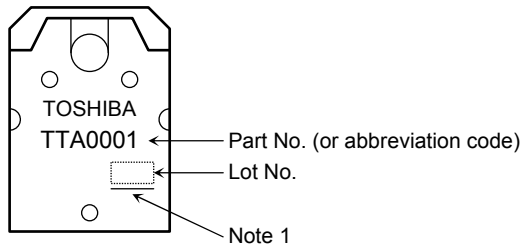
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

Electrical Characteristics (Tc = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|----------------|--|------|------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = -160\text{ V}, I_E = 0$ | — | — | -1.0 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | — | — | -1.0 | μA |
| Collector-emitter breakdown voltage | $V_{(BR) CEO}$ | $I_C = -50\text{ mA}, I_B = 0$ | -160 | — | — | V |
| DC current gain | $h_{FE} (1)$ | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | 80 | — | 160 | |
| | $h_{FE} (2)$ | $V_{CE} = -5\text{ V}, I_C = -9\text{ A}$ | 35 | — | — | |
| Collector-emitter saturation voltage | $V_{CE (sat)}$ | $I_C = -9\text{ A}, I_B = -0.9\text{ A}$ | — | — | -2.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = -5\text{ V}, I_C = -9\text{ A}$ | — | — | -1.5 | V |
| Transition frequency | f_T | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | — | 30 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 410 | — | pF |

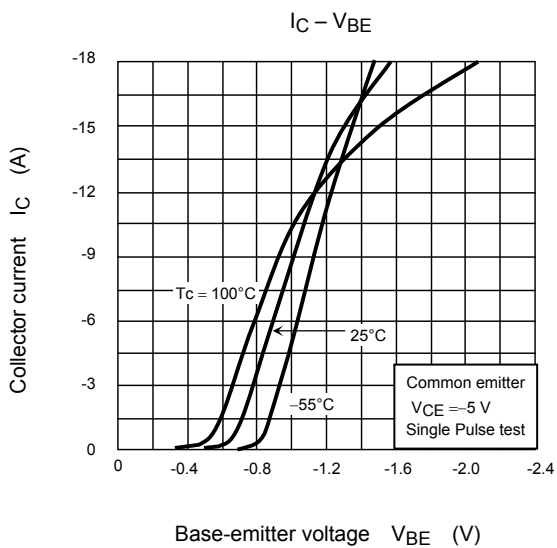
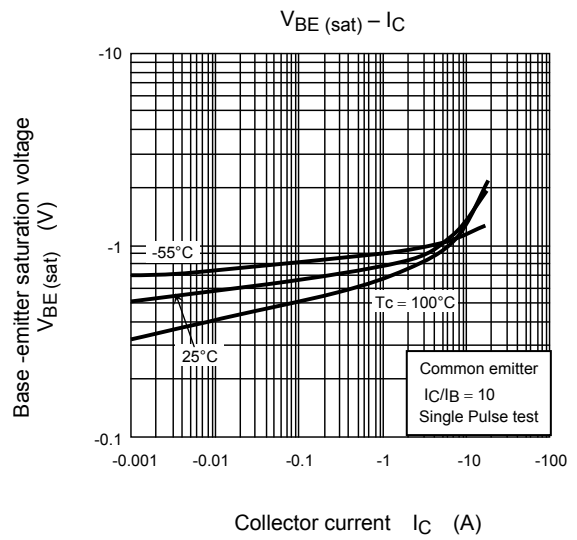
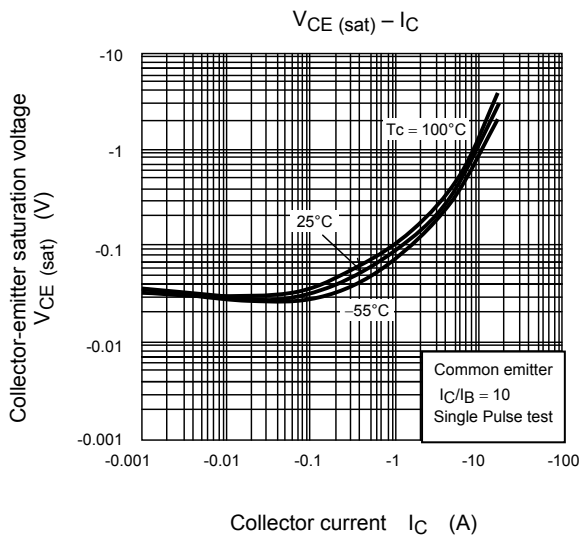
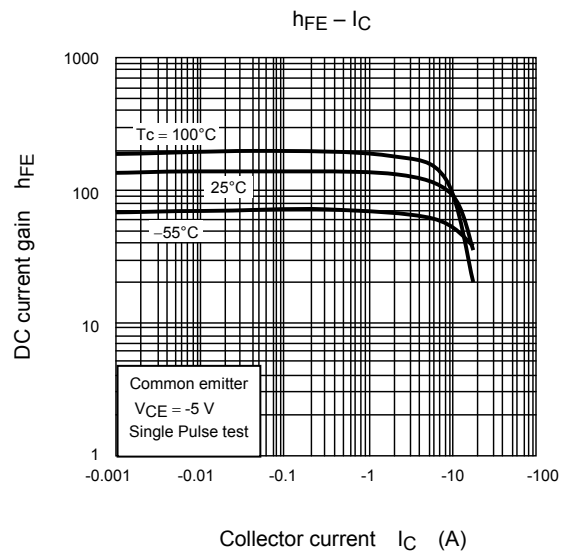
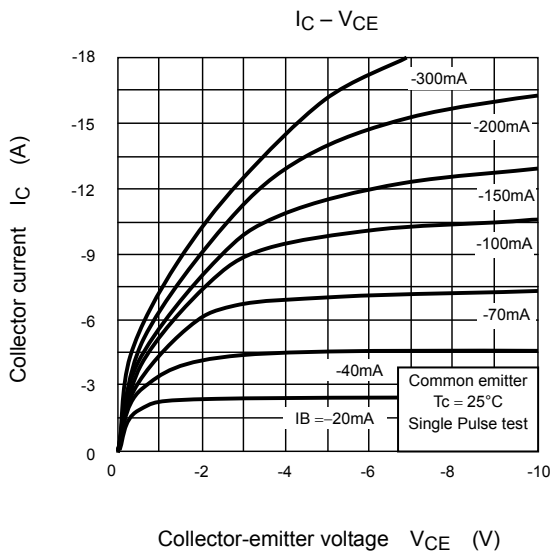
Marking



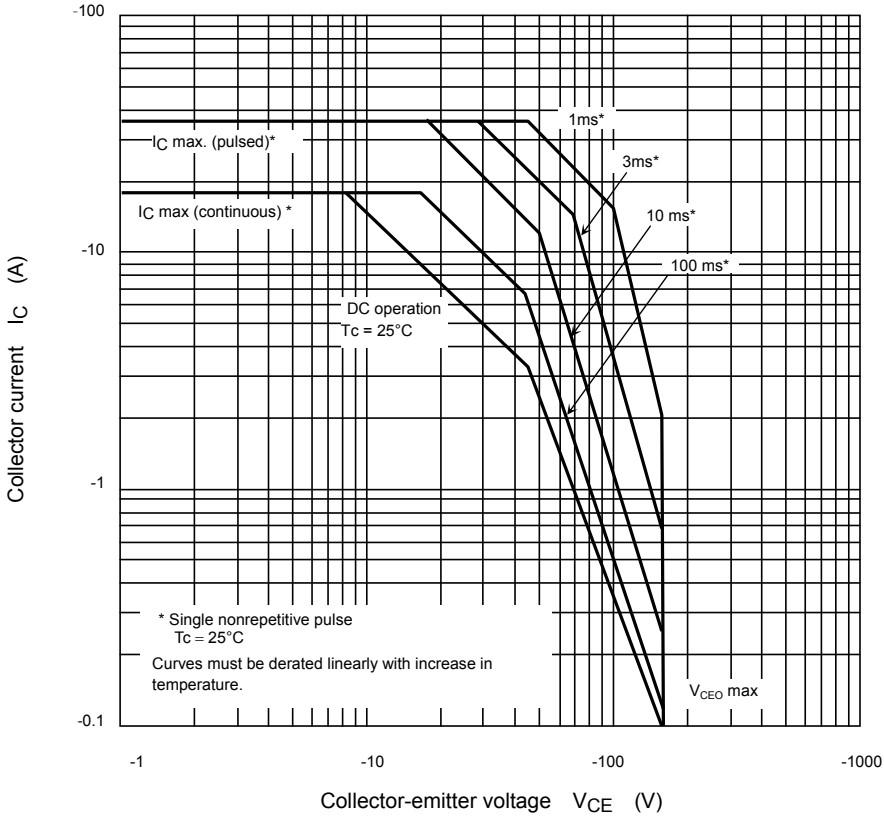
Note 1: Marking for identifying the indication of product Labels
 [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

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

The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



Safe Operating Area



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