

TOSHIBA Transistor Silicon NPN Triple Diffused Type (Darlington power transistor)

2SD2636

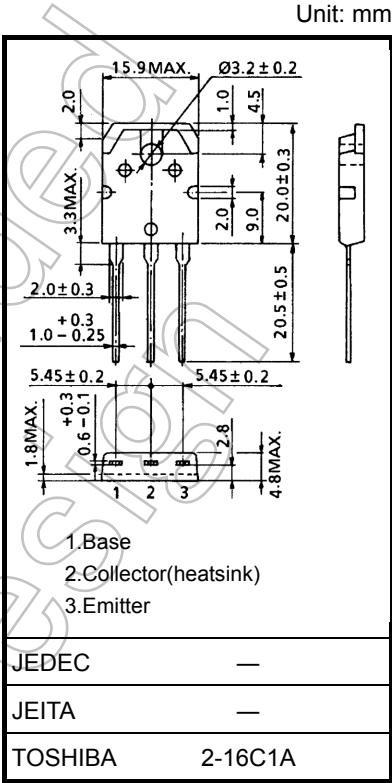
Power Amplifier Applications
High-Power Switching Applications

- High-breakdown voltage: $V_{CEO} = 160\text{ V (min)}$

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

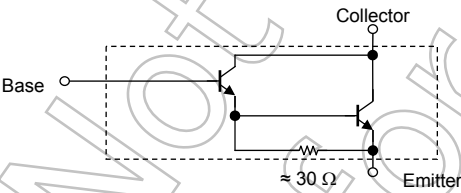
| Characteristic | | Symbol | Rating | Unit |
|---|-------|-----------|------------|--------------------|
| Collector-base voltage | | V_{CBO} | 160 | V |
| Collector-emitter voltage | | V_{CEO} | 160 | V |
| Emitter-base voltage | | V_{EBO} | 5 | V |
| Collector current | DC | I_C | 8 | A |
| | Pulse | I_{CP} | 15 | |
| Base current | | I_B | 1 | A |
| Collector power dissipation($T_c=25^{\circ}\text{C}$) | | P_C | 100 | 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).



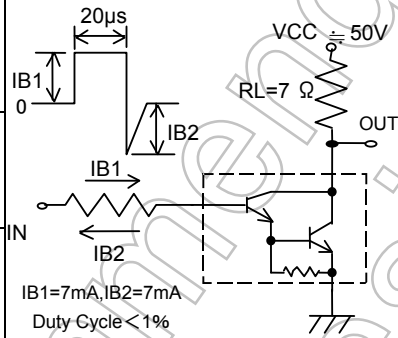
Weight: 4.7 g (typ.)

Equivalent Circuit

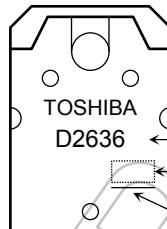


Electrical Characteristics (Ta = 25°C)

| Characteristic | Symbol | Test Conditions | Min | Typ. | Max | Unit |
|--------------------------------------|---------------|--|------|------|-------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = 160\text{ V}, I_E = 0$ | — | — | 10 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5\text{ V}, I_C = 0$ | — | — | 10 | μA |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 10\text{ mA}, I_B = 0$ | 160 | — | — | V |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = 4\text{ V}, I_C = 1\text{ A}$ | 500 | — | — | |
| | $h_{FE(2)}$ | $V_{CE} = 4\text{ V}, I_C = 7\text{ A}$ | 5000 | — | 15000 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 7\text{ A}, I_B = 7\text{ mA}$ | — | — | 3.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 4\text{ V}, I_C = 7\text{ A}$ | — | — | 3.0 | V |
| Transition frequency | f_T | $V_{CE} = 10\text{ V}, I_C = 1\text{ A}$ | — | 35 | — | MHz |
| Switching Time | Turn-on Time | t_{on} | — | 0.7 | — | μs |
| | Storage Time | t_{stg} | — | 3.5 | — | |
| | Fall Time | t_f | — | 0.6 | — | |



Marking



Part No. (or abbreviation code)

Lot No.

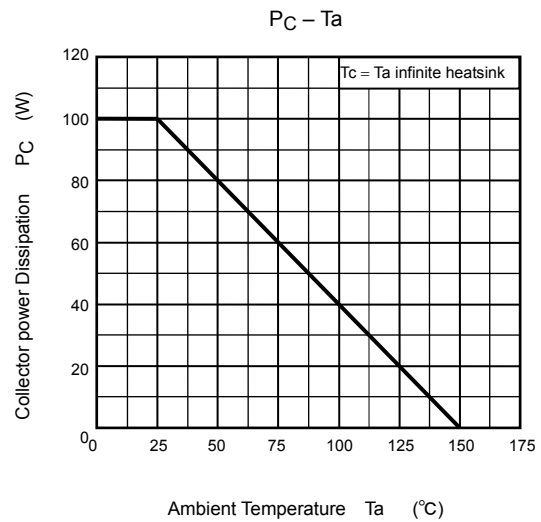
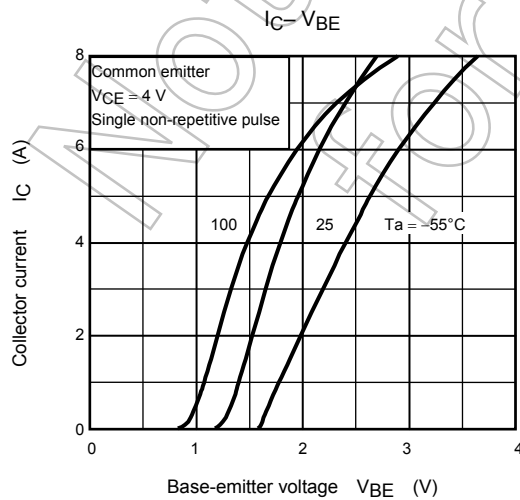
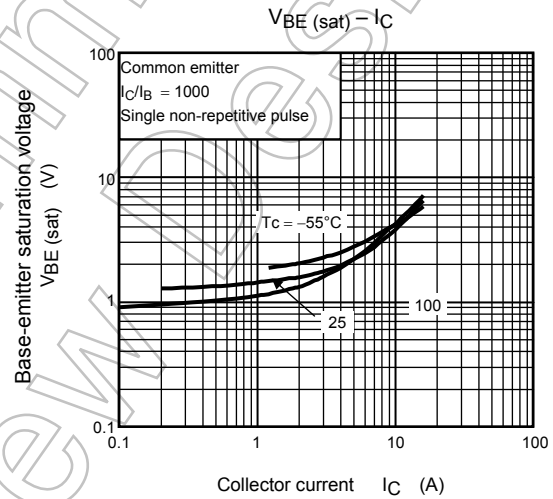
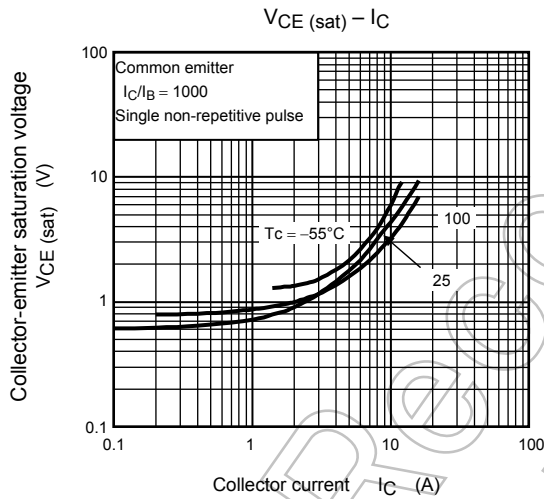
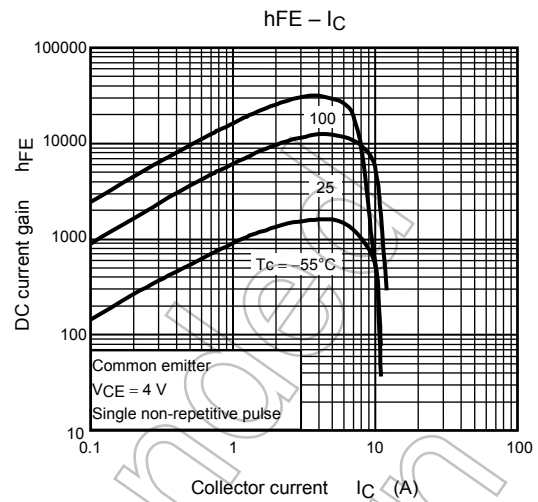
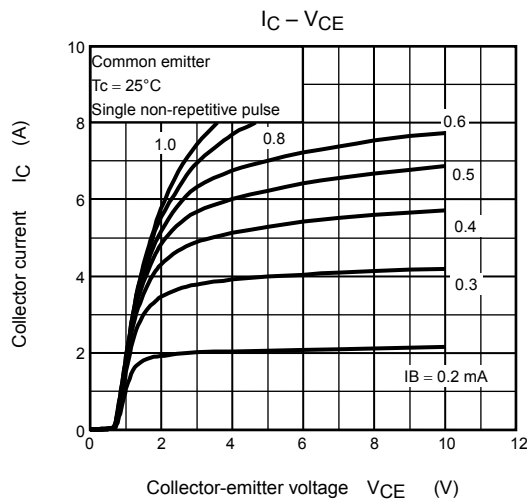
Note 2

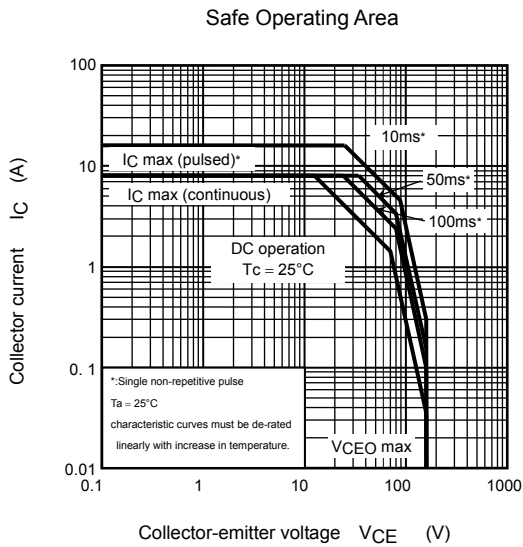
Note 2 : A line under a Lot No. identifies the indication of product Labels.

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

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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.





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