

TOSHIBA Transistor Silicon PNP Epitaxial Type (Darlington Power Transistor)

2SB1067

Micro-Motor Drive, Hammer Drive Applications
Switching Applications
Power Amplifier Applications

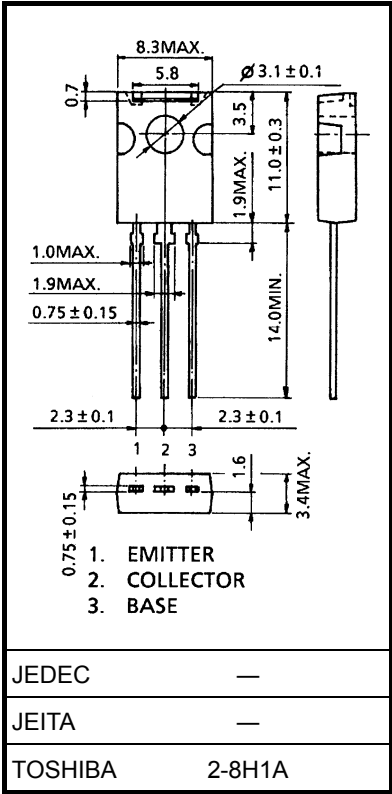
Industrial Applications

Unit: mm

- High DC current gain: $h_{FE} = 2000$ (min) ($V_{CE} = -2$ V, $I_C = -1$ A)
- Low saturation voltage: $V_{CE(sat)} = -1.5$ V (max)
($I_C = -1$ A, $I_B = -1$ mA)

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

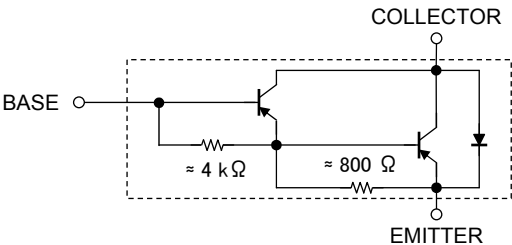
| Characteristics | | Symbol | Rating | Unit |
|-----------------------------|----------------------------|-----------|------------|--------------------|
| Collector-base voltage | | V_{CBO} | -80 | V |
| Collector-emitter voltage | | V_{CEO} | -80 | V |
| Emitter-base voltage | | V_{EBO} | -8 | V |
| Collector current | | I_C | -2 | A |
| Base current | | I_B | -0.5 | A |
| Collector power dissipation | $T_a = 25^{\circ}\text{C}$ | P_C | 1.5 | W |
| | $T_c = 25^{\circ}\text{C}$ | | 10 | |
| Junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -55 to 150 | $^{\circ}\text{C}$ |



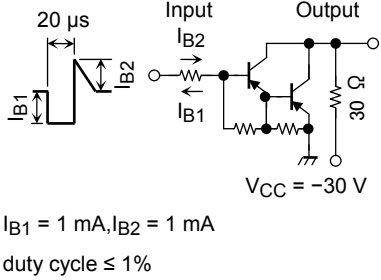
Weight: 0.82 g (typ.)

Note1: 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).

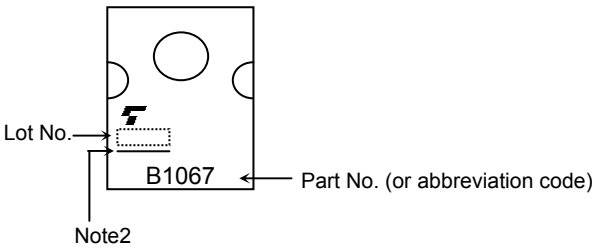
Equivalent Circuit



Electrical Characteristics (Ta = 25°C)

| Characteristics | | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|--------------|-----------------------|---|------|------|------|------|
| Collector cut-off current | | ICBO | V _{CB} = -80 V, I _E = 0 | — | — | -10 | μA |
| Emitter cut-off current | | IEBO | V _{EB} = -8 V, I _C = 0 | — | — | -4 | mA |
| Collector-emitter breakdown voltage | | V (BR) CEO | I _C = -10 mA, I _B = 0 | -80 | — | — | V |
| DC current gain | | h _{FE} | V _{CE} = -2 V, I _C = -1 A | 2000 | — | — | |
| Collector-emitter saturation voltage | | V _{CE} (sat) | I _C = -1 A, I _B = -1 mA | — | — | -1.5 | V |
| Base-emitter saturation voltage | | V _{BE} (sat) | I _C = -1 A, I _B = -1 mA | — | — | -2.0 | V |
| Transition frequency | | f _T | V _{CE} = -2 V, I _C = -0.5 A | — | 50 | — | MHz |
| Collector output capacitance | | C _{ob} | V _{CB} = -10 V, I _E = 0, f = 1 MHz | — | 30 | — | pF |
| Switching time | Turn-on time | t _{on} |  I _{B1} = 1 mA, I _{B2} = 1 mA duty cycle ≤ 1% | — | 0.4 | — | μs |
| | Storage time | t _{stg} | | — | 2.0 | — | |
| | Fall time | t _f | | — | 0.4 | — | |

Marking

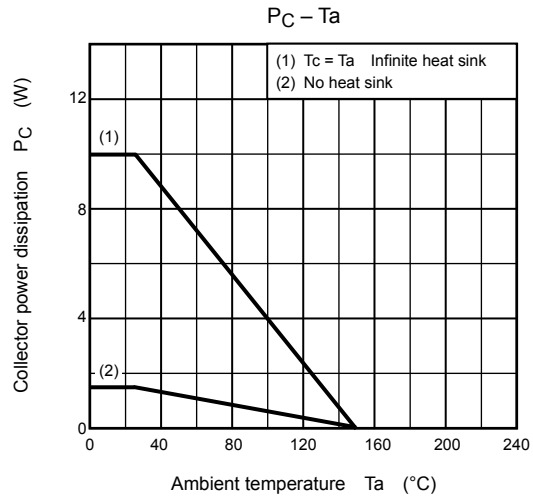
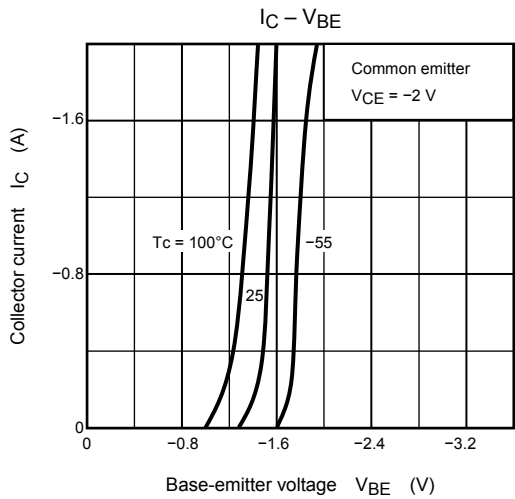
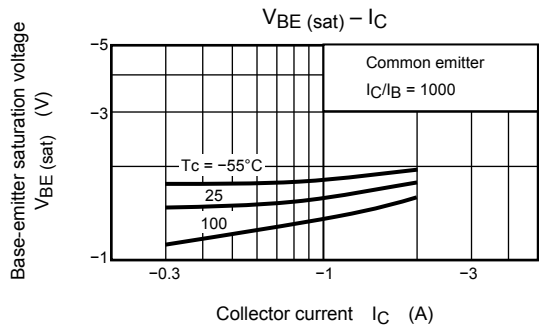
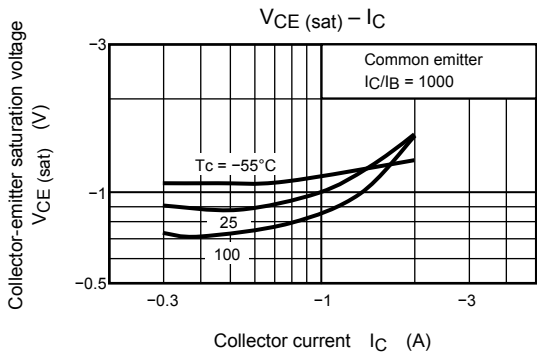
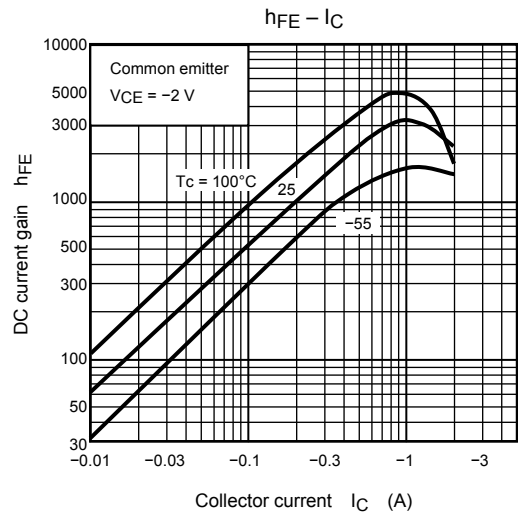
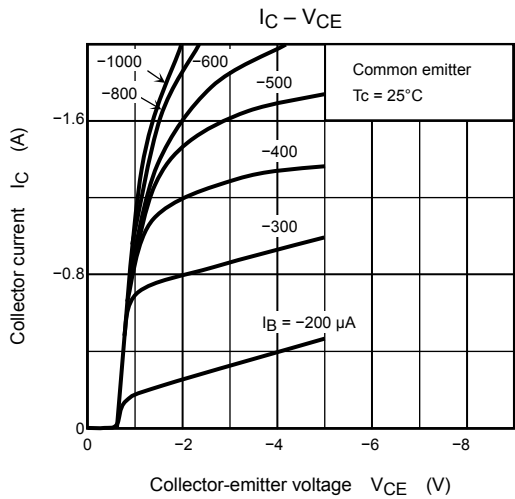


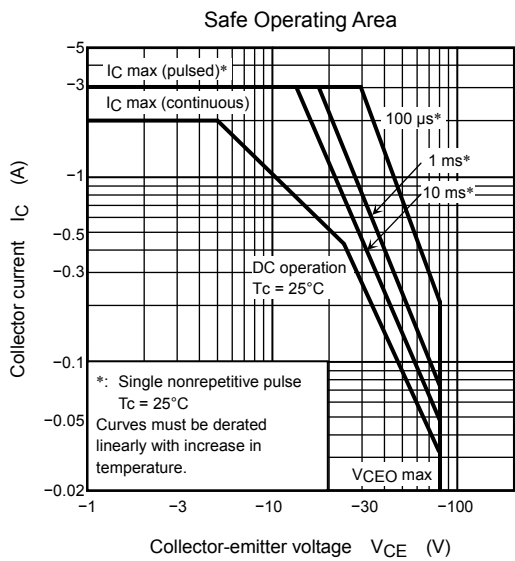
Note2: A line under a Lot No. identifies the indication of product Labels.

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 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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