

TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

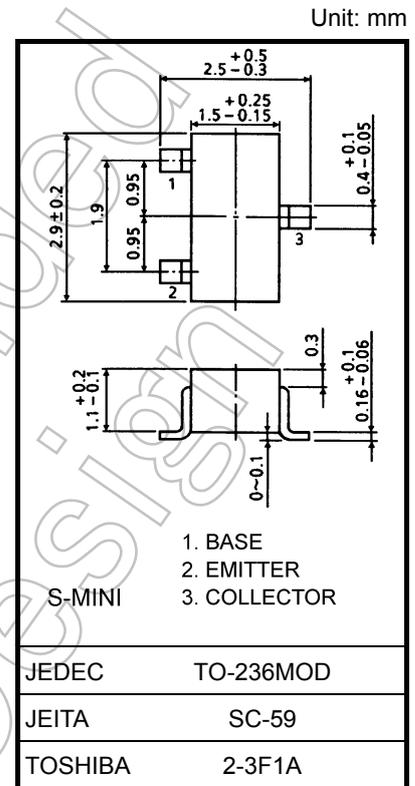
2SC6105

High Voltage Switching Applications

- High voltage: $V_{CE0} = 600\text{ V (max)}$
- Low saturation voltage: $V_{CE(sat)}(1) = 1.0\text{ V (max)}$
 $@I_C = 20\text{ mA}, I_B = 0.5\text{ mA}$

Absolute Maximum Ratings (Ta = 25°C)

| Characteristics | | Symbol | Rating | Unit |
|-----------------------------|-------|-----------|------------|------|
| Collector-base voltage | | V_{CBO} | 600 | V |
| Collector-emitter voltage | | V_{CEO} | 600 | V |
| Emitter-base voltage | | V_{EBO} | 7 | V |
| Collector current | DC | I_C | 50 | mA |
| | PULSE | I_{CP} | 100 | |
| Base current | | I_B | 25 | mA |
| Collector power dissipation | | P_C | 200 | mW |
| Junction temperature | | T_j | 150 | °C |
| Storage temperature range | | T_{stg} | -55 to 150 | °C |

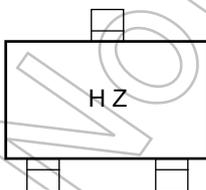


Weight: 12 mg (typ.)

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.).

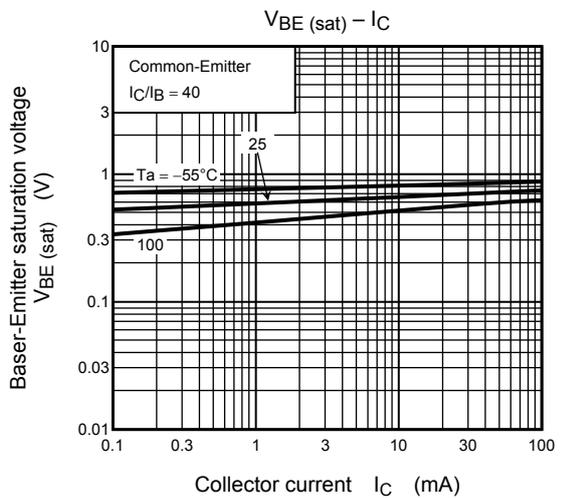
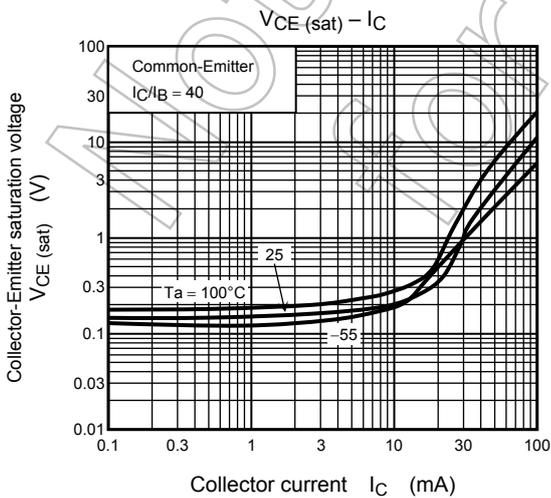
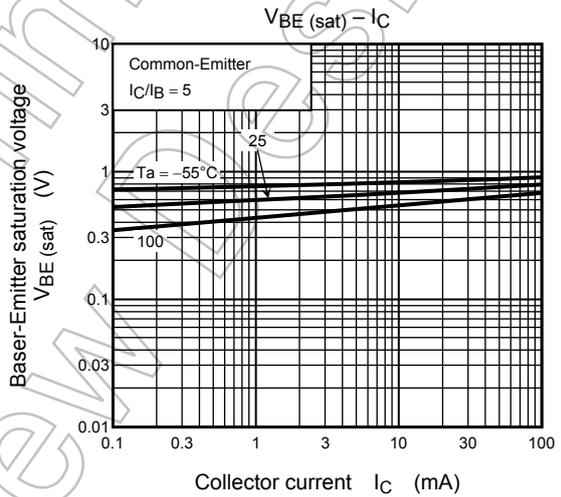
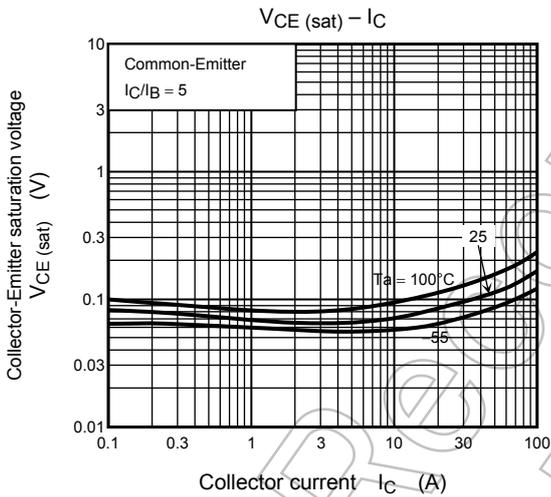
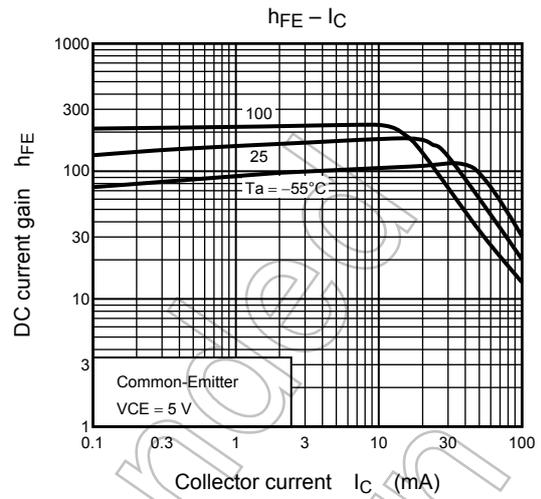
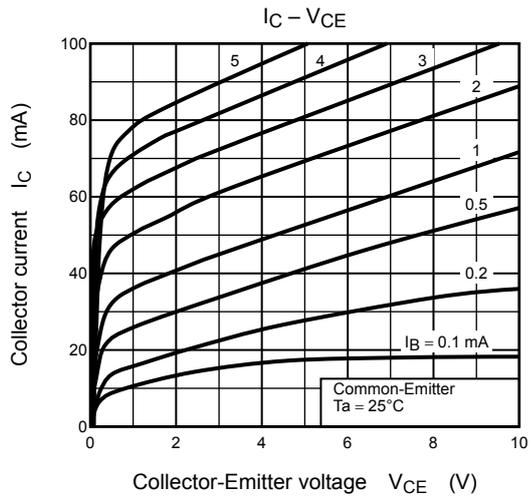
Marking

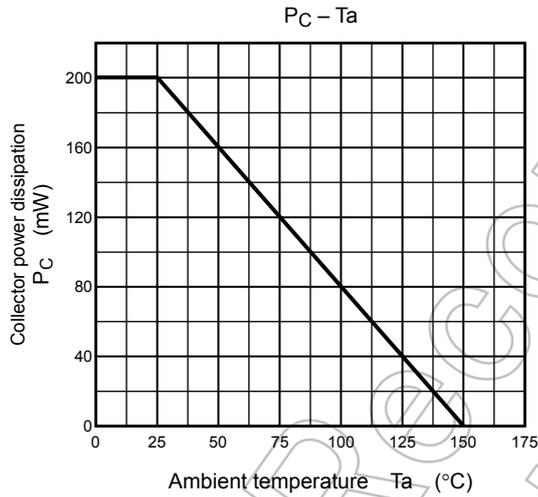
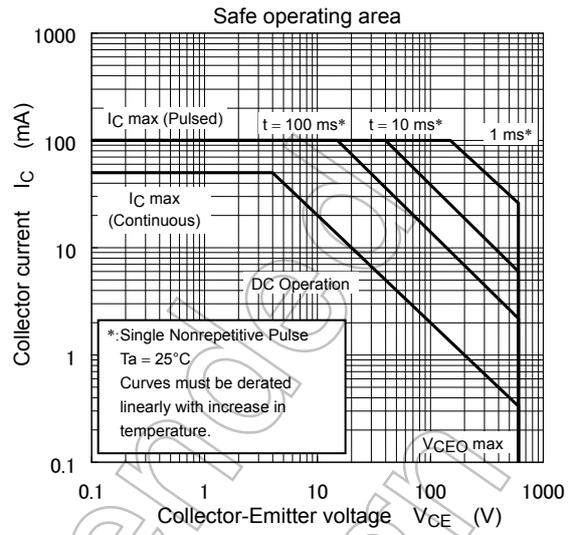
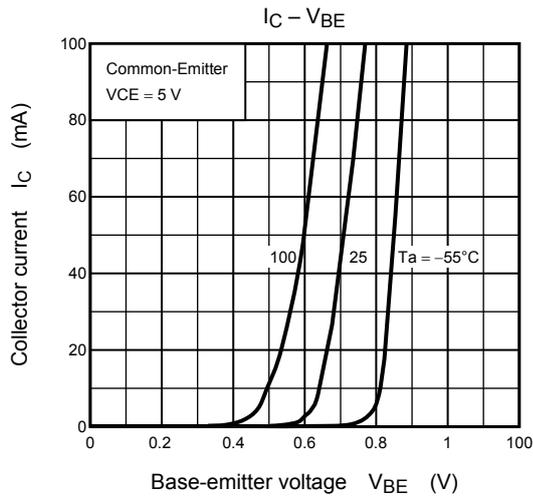


Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-----------------------|---|-----|------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = 600\text{ V}, I_E = 0$ | — | — | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 7\text{ V}, I_C = 0$ | — | — | 0.1 | μA |
| Collector-emitter breakdown voltage | V_{CEO} | $I_C = 1\text{ mA}, I_B = 0$ | 600 | — | — | V |
| DC current gain | $h_{FE} (1)$ | $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$ | 80 | — | — | |
| | $h_{FE} (2)$ | $V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$ | 100 | — | 300 | |
| Collector-emitter saturation voltage | $V_{CE} (\text{sat})$ | $I_C = 20\text{ mA}, I_B = 0.5\text{ mA}$ | — | — | 1.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 5\text{ V}, I_C = 20\text{ mA}$ | — | 0.66 | 0.85 | V |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 6.5 | — | pF |

Not Recommended for New Design





Not Recommended for New Designs

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