

TOSHIBA Transistor Silicon NPN Triple Diffused Type

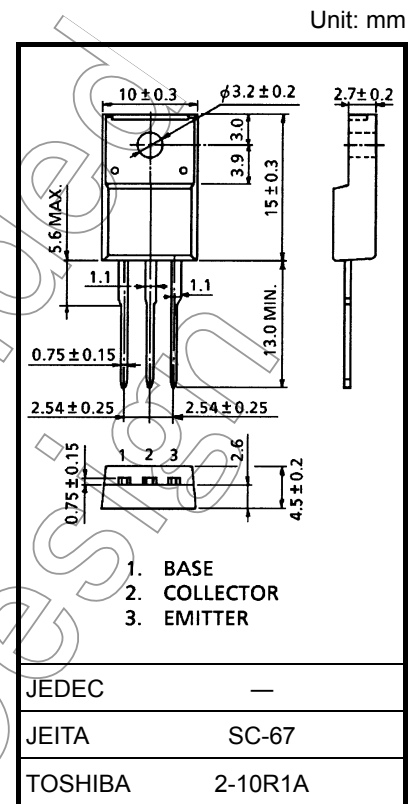
2SD2353

Power Amplifier Applications

- High DC current gain: $h_{FE} = 800$ to 3200
- Low collector saturation voltage: $V_{CE(sat)} = 0.4$ V (typ.)

Absolute Maximum Ratings (Tc = 25°C)

| Characteristics | | Symbol | Rating | Unit |
|-----------------------------|-----------|-----------|------------|------|
| Collector-base voltage | | V_{CBO} | 60 | V |
| Collector-emitter voltage | | V_{CEO} | 60 | V |
| Emitter-base voltage | | V_{EBO} | 7 | V |
| Collector current | DC | I_C | 3 | A |
| | Pulse | I_{CP} | 6 | A |
| Base current | | I_B | 0.6 | A |
| Collector power dissipation | Ta = 25°C | P_C | 2 | W |
| | Tc = 25°C | | 25 | |
| Junction temperature | | T_j | 150 | °C |
| Storage temperature range | | T_{stg} | -55 to 150 | °C |



Weight: 1.7 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.

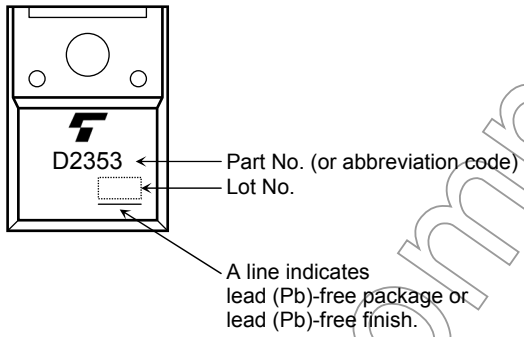
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Not for New

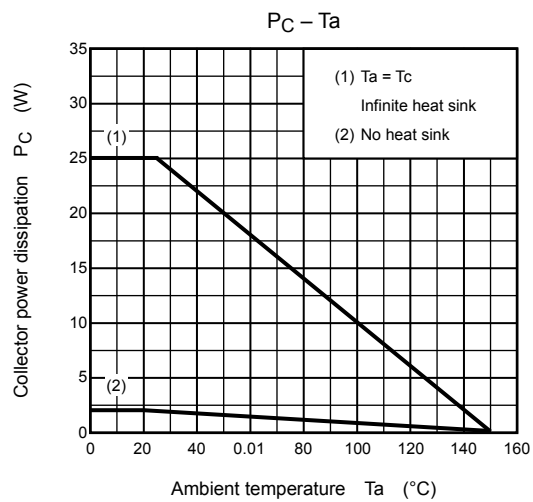
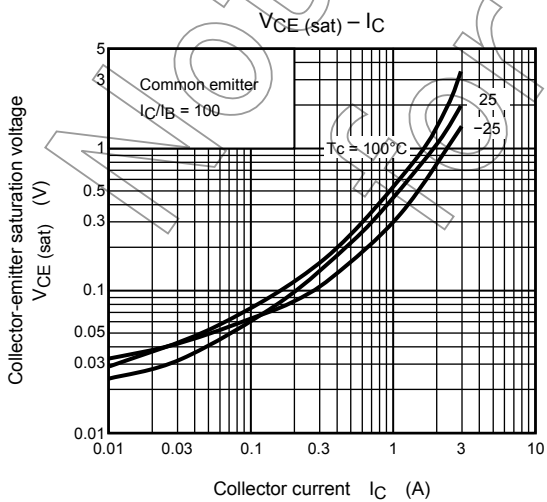
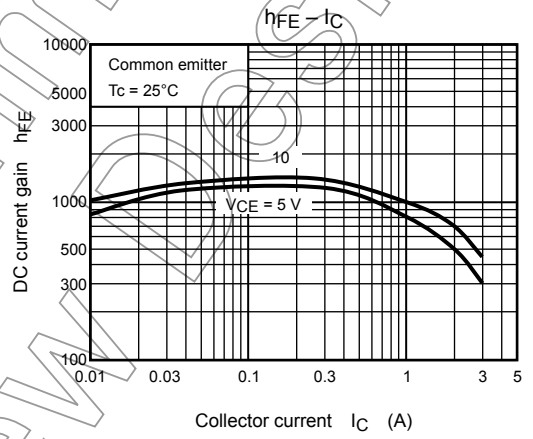
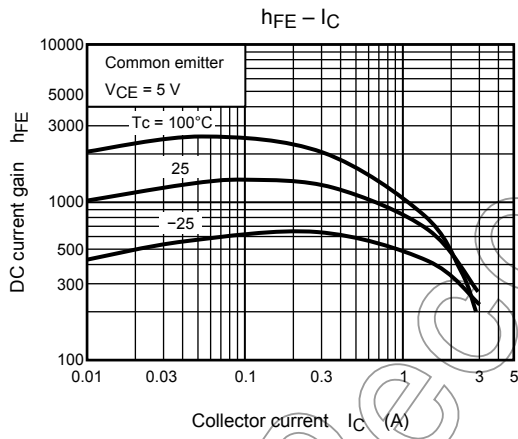
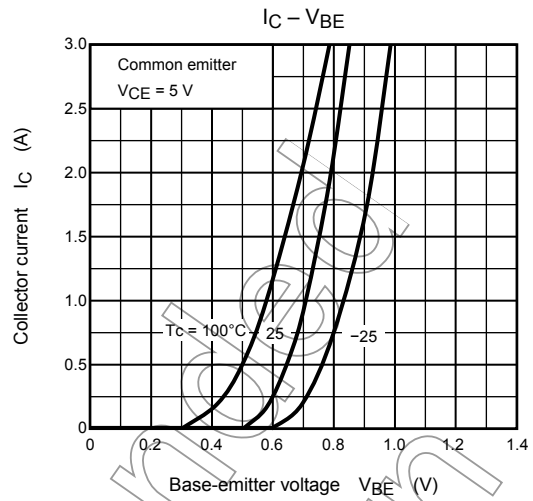
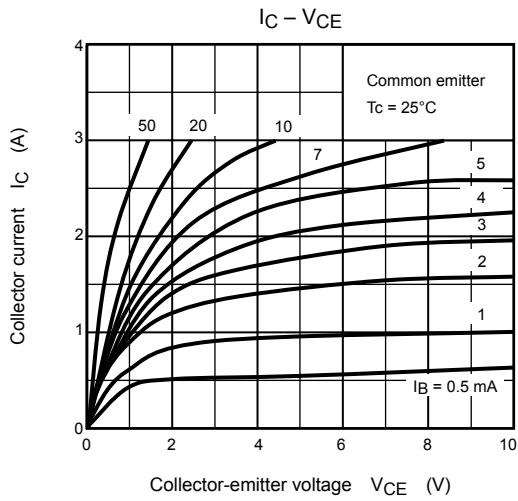
Electrical Characteristics (Tc = 25°C)

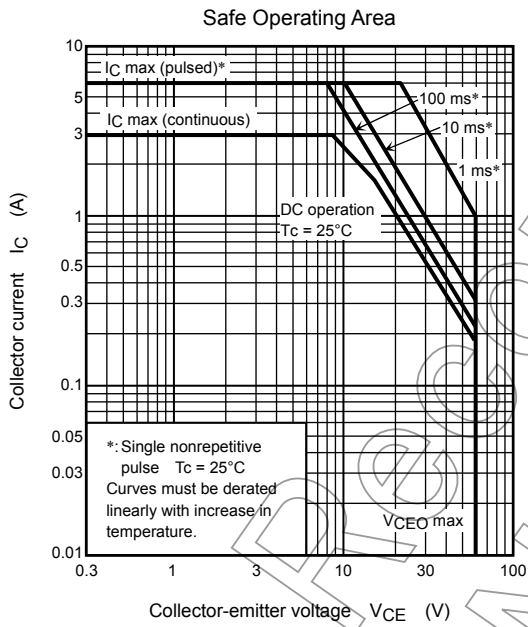
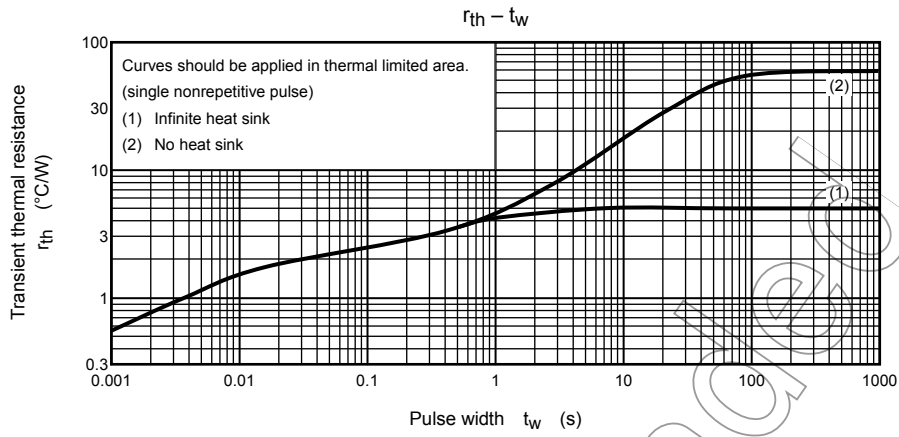
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|----------------|---|-----|------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = 60\text{ V}, I_E = 0$ | — | — | 100 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 6\text{ V}, I_C = 0$ | — | — | 100 | μA |
| Collector-emitter breakdown voltage | $V_{(BR) CEO}$ | $I_C = 50\text{ mA}, I_B = 0$ | 60 | — | — | V |
| DC current gain | $h_{FE (1)}$ | $V_{CE} = 5\text{ V}, I_C = 0.2\text{ A}$ | 800 | — | 3200 | |
| | $h_{FE (2)}$ | $V_{CE} = 5\text{ V}, I_C = 1.5\text{ A}$ | 350 | — | — | |
| Collector-emitter saturation voltage | $V_{CE (sat)}$ | $I_C = 1\text{ A}, I_B = 10\text{ mA}$ | — | 0.4 | 1.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$ | — | 0.7 | 1.0 | V |
| Transition frequency | f_T | $V_{CE} = 5\text{ V}, I_C = 0.5\text{ A}$ | — | 18 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 42 | — | pF |

Marking



Not Recommended for New Design





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