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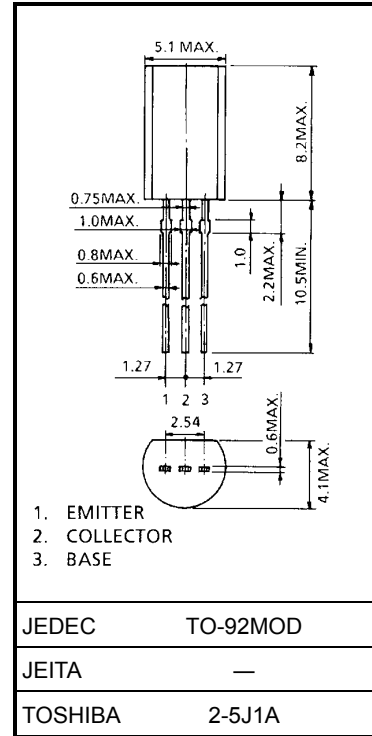
Black and White TV Video Output Applications
 High-Voltage Switching Applications
 Driver Stage Audio Amplifier Applications

Unit: mm

- High breakdown voltage: $V_{CEO} = 150 \text{ V (min)}$
- Low output capacitance: $C_{ob} = 5.0 \text{ pF (max)}$
- High transition frequency: $f_T = 120 \text{ MHz (typ.)}$

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

| Characteristics | Symbol | Rating | Unit |
|-----------------------------|-----------|------------|------------------|
| Collector-base voltage | V_{CBO} | 200 | V |
| Collector-emitter voltage | V_{CEO} | 150 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 50 | mA |
| Base current | I_B | 20 | mA |
| Collector power dissipation | P_C | 800 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to 150 | $^\circ\text{C}$ |



Weight: 0.36 g (typ.)

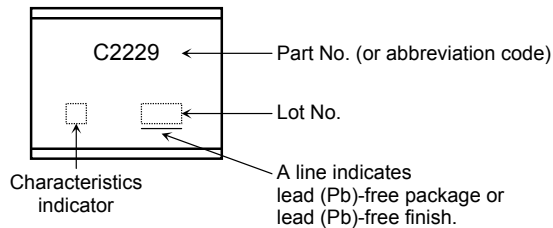
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

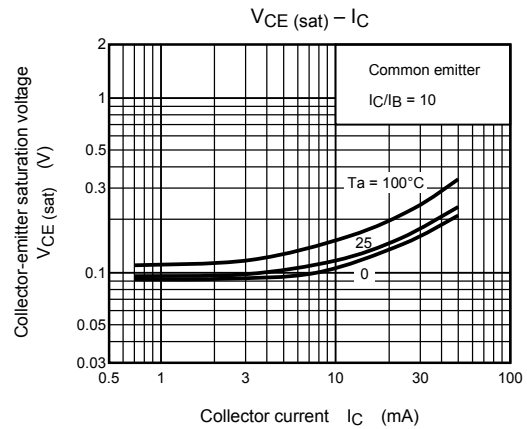
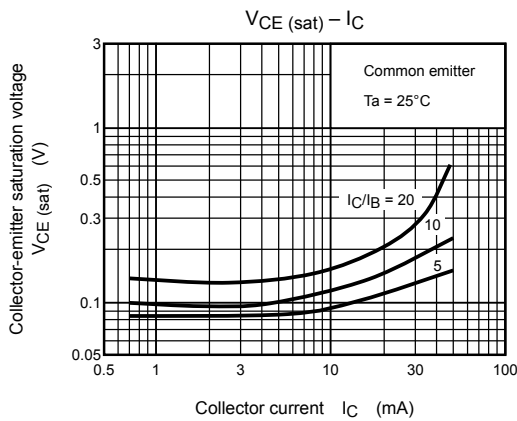
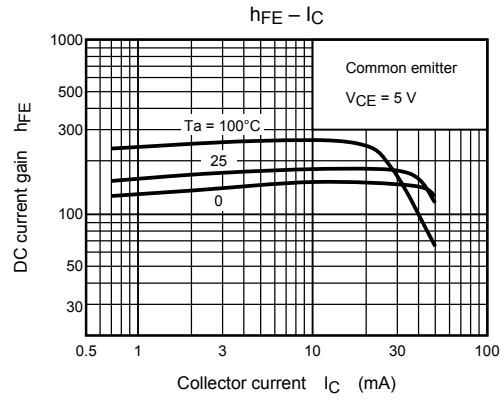
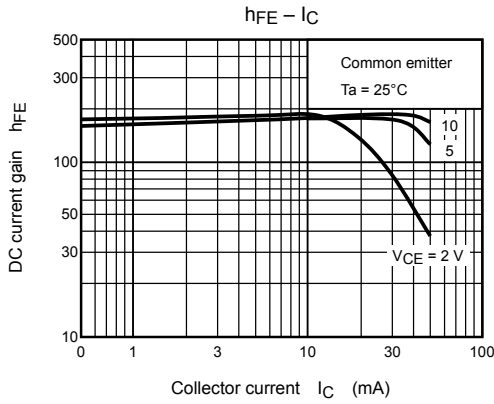
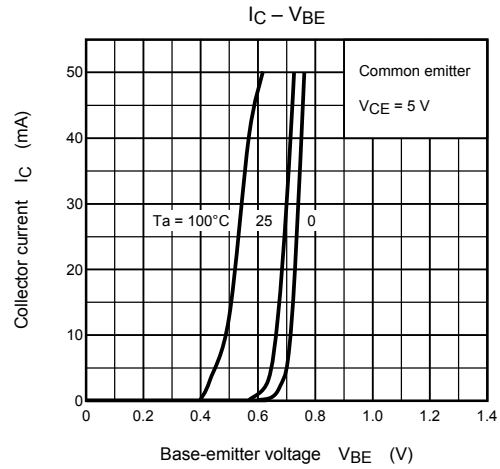
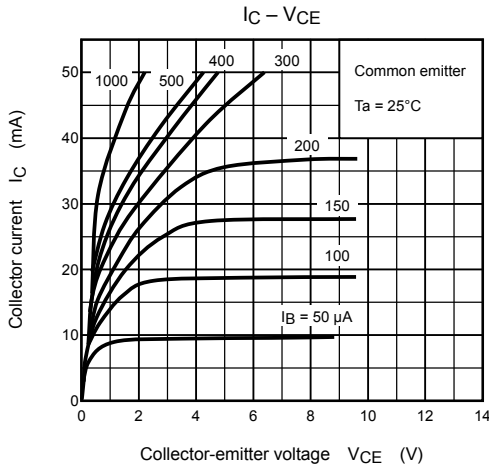
Electrical Characteristics (Ta = 25°C)

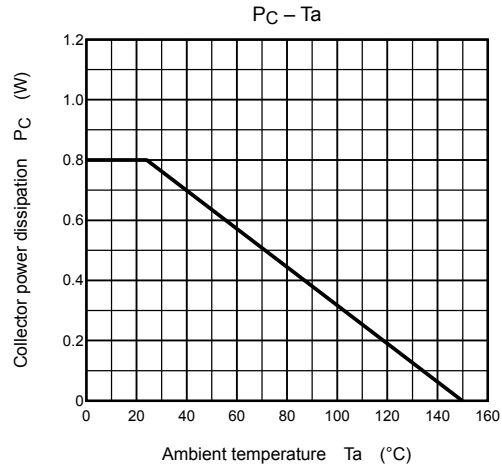
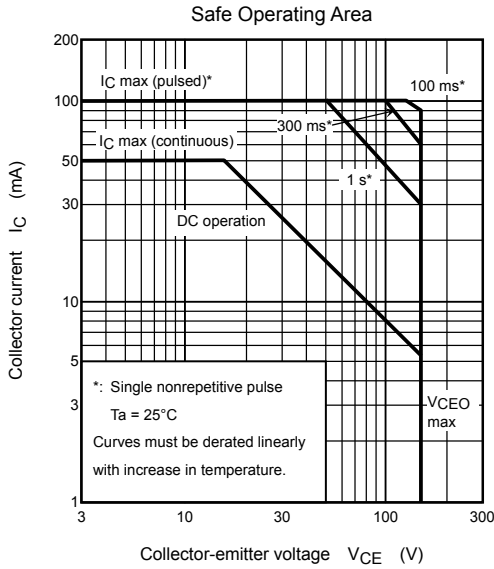
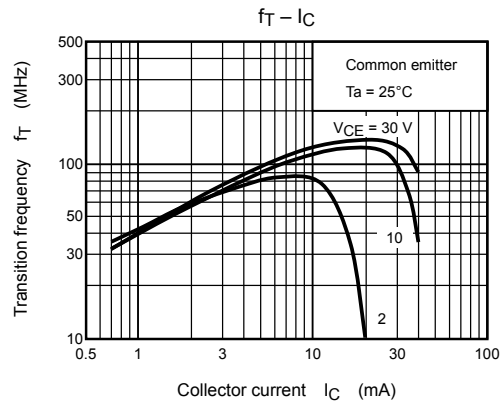
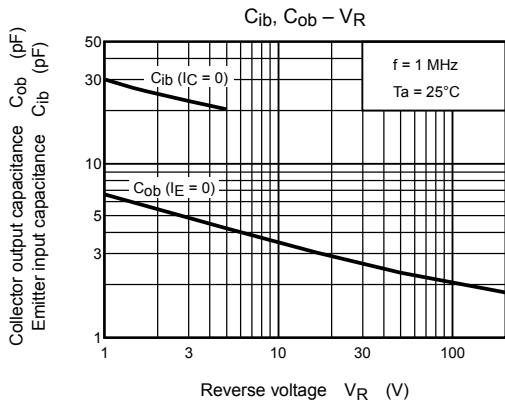
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|--------------------|---|-----|------|-----|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = 200\text{ V}, I_E = 0$ | — | — | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5\text{ V}, I_C = 0$ | — | — | 0.1 | μA |
| DC current gain | h_{FE} (Note) | $V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$ | 70 | — | 240 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | — | — | 0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | — | — | 1 | V |
| Transition frequency | f_T | $V_{CE} = 30\text{ V}, I_C = 10\text{ mA}$ | — | 120 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 3.5 | 5 | pF |

Note: h_{FE} classification O: 70 to 140, Y: 120 to 240

Marking







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20070701-EN

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