

TOSHIBA Transistor Silicon NPN Triple Diffuse Type (PCT Process)

2SC4544

High-Voltage Switching and Amplifier Applications

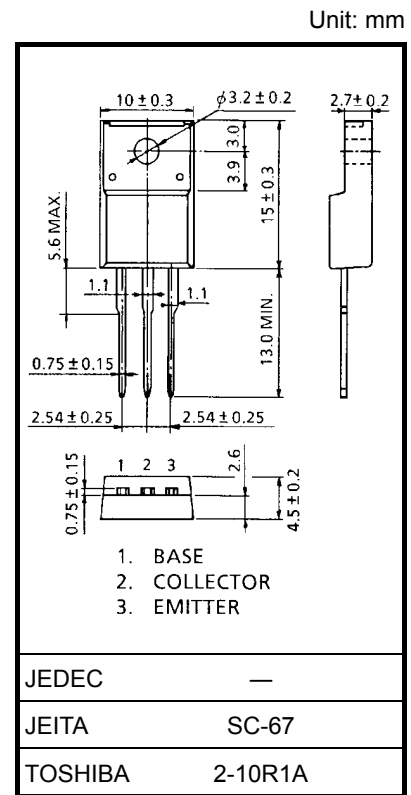
Color TV Horizontal Driver Applications

Color TV Chroma Output Applications

- High voltage: $V_{(BR)CEO} = 300\text{ V}$
- Small collector output capacitance: $C_{ob} = 3.0\text{ pF (typ.)}$
- Collector metal (fin) is fully covered with mold resin.

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

| Characteristics | | Symbol | Rating | Unit |
|-----------------------------|--------------------------|-----------|------------|------------------|
| Collector-base voltage | | V_{CBO} | 300 | V |
| Collector-emitter voltage | | V_{CEO} | 300 | V |
| Emitter-base voltage | | V_{EBO} | 7 | V |
| Collector current | | I_C | 100 | mA |
| Base current | | I_B | 50 | mA |
| Collector power dissipation | $T_a = 25^\circ\text{C}$ | P_C | 2 | W |
| | $T_c = 25^\circ\text{C}$ | | 8 | |
| Junction temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | | T_{stg} | -55 to 150 | $^\circ\text{C}$ |



Weight: 1.7 g (typ.)

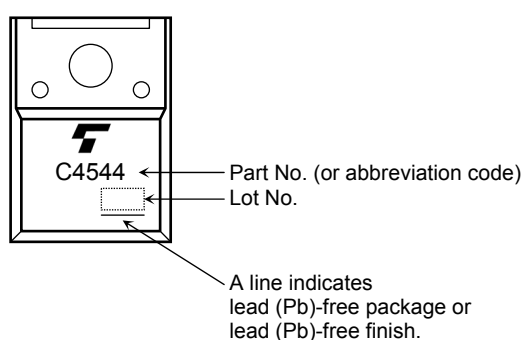
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

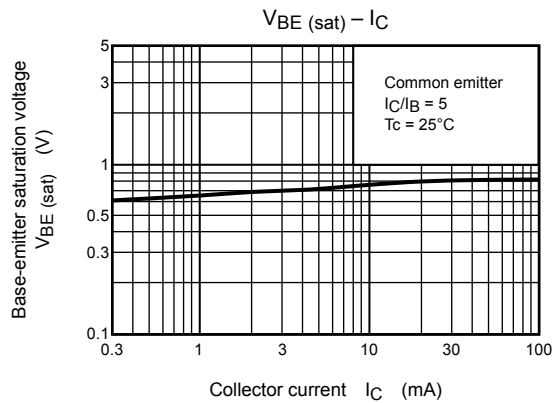
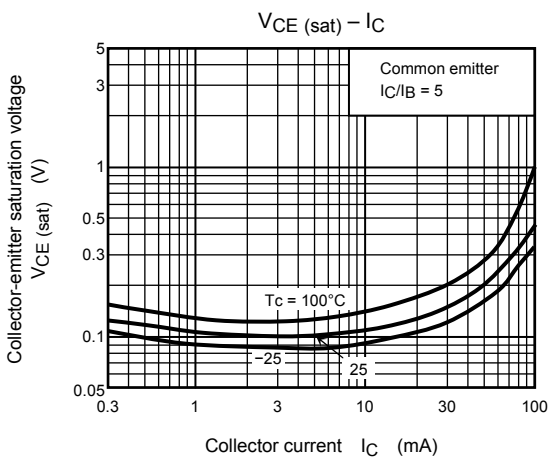
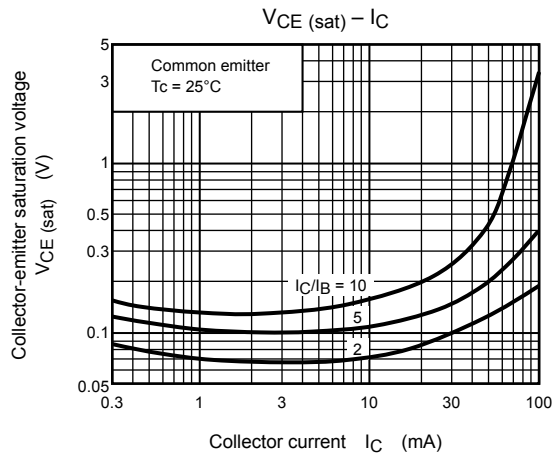
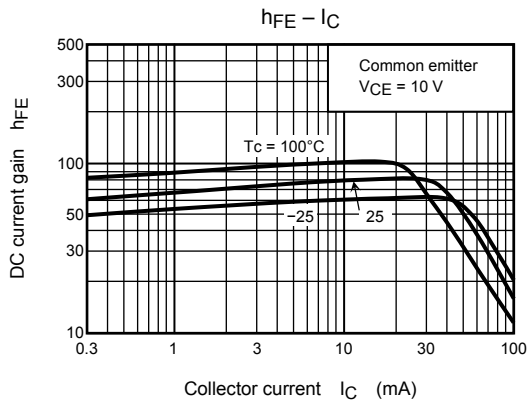
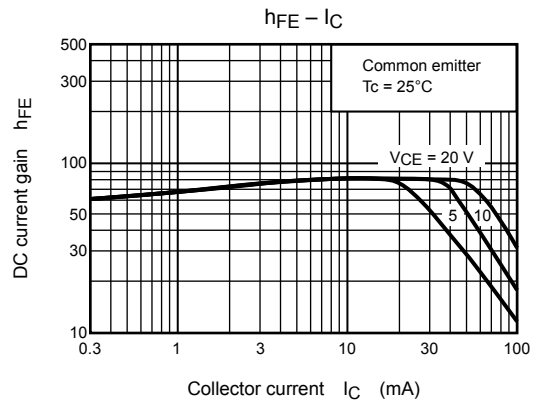
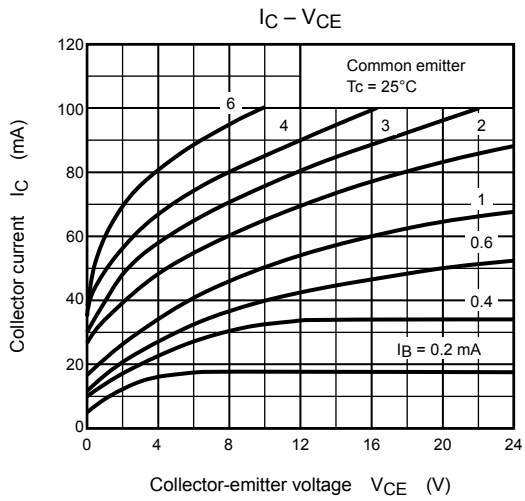
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

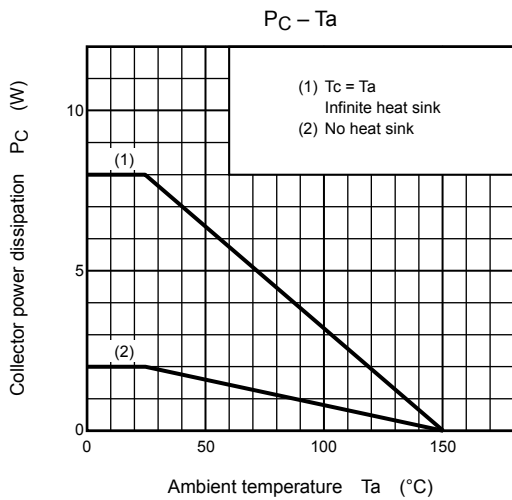
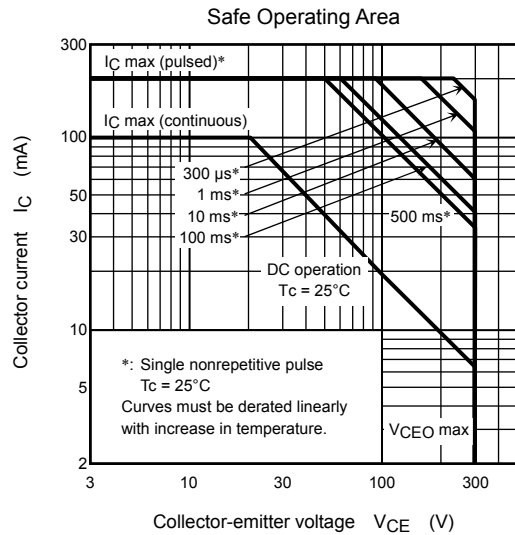
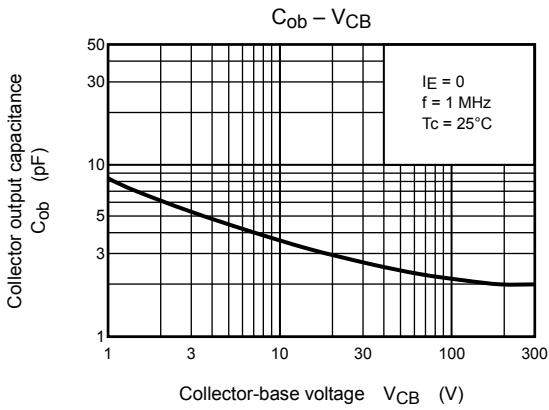
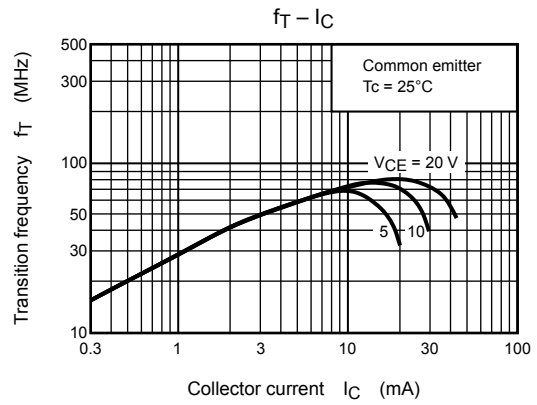
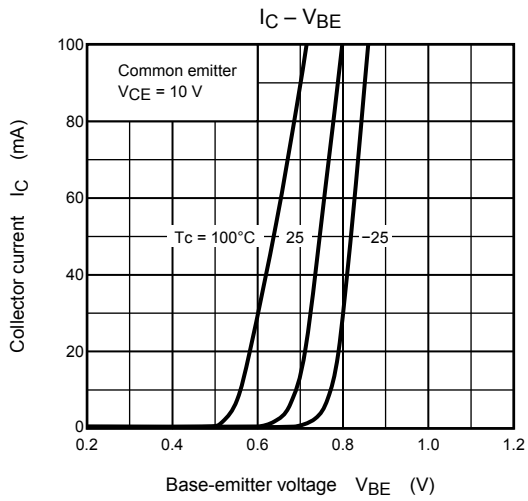
Electrical Characteristics (Tc = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-----------------------|---|-----|------|-----|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = 240\text{ V}, I_E = 0$ | — | — | 1.0 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 7\text{ V}, I_C = 0$ | — | — | 1.0 | μA |
| DC current gain | $h_{FE} (1)$ | $V_{CE} = 10\text{ V}, I_C = 4\text{ mA}$ | 20 | — | — | |
| | $h_{FE} (2)$ | $V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$ | 30 | — | 200 | |
| Collector-emitter saturation voltage | $V_{CE} (\text{sat})$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | — | — | 1.0 | V |
| Base-emitter saturation voltage | $V_{BE} (\text{sat})$ | $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | — | — | 1.0 | V |
| Transition frequency | f_T | $V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$ | 50 | 70 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = 20\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 3.0 | — | pF |

Marking







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20070701-EN

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