

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

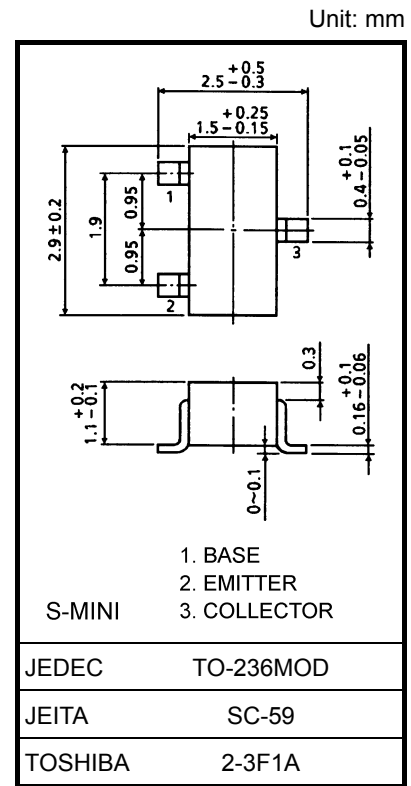
2SA1721

High Voltage Control Applications
 Plasma Display, Nixie Tube Driver Applications
 Cathode Ray Tube Brightness Control Applications

- High voltage: $V_{CBO} = -300\text{ V}$, $V_{CEO} = -300\text{ V}$
- Low saturation voltage: $V_{CE(sat)} = -0.5\text{ V (max)}$
- Small collector output capacitance: $C_{ob} = 5.5\text{ pF (typ.)}$
- Complementary to 2SC4497

Absolute Maximum Ratings (Ta = 25°C)

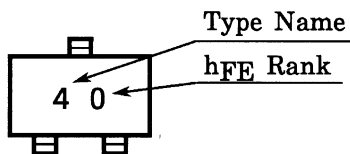
| Characteristics | Symbol | Rating | Unit |
|-----------------------------|-----------|------------|------|
| Collector-base voltage | V_{CBO} | -300 | V |
| Collector-emitter voltage | V_{CEO} | -300 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -100 | mA |
| Base current | I_B | -20 | mA |
| Collector power dissipation | P_C | 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature range | T_{stg} | -55 to 150 | °C |



Weight: 0.012 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).

Marking

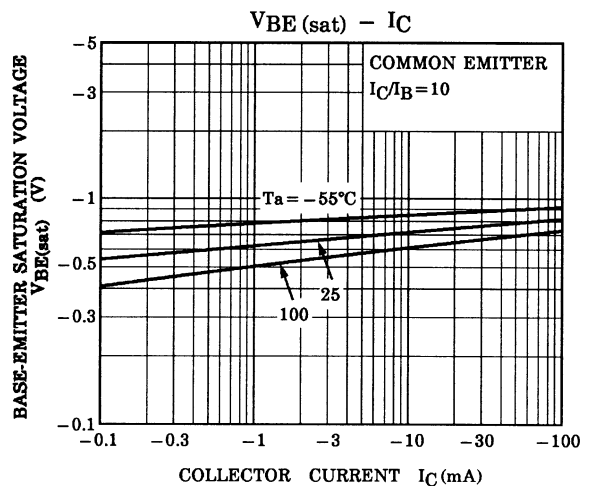
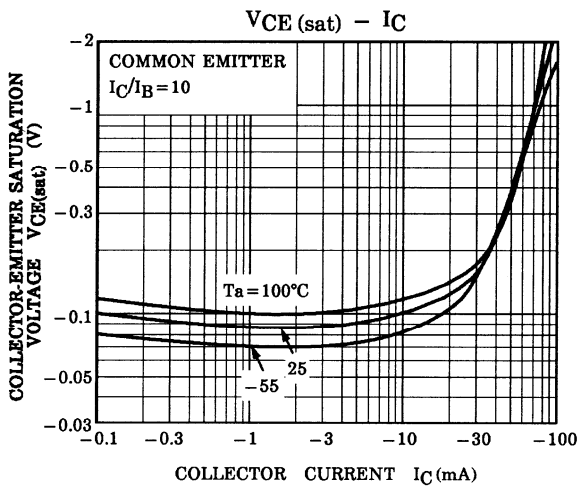
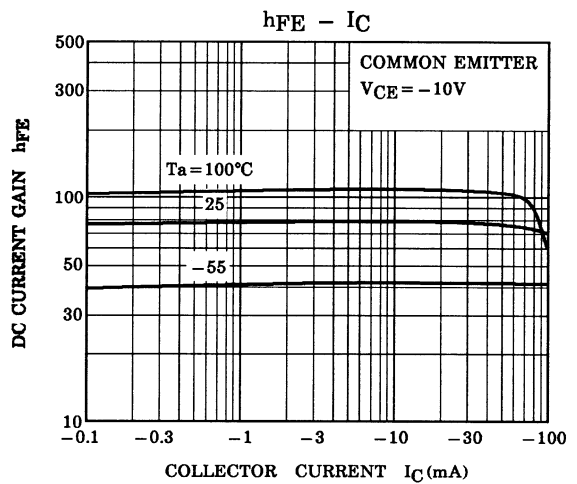
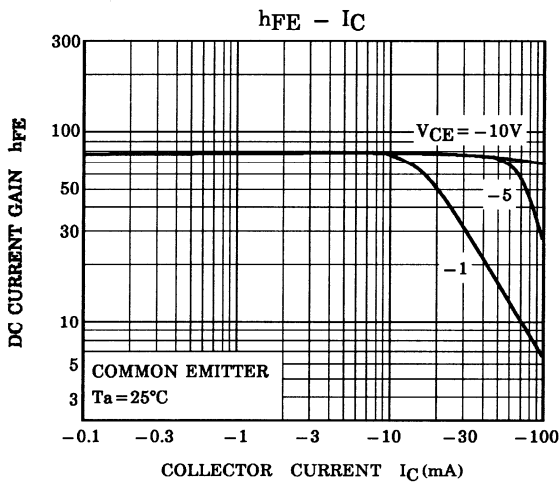
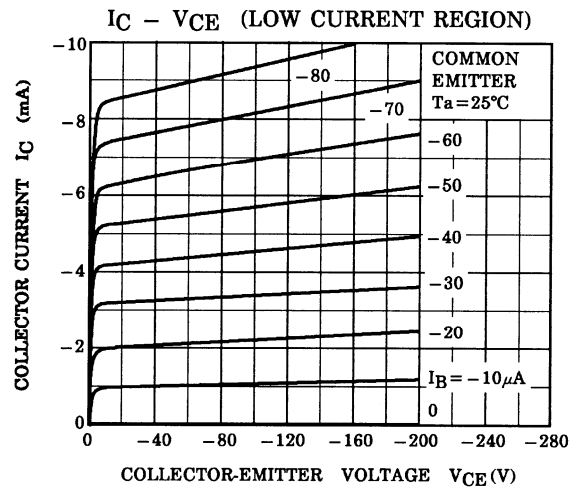
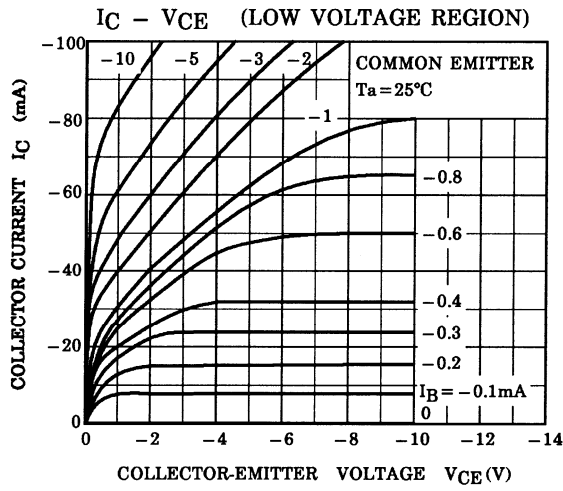


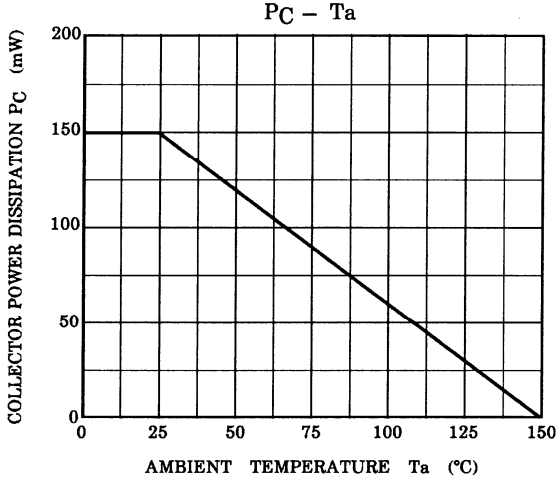
Start of commercial production
 1988-09

Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-----------------------|--|------|------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = -300\text{ V}, I_E = 0$ | — | — | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | — | — | -0.1 | μA |
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -0.1\text{ mA}, I_E = -0$ | -300 | — | — | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1\text{ mA}, I_B = -0$ | -300 | — | — | V |
| DC current gain | $h_{FE(1)}$ (Note) | $V_{CE} = -10\text{ V}, I_C = -20\text{ mA}$ | 30 | — | 150 | |
| | $h_{FE(2)}$ | $V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$ | 20 | — | — | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -20\text{ mA}, I_B = -2\text{ mA}$ | — | — | -0.5 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -20\text{ mA}, I_B = -2\text{ mA}$ | — | — | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{ V}, I_C = -20\text{ mA}$ | 50 | 55 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -20\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 5.5 | 6.0 | pF |

Note: $h_{FE(1)}$ classification R: 30 to 90, O: 50 to 150





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