

TOSHIBA Transistor Silicon PNP Triple Diffused (PCT process)

2SA1255

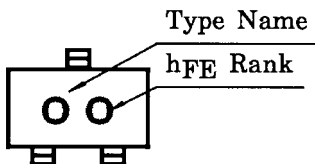
High Voltage Switching Applications

- High voltage: $V_{CBO} = -200\text{ V (min)}$
 $V_{CEO} = -200\text{ V (min)}$
- Small package
- Complementary to 2SC3138

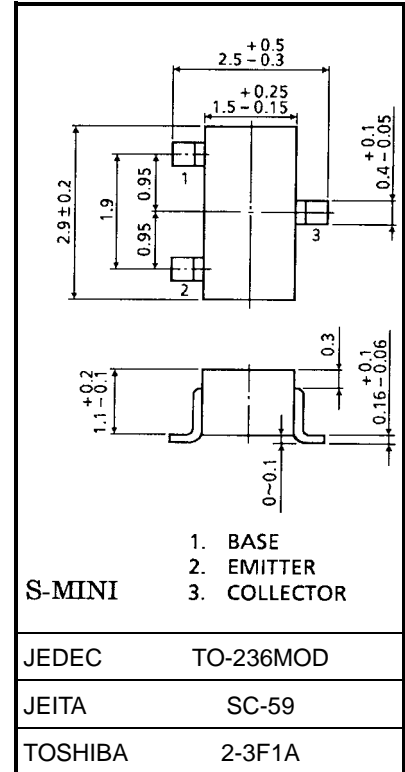
Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Characteristics | Symbol | Rating | Unit |
|-----------------------------|-----------|---------|------------------|
| Collector-base voltage | V_{CBO} | -200 | V |
| Collector-emitter voltage | V_{CEO} | -200 | 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 | 150 | mW |
| Junction temperature | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55~125 | $^\circ\text{C}$ |

Marking



Unit: mm

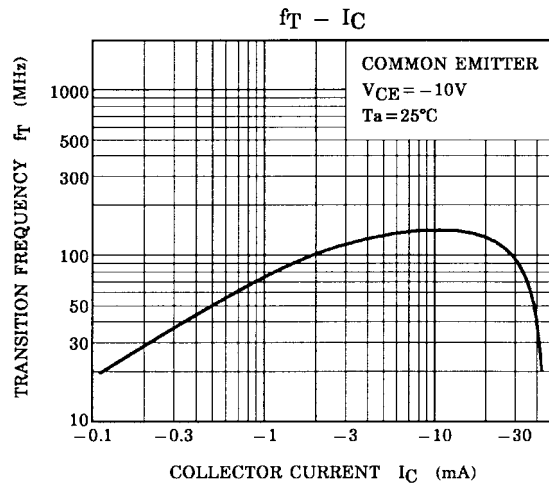
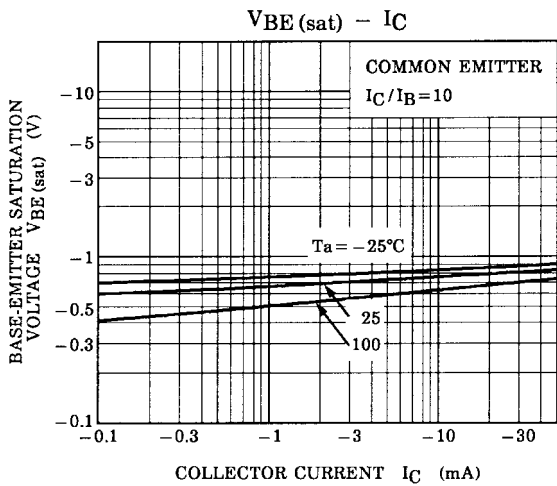
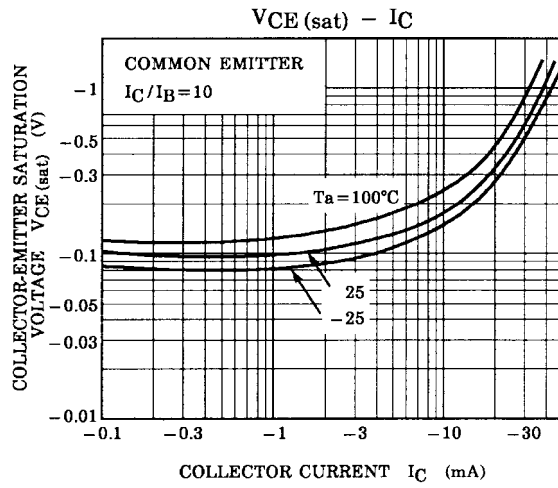
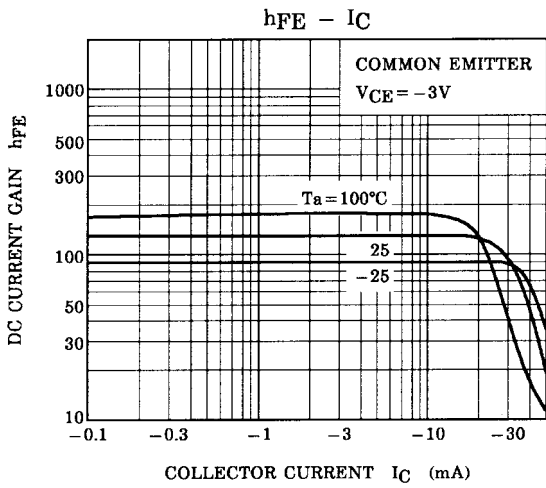
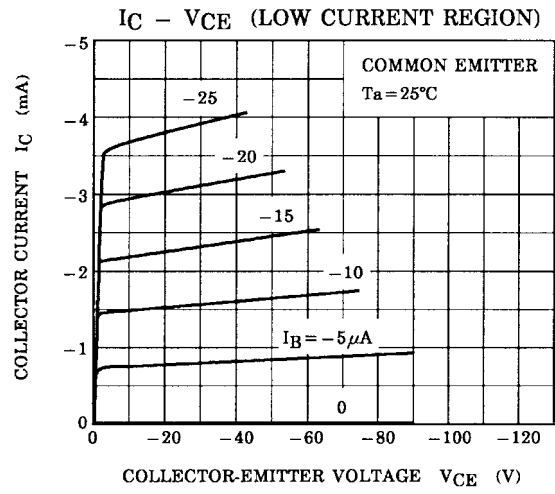
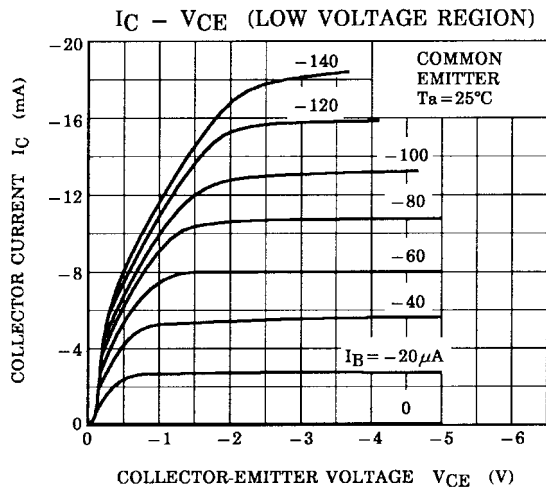


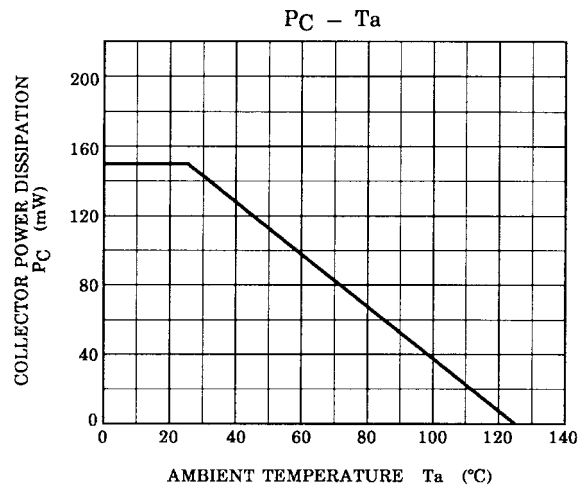
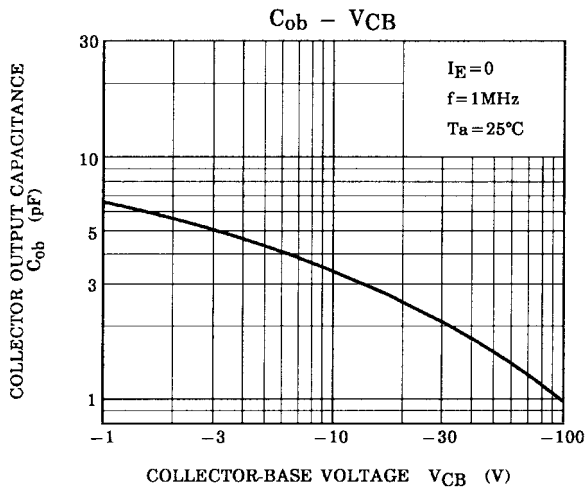
Weight: 0.012 g (typ.)

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 |
| Collector-base breakdown voltage | | $V_{(BR) CBO}$ | $I_C = -0.1\text{ mA}, I_E = 0$ | -200 | — | — | V |
| Collector-emitter breakdown voltage | | $V_{(BR) CEO}$ | $I_C = -1\text{ mA}, I_B = 0$ | -200 | — | — | V |
| DC current gain | | h_{FE} (Note) | $V_{CE} = -3\text{ V}, I_C = -10\text{ mA}$ | 70 | — | 240 | |
| Collector-emitter saturation voltage | | $V_{CE(sat)}$ | $I_C = -10\text{ mA}, I_B = -1\text{ mA}$ | — | -0.2 | -1 | V |
| Base-emitter saturation voltage | | $V_{BE(sat)}$ | $I_C = -10\text{ mA}, I_B = -1\text{ mA}$ | — | -0.75 | -1.5 | V |
| Transition frequency | | f_T | $V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$ | 50 | 100 | — | MHz |
| Collector output capacitance | | C_{ob} | $V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 3 | 7 | pF |
| Switching time | Turn-on time | t_{on} | $V_{CC} = -50\text{ V}, I_C = -6\text{ mA}$ $-I_{B1} = I_{B2} = 0.6\text{ mA}$ Pulse width = 5 μs Duty cycle $\leq 2\%$ | — | 0.3 | — | μs |
| | Storage time | t_{stg} | | — | 2 | — | |
| | Fall time | t_f | | — | 0.4 | — | |

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





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