

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1955F

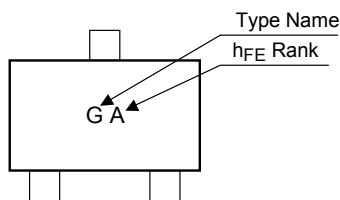
General Purpose Amplifier Applications
Switching and Muting Switch Application

- Low saturation voltage: $V_{CE(sat)}(1) = -15 \text{ mV (typ.)}$
@ $I_C = -10 \text{ mA}/I_B = -0.5 \text{ mA}$
- Large collector current: $I_C = -400 \text{ mA (max)}$

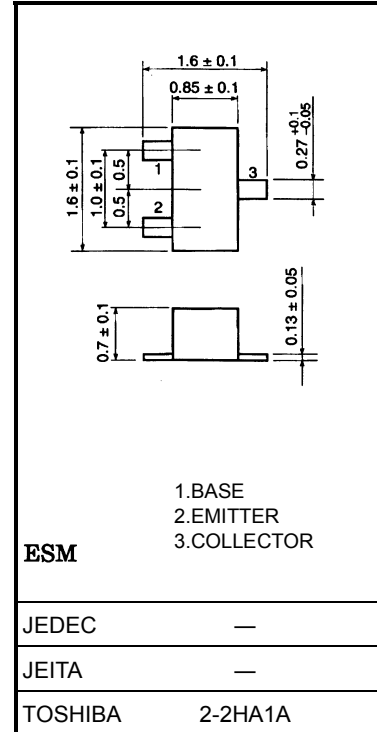
Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|-----------------------------|-----------|---------|------|
| Collector-base voltage | V_{CBO} | -15 | V |
| Collector-emitter voltage | V_{CEO} | -12 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -400 | mA |
| Base current | I_B | -50 | mA |
| Collector power dissipation | P_C | 100 | mW |
| Junction temperature | T_j | 125 | °C |
| Storage temperature range | T_{stg} | -55~125 | °C |

Marking



Unit: mm

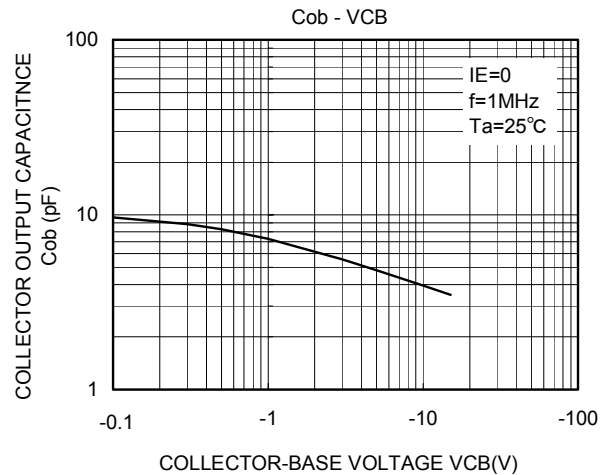
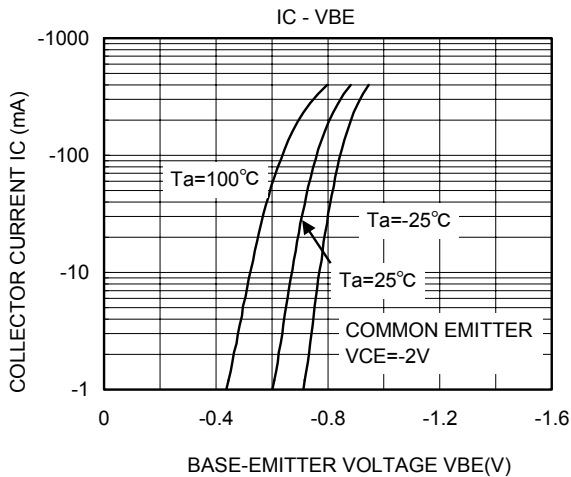
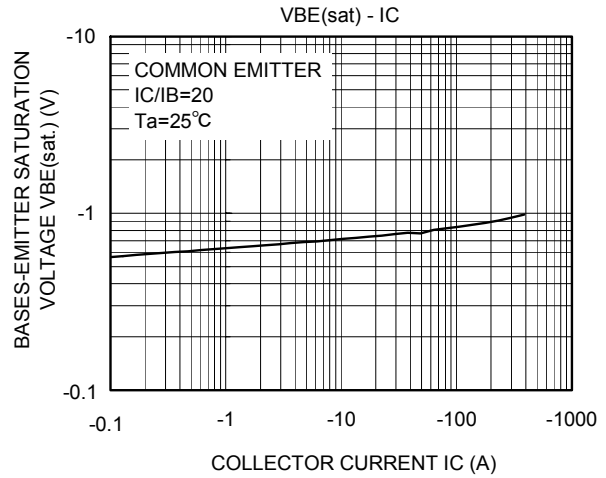
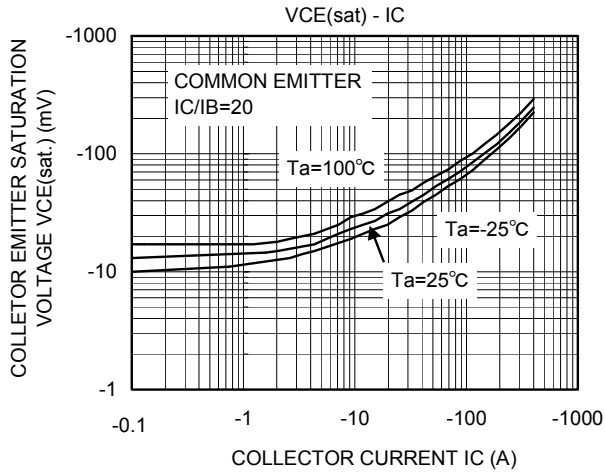
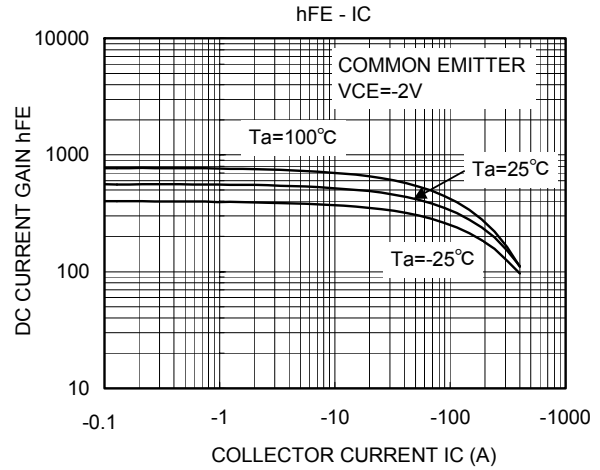
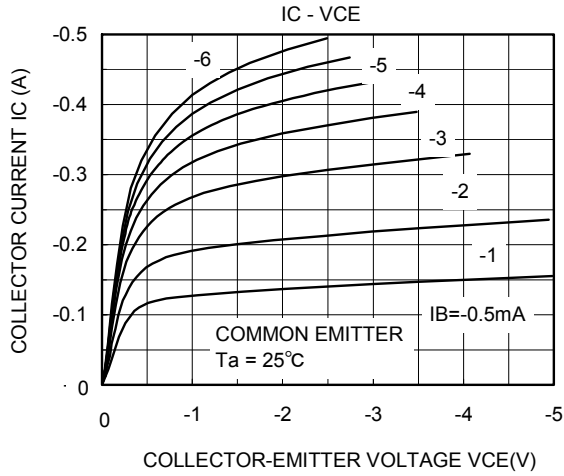


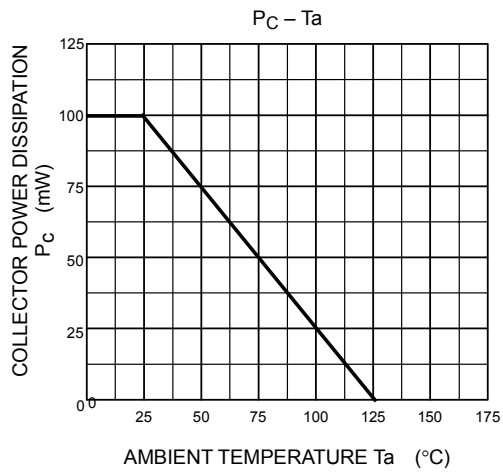
Weight: 2.3 mg (typ.)

Electrical Characteristics (Ta = 25°C)

| Characteristics | | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|--------------|--------------------------|--|-----|-------|------|---------------|
| Collector cut-off current | | I_{CBO} | $V_{CB} = -15\text{ V}, I_E = 0$ | — | — | -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) | $V_{CE} = -2\text{ V}, I_C = -10\text{ mA}$ | 300 | — | 1000 | |
| Collector-emitter saturation voltage | | $V_{CE}(\text{sat}) (1)$ | $I_C = -10\text{ mA}, I_B = -0.5\text{ mA}$ | — | -15 | -30 | mV |
| | | $V_{CE}(\text{sat}) (2)$ | $I_C = -200\text{ mA}, I_B = -10\text{ mA}$ | — | -110 | -250 | |
| Base-emitter saturation voltage | | $V_{BE}(\text{sat})$ | $I_C = -200\text{ mA}, I_B = -10\text{ mA}$ | — | -0.87 | -1.2 | V |
| Transition frequency | | f_T | $V_{CE} = -2\text{ V}, I_C = -10\text{ mA}$ | 80 | 130 | — | MHz |
| Collector output capacitance | | C_{ob} | $V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 4.2 | — | pF |
| Collector-emitter on resistance | | R_{on} | $I_B = -1\text{ mA}, V_{in} = -1\text{ V}_{rms}, f = 1\text{ kHz}$ | — | 0.9 | — | Ω |
| Switching time | Turn-on time | t_{on} | <p style="text-align: center;">$I_{B1} = -I_{B2} = 5\text{ mA}$</p> | — | 40 | — | ns |
| | Storage time | t_{stg} | | — | 280 | — | |
| | Fall time | t_f | | — | 65 | — | |

Note: h_{FE} classification A: 300~600, B: 500~1000





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