

TOSHIBA Transistor Silicon PNP Triple Diffused Type

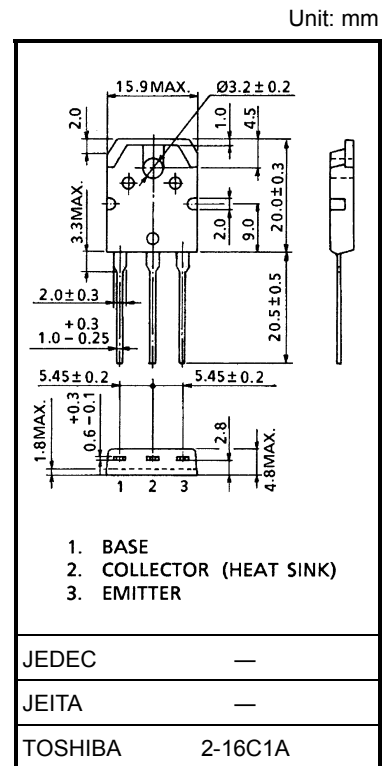
2SA1986

Power Amplifier Applications

- High breakdown voltage: $V_{CEO} = -230\text{ V}$ (min)
- Complementary to 2SC5358
- Recommended for 80-W high-fidelity audio frequency amplifier output stage

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

| Characteristics | Symbol | Rating | Unit |
|---|-----------|------------|------------------|
| Collector-base voltage | V_{CBO} | -230 | V |
| Collector-emitter voltage | V_{CEO} | -230 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -15 | A |
| Base current | I_B | -1.5 | A |
| Collector power dissipation ($T_c = 25^\circ\text{C}$) | P_C | 150 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to 150 | $^\circ\text{C}$ |



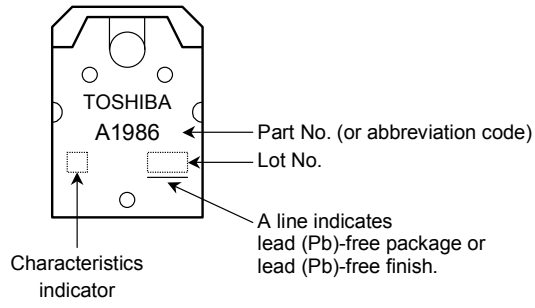
Electrical Characteristics ($T_c = 25^\circ\text{C}$)

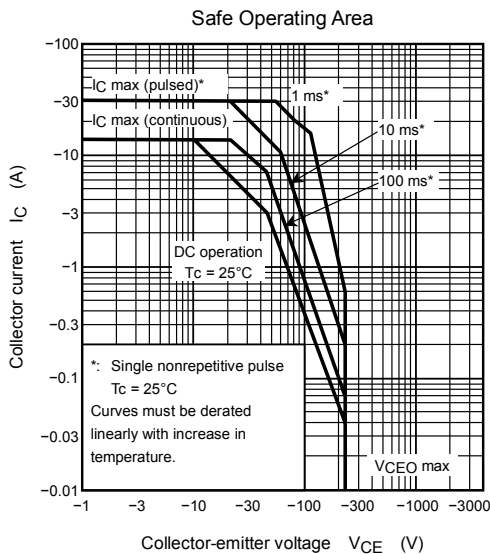
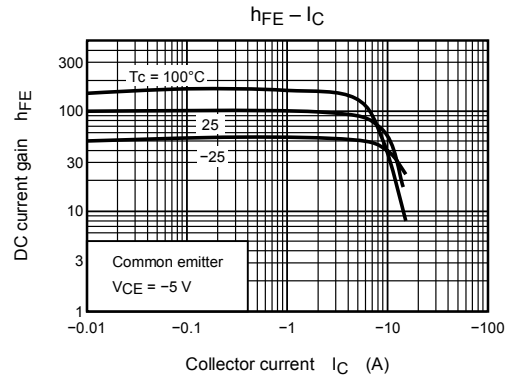
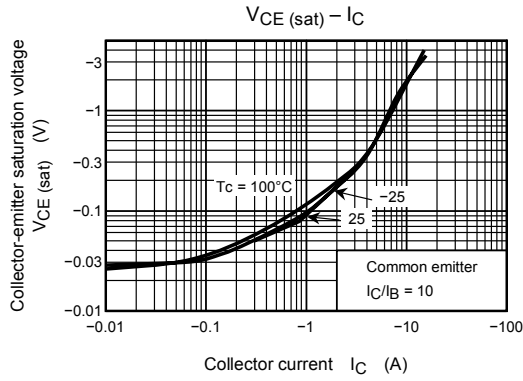
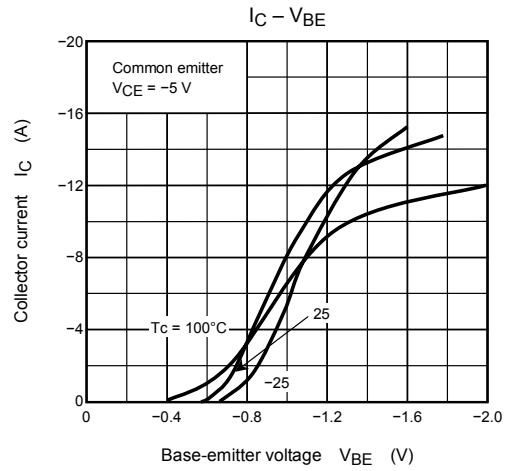
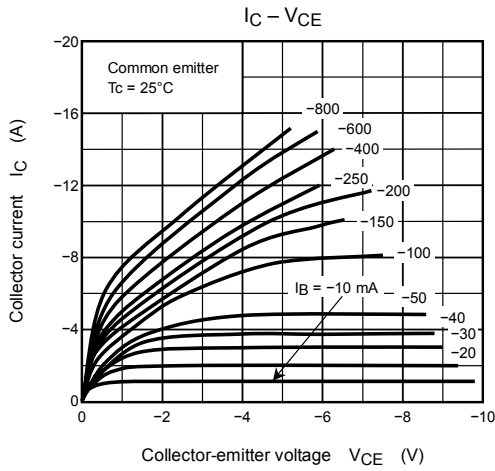
Weight: 4.7 g (typ.)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|-----------------------|--|------|------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = -230\text{ V}, I_E = 0$ | — | — | -5.0 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | — | — | -5.0 | μA |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -50\text{ mA}, I_B = 0$ | -230 | — | — | V |
| DC current gain | $h_{FE(1)}$ (Note) | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | 55 | — | 160 | |
| | $h_{FE(2)}$ | $V_{CE} = -5\text{ V}, I_C = -7\text{ A}$ | 35 | 70 | — | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -8\text{ A}, I_B = -0.8\text{ A}$ | — | -1.5 | -3.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = -5\text{ V}, I_C = -7\text{ A}$ | — | -1.0 | -1.5 | V |
| Transition frequency | f_T | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | — | 30 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | — | 360 | — | pF |

Note: $h_{FE(1)}$ classification R: 55 to 110, O: 80 to 160

Marking





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