

TOSHIBA Transistor Silicon PNP Epitaxial Type

2SA1930

Power Amplifier Applications
 Driver Stage Amplifier Applications

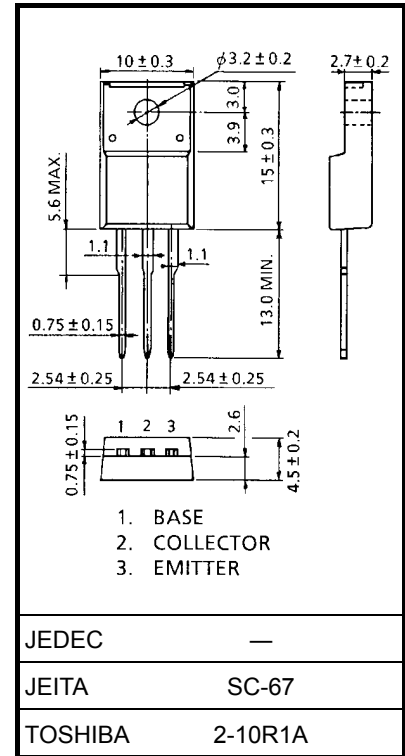
- High transition frequency: $f_T = 200 \text{ MHz (typ.)}$
- Complementary to 2SC5171

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

| Characteristics | Symbol | Rating | Unit |
|-----------------------------|--------------------------|------------|------------------|
| Collector-base voltage | V_{CBO} | -180 | V |
| Collector-emitter voltage | V_{CEO} | -180 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -2 | A |
| Base current | I_B | -1 | A |
| Collector power dissipation | $T_a = 25^\circ\text{C}$ | 2.0 | W |
| | $T_c = 25^\circ\text{C}$ | 20 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to 150 | $^\circ\text{C}$ |

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).

Unit: mm

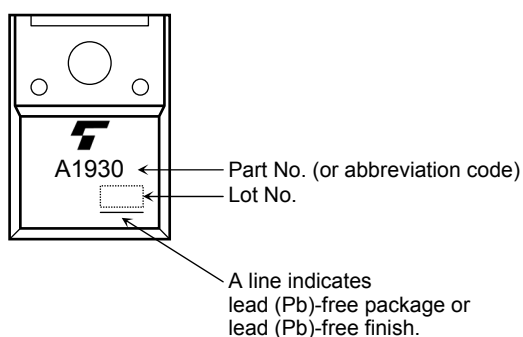


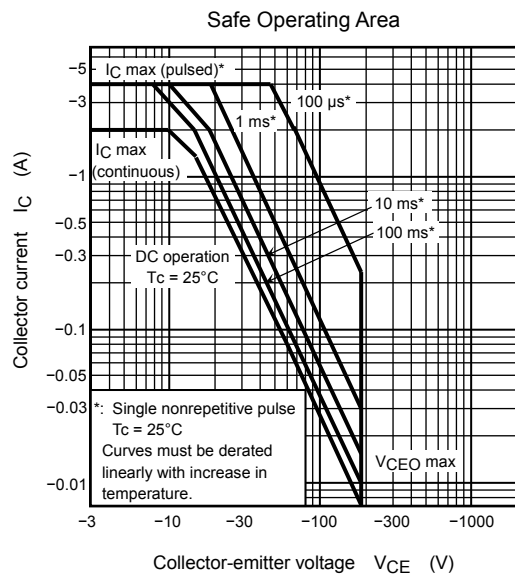
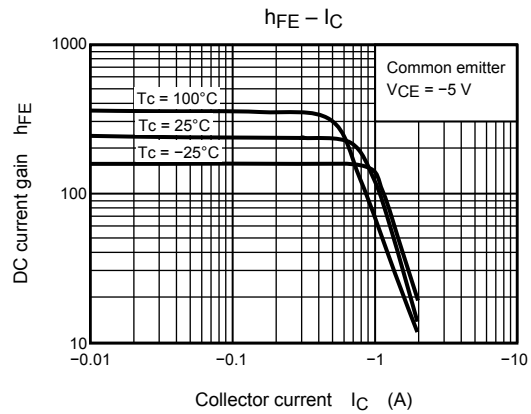
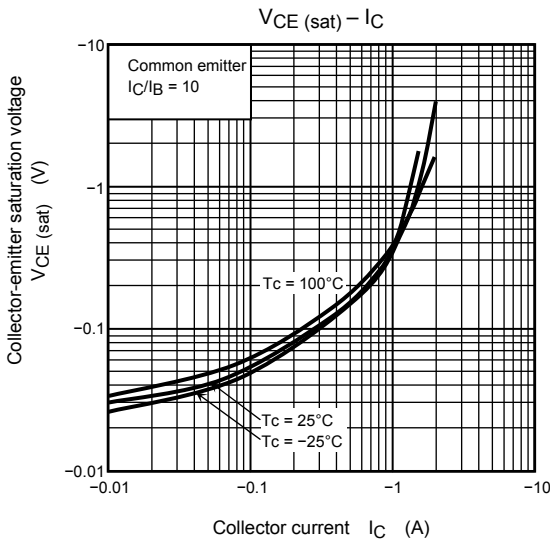
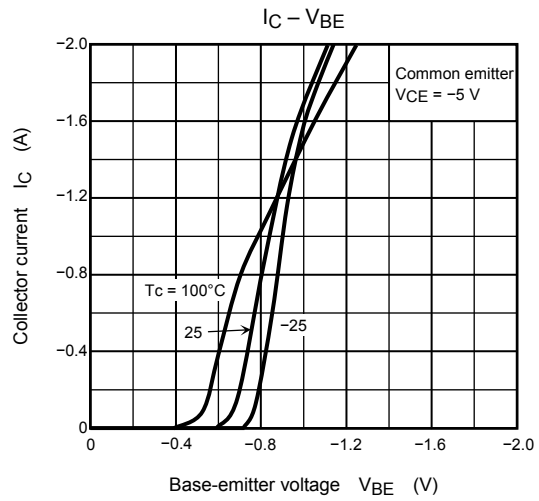
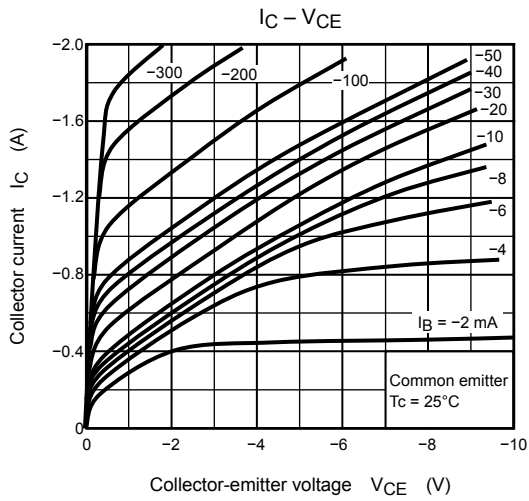
Weight: 1.7 g (typ.)

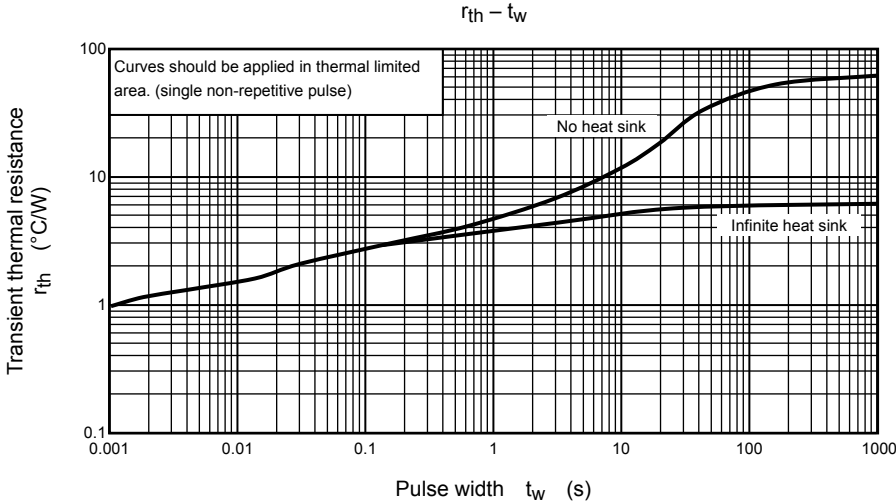
Electrical Characteristics (Tc = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--------------------------------------|----------------|--|------|-------|------|---------------|
| Collector cut-off current | I_{CBO} | $V_{CB} = -180\text{ V}, I_E = 0$ | — | — | -5.0 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{ V}, I_C = 0$ | — | — | -5.0 | μA |
| Collector-emitter breakdown voltage | $V_{(BR) CEO}$ | $I_C = -10\text{ mA}, I_B = 0$ | -180 | — | — | V |
| DC current gain | $h_{FE} (1)$ | $V_{CE} = -5\text{ V}, I_C = -0.1\text{ A}$ | 100 | — | 320 | |
| | $h_{FE} (2)$ | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | 50 | — | — | |
| Collector-emitter saturation voltage | $V_{CE (sat)}$ | $I_C = -1\text{ A}, I_B = -0.1\text{ A}$ | — | -0.24 | -1.0 | V |
| Base-emitter voltage | V_{BE} | $V_{CE} = -5\text{ V}, I_C = -1\text{ A}$ | — | -0.68 | -1.5 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{ V}, I_C = -0.3\text{ A}$ | — | 200 | — | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{ V}, I_C = 0, f = 1\text{ MHz}$ | — | 26 | — | pF |

Marking







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20070701-EN

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