

2SA1533

Silicon PNP epitaxial planar type

For low-frequency driver amplification

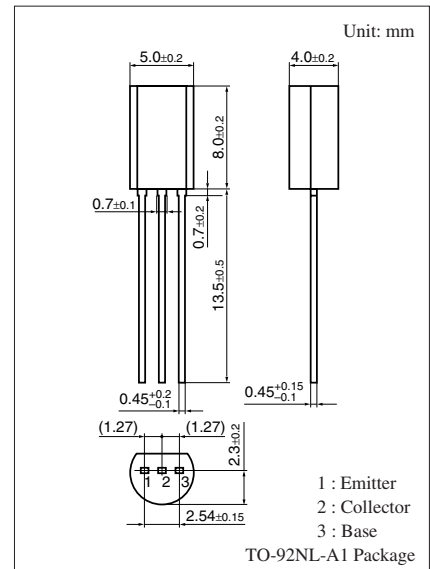
Complementary to 2SC3939

■ Features

- Low collector-emitter voltage (Base open) V_{CEO}
- Optimum for the driver stage of a low-frequency and 25 W to 30 W output amplifier.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | -80 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | -80 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | -5 | V |
| Collector current | I_C | -0.5 | A |
| Peak collector current | I_{CP} | -1 | A |
| Collector power dissipation | P_C | 1 | W |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



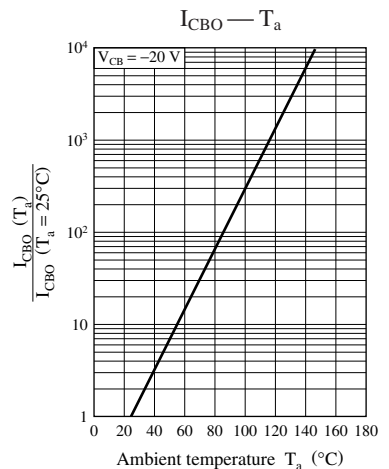
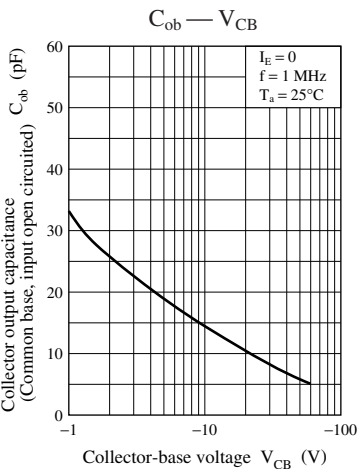
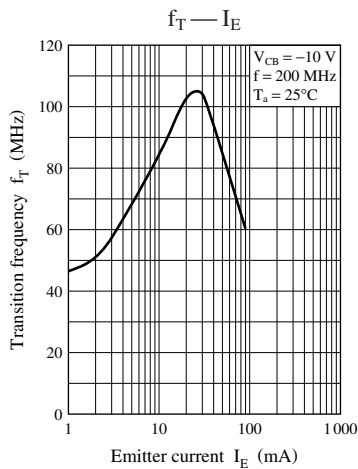
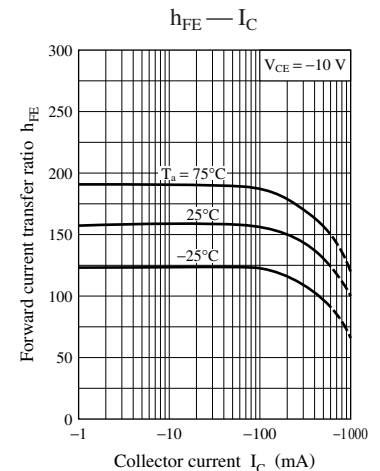
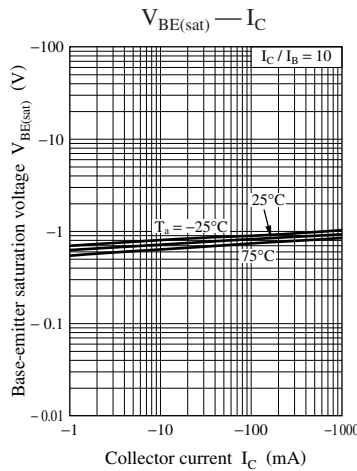
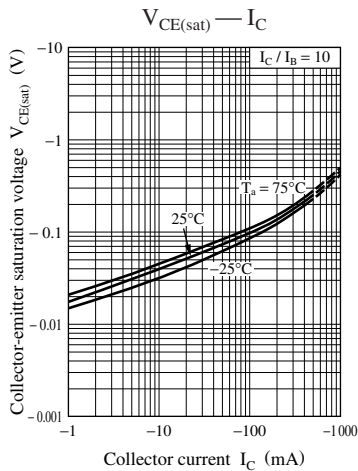
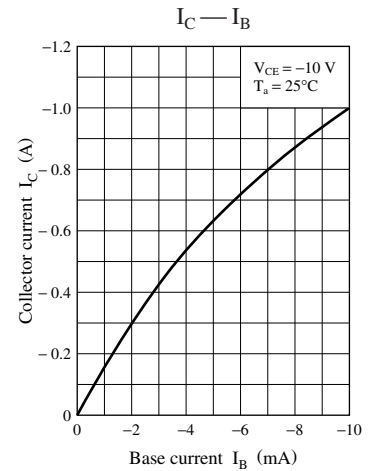
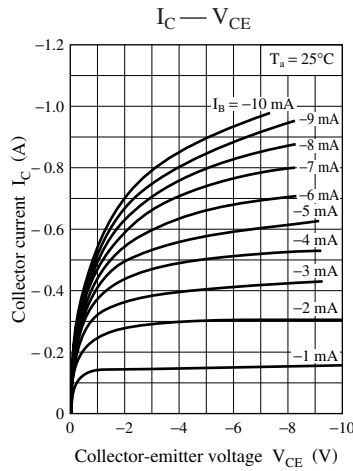
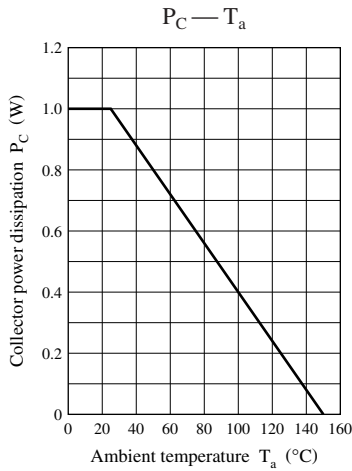
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

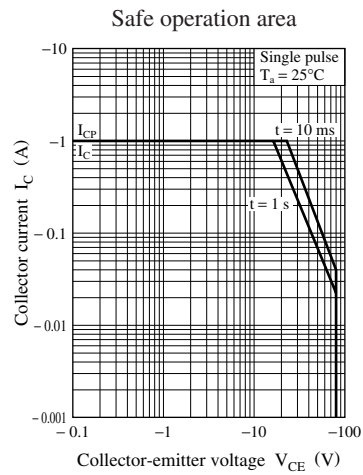
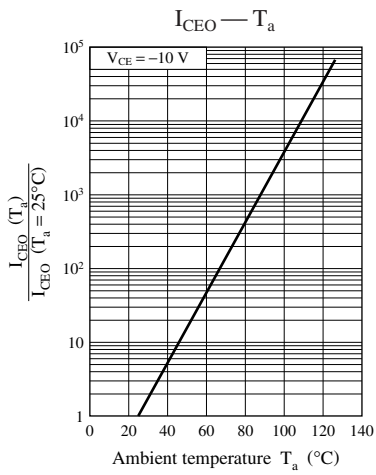
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|-------|------|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = -10 \mu\text{A}$, $I_E = 0$ | -80 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = -100 \mu\text{A}$, $I_B = 0$ | -80 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = -10 \mu\text{A}$, $I_C = 0$ | -5 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = -20 \text{V}$, $I_E = 0$ | | | -0.1 | μA |
| Forward current transfer ratio | h_{FE1} * | $V_{CE} = -10 \text{V}$, $I_C = -150 \text{mA}$ | 90 | | 220 | — |
| | h_{FE2} | $V_{CE} = -5 \text{V}$, $I_C = -500 \text{mA}$ | 50 | 100 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -300 \text{mA}$, $I_B = -30 \text{mA}$ | | -0.2 | -0.4 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -300 \text{mA}$, $I_B = -30 \text{mA}$ | | -0.85 | -1.2 | V |
| Transition frequency | f_T | $V_{CB} = -10 \text{V}$, $I_E = 50 \text{mA}$, $f = 200 \text{MHz}$ | | 120 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = -10 \text{V}$, $I_E = 0$, $f = 1 \text{MHz}$ | | 11 | 20 | pF |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

| Rank | Q | R |
|-----------|-----------|------------|
| h_{FE1} | 90 to 155 | 130 to 220 |





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