

# 2SA0777 (2SA777)

## Silicon PNP epitaxial planar type

For low-frequency driver amplification

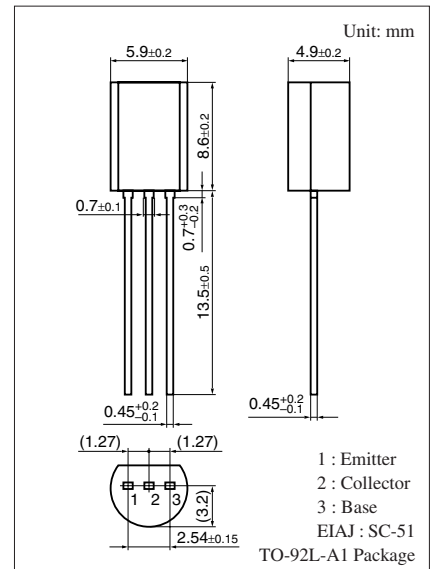
Complementary to 2SC1509

### ■ Features

- High 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)                            | $V_{EBO}$     | $I_E = -1 \mu\text{A}$ , $I_C = 0$                                    | -5  |       |      | V             |
| Collector-base cutoff current (Emitter open)                     | $I_{CBO}$     | $V_{CB} = -20 \text{V}$ , $I_E = 0$                                   |     |       | -0.1 | $\mu\text{A}$ |
| Forward current transfer ratio *1                                | $h_{FE1}$ *2  | $V_{CE} = -10 \text{V}$ , $I_C = -150 \text{mA}$                      | 90  |       | 220  | —             |
|  | $h_{FE2}$     | $V_{CE} = -5 \text{V}$ , $I_C = -500 \text{mA}$                       | 50  | 100   |      |               |
| Collector-emitter saturation voltage                             | $V_{CE(sat)}$ | $I_C = -500 \text{mA}$ , $I_B = -50 \text{mA}$                        |     | -0.2  | -0.4 | V             |
| Base-emitter saturation voltage                                  | $V_{BE(sat)}$ | $I_C = -500 \text{mA}$ , $I_B = -50 \text{mA}$                        |     | -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            |

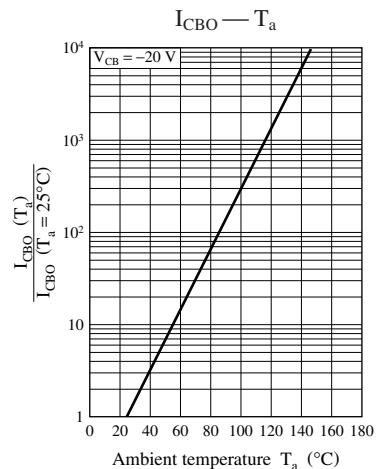
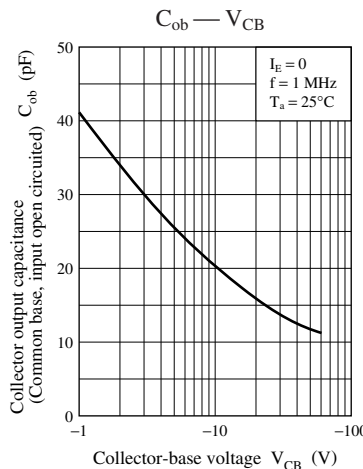
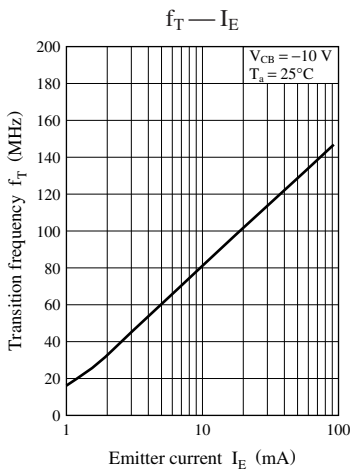
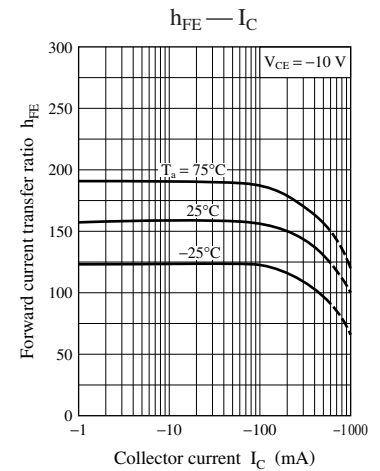
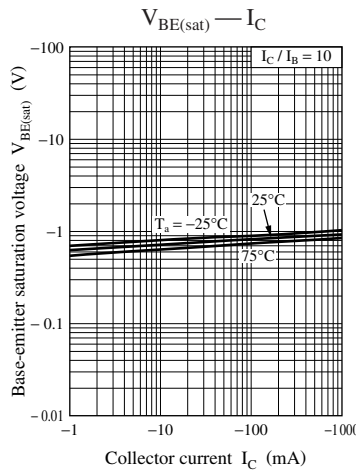
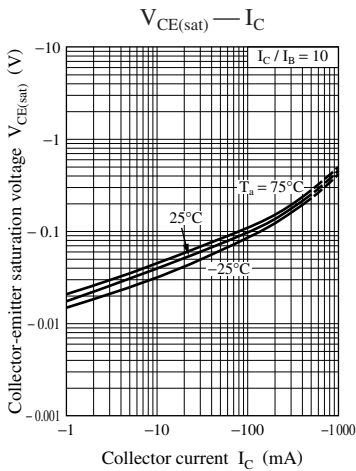
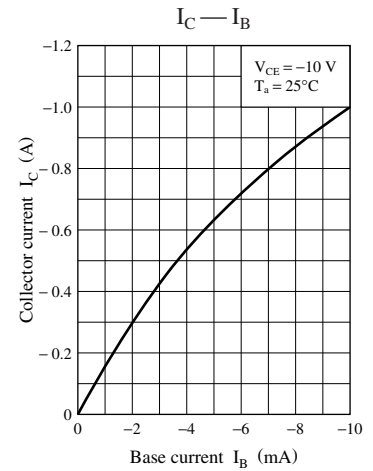
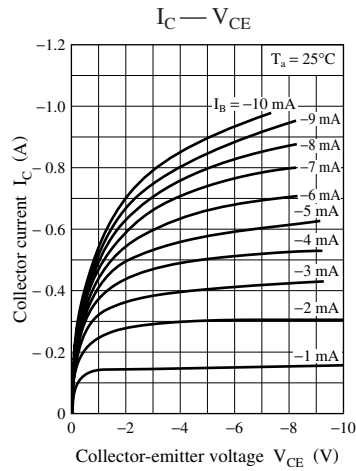
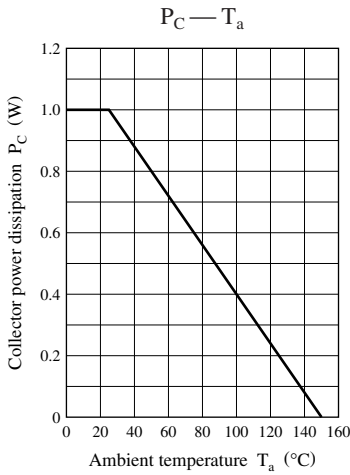
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

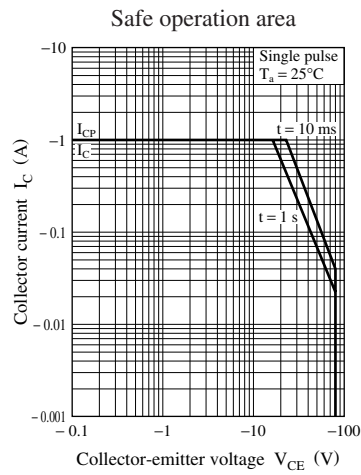
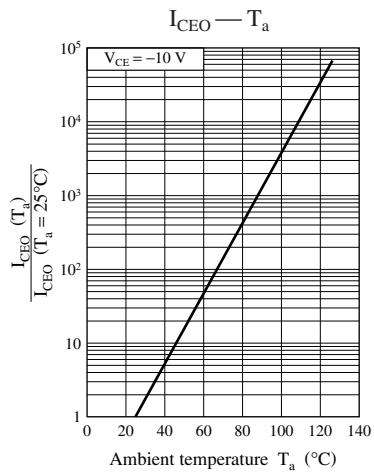
2. \*1: Pulse measurement

\*2: Rank classification

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

Note) The part number in the parenthesis shows conventional part number.





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