

# 2SC3941

## Silicon NPN triple diffusion planar type

For high breakdown voltage general amplification

For small TV video output

Complementary to 2SA1858

### ■ Features

- High collector-emitter voltage (Base open)  $V_{CEO}$
- High transition frequency  $f_T$
- Allowing supply with the radial taping

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

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 300         | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 300         | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 7           | V                |
| Collector current                     | $I_C$     | 70          | mA               |
| Peak collector current                | $I_{CP}$  | 100         | mA               |
| Collector power dissipation           | $P_C$     | 1           | W                |
| Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

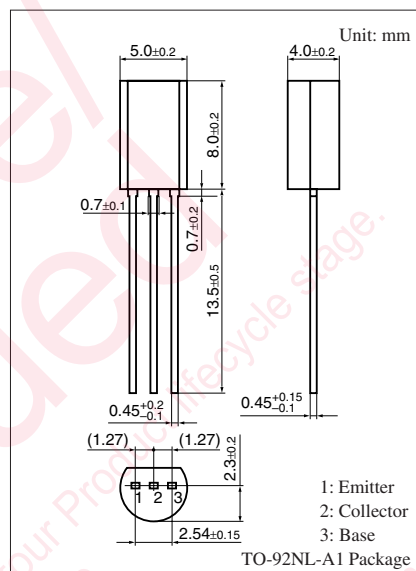
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

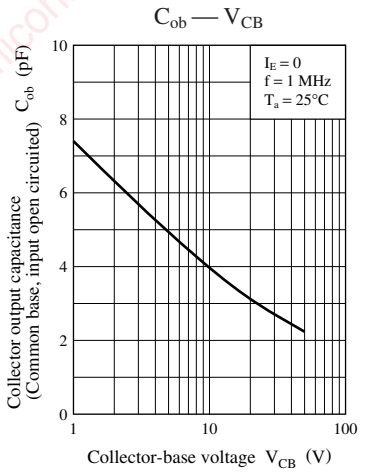
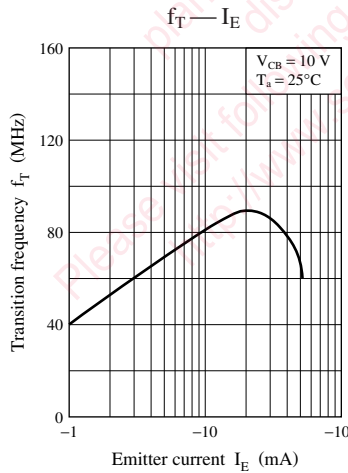
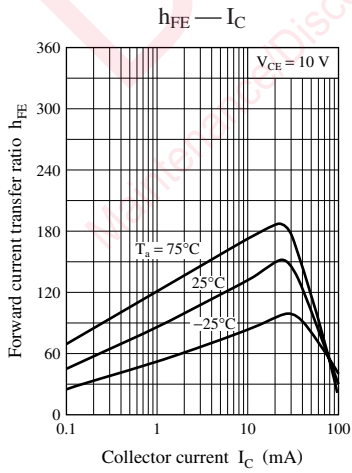
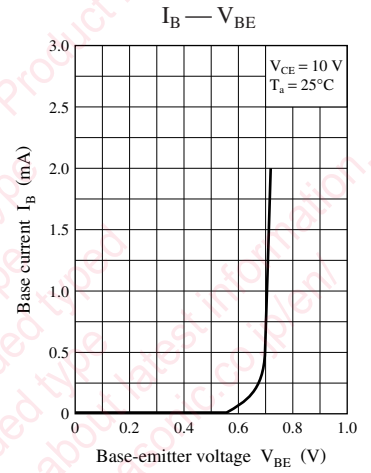
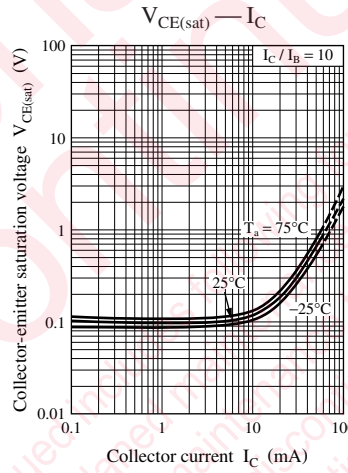
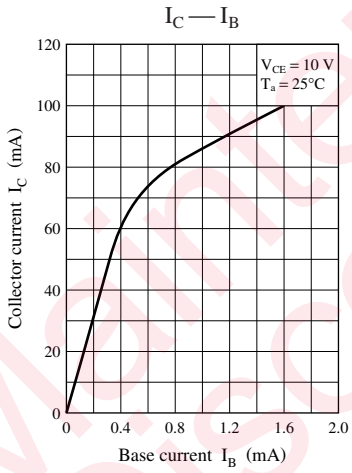
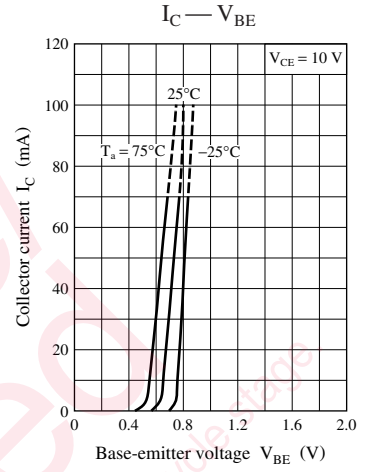
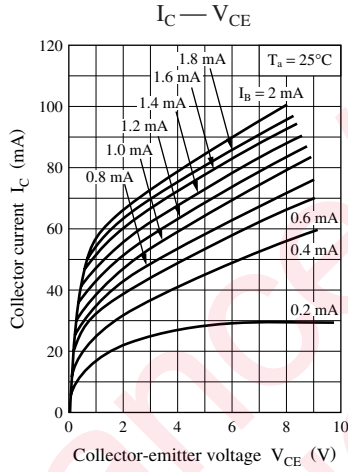
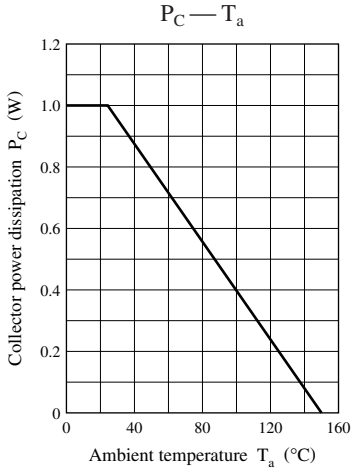
| Parameter   | Symbol        | Conditions  | Min | Typ | Max | Unit          |
|---|---------------|---|-----|-----|-----|---------------|
| Collector-emitter voltage (Base open)                               | $V_{CEO}$     | $I_C = 100 \mu\text{A}, I_B = 0$                                | 300 |     |     | V             |
| Emitter-base voltage (Collector open)                               | $V_{EBO}$     | $I_E = 1 \mu\text{A}, I_C = 0$                                  | 7   |     |     | V             |
| Collector-base cutoff current (Emitter open)                        | $I_{CBO}$     | $V_{CB} = 100 \text{V}, I_E = 0$                                |     |     | 2   | $\mu\text{A}$ |
| Forward current transfer ratio *                                    | $h_{FE}$      | $V_{CE} = 10 \text{V}, I_C = 5 \text{mA}$                       | 30  |     | 220 | —             |
| Collector-emitter saturation voltage                                | $V_{CE(sat)}$ | $I_C = 50 \text{mA}, I_B = 5 \text{mA}$                         |     |     | 1.2 | V             |
| Transition frequency  | $f_T$         | $V_{CB} = 10 \text{V}, I_E = -10 \text{mA}, f = 200 \text{MHz}$ | 50  | 80  |     | MHz           |
| Collector output capacitance<br>(Common base, input open circuited) | $C_{ob}$      | $V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$               |     | 4   | 8   | pF            |
| Storage time  | $t_{stg}$     | $I_C = 100 \text{mA}, I_{B1} = 10 \text{mA}, I_{B2} = 0$        |     | 2.5 |     | $\mu\text{s}$ |

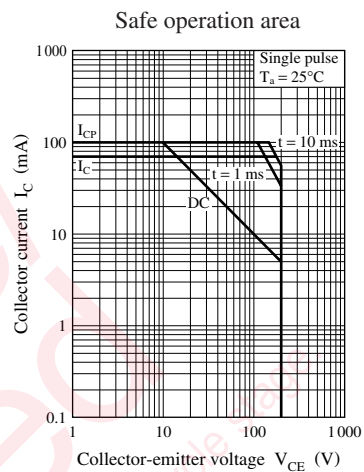
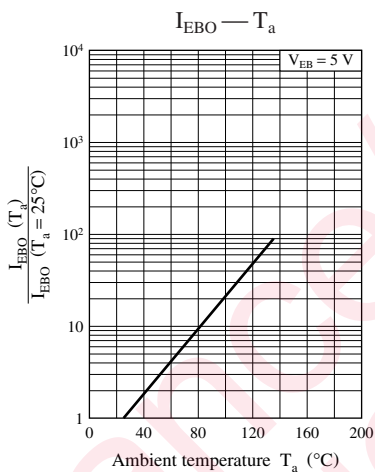
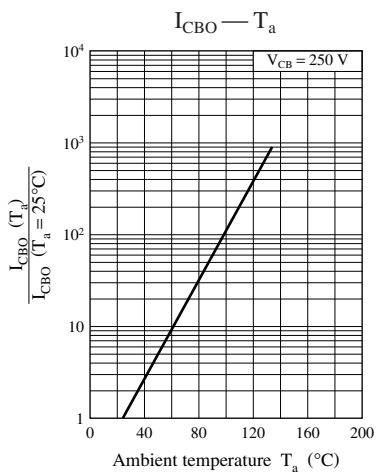
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

| Rank     | P         | Q         | R          |
|----------|-----------|-----------|------------|
| $h_{FE}$ | 30 to 100 | 60 to 150 | 100 to 220 |







Maintenance/Discontinued

Discontinued includes following four Product lifecycle stages:

- planned maintenance type
- maintained maintenance type
- planned discontinued type
- discontinued type

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