

# 2SD1267, 2SD1267A

## Silicon NPN triple diffusion planar type

For power amplification

Complimentary to 2SB0942 and 2SB0942A

### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity.
- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw.

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

| Parameter                                | Symbol    | Rating      | Unit             |
|--|-----------|-------------|------------------|
| Collector-base voltage<br>(Emitter open) | $V_{CBO}$ | 60          | V                |
|  |           | 80          |                  |
| Collector-emitter voltage<br>(Base open) | $V_{CEO}$ | 60          | V                |
|  |           | 80          |                  |
| Emitter-base voltage (Collector open)    | $V_{EBO}$ | 5           | V                |
| Collector current                        | $I_C$     | 4           | A                |
| Peak collector current                   | $I_{CP}$  | 8           | A                |
| Collector power<br>dissipation           | $P_C$     | 40          | W                |
|  |           | 2.0         |                  |
| Junction temperature                     | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                      | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

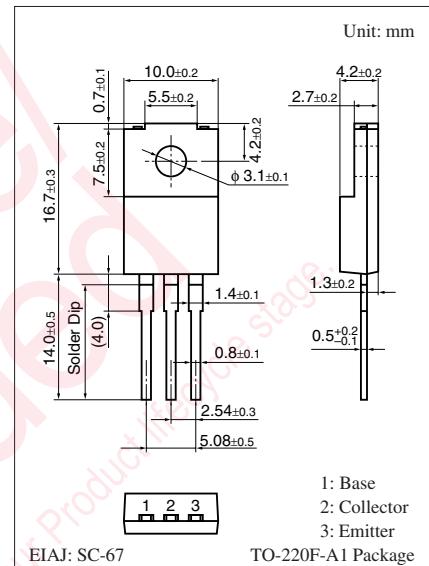
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

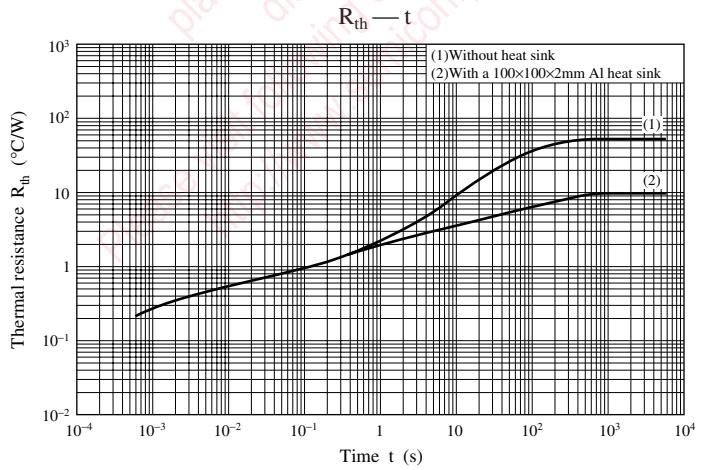
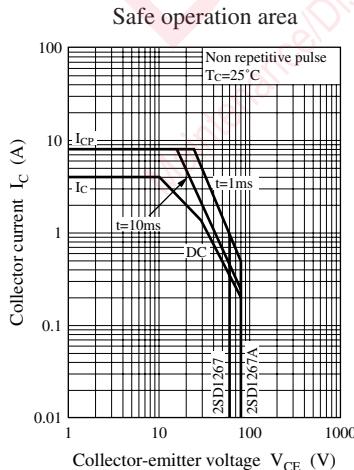
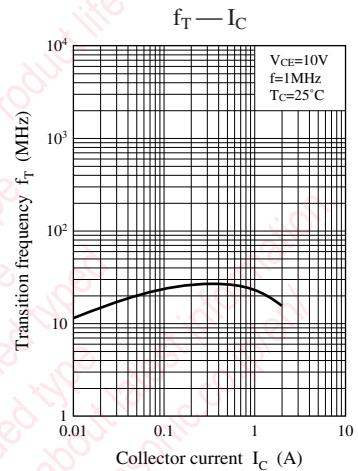
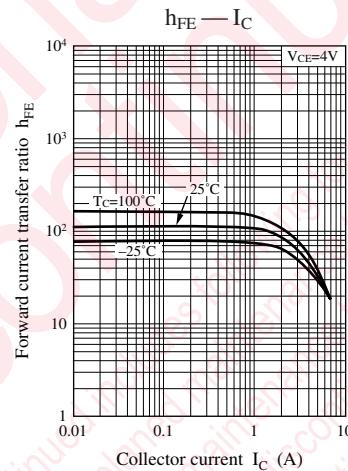
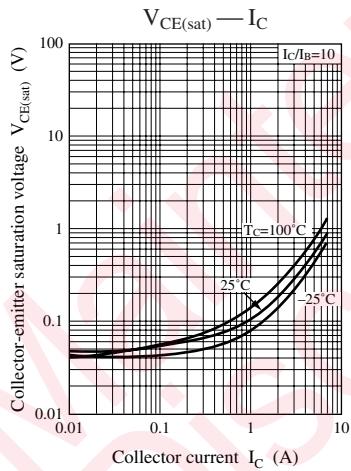
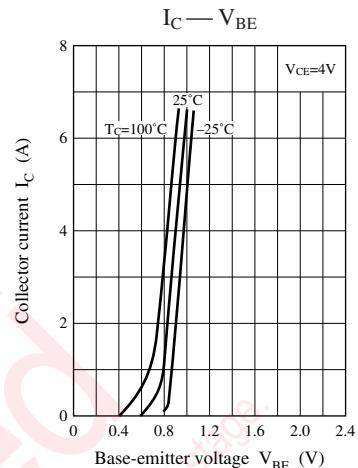
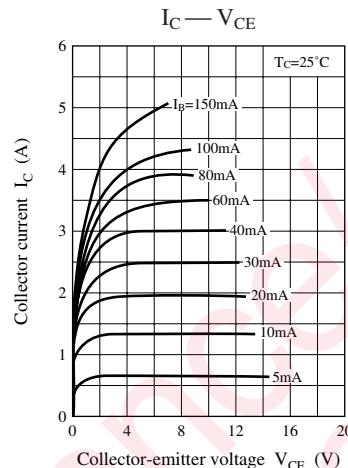
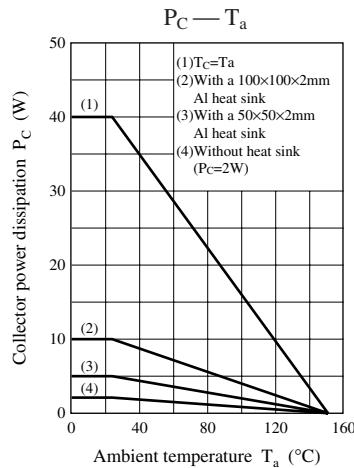
| Parameter                                       | Symbol        | Conditions   | Min | Typ | Max | Unit          |
|---|---------------|--|-----|-----|-----|---------------|
| Collector-emitter voltage<br>(Base open)        | $V_{CEO}$     | $I_C = 30 \text{ mA}, I_B = 0$   | 60  |     |     | V             |
|   |               |  | 80  |     |     |               |
| Base-emitter voltage                            | $V_{BE}$      | $V_{CE} = 4 \text{ V}, I_C = 3 \text{ A}$  |     |     | 2   | V             |
| Collector-emitter cutoff<br>current (E-B short) | $I_{CES}$     | $V_{CE} = 60 \text{ V}, V_{BE} = 0$  |     |     | 400 | $\mu\text{A}$ |
|   |               | $V_{CE} = 80 \text{ V}, V_{BE} = 0$  |     |     | 400 |               |
| Collector-emitter<br>cutoff current (Base open) | $I_{CEO}$     | $V_{CE} = 30 \text{ V}, I_B = 0$   |     |     | 700 | $\mu\text{A}$ |
|   |               | $V_{CE} = 60 \text{ V}, I_B = 0$   |     |     | 700 |               |
| Emitter-base cutoff current (Collector open)    | $I_{EBO}$     | $V_{EB} = 5 \text{ V}, I_C = 0$  |     |     | 1   | mA            |
| Forward current transfer ratio                  | $h_{FE1}$ *   | $V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$  | 40  |     | 250 | —             |
|   | $h_{FE2}$     | $V_{CE} = 4 \text{ V}, I_C = 3 \text{ A}$  | 15  |     |     |               |
| Collector-emitter saturation voltage            | $V_{CE(sat)}$ | $I_C = 4 \text{ A}, I_B = 0.4 \text{ A}$   |     |     | 1.5 | V             |
| Transition frequency                            | $f_T$         | $V_{CE} = 5 \text{ V}, I_C = 0.5 \text{ A}, f = 1 \text{ MHz}$                                   |     | 20  |     | MHz           |
| Turn-on time                                    | $t_{on}$      | $I_C = 4 \text{ A}, I_{B1} = 0.4 \text{ A}, I_{B2} = -0.4 \text{ mA}$<br>$V_{CC} = 50 \text{ V}$ |     | 0.4 |     | $\mu\text{s}$ |
| Storage time                                    | $t_{stg}$     |  |     | 1.2 |     | $\mu\text{s}$ |
| Fall time                                       | $t_f$         |  |     | 0.5 |     | $\mu\text{s}$ |

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

2. \*: Rank classification

| Rank      | R        | Q         | P          |
|-----------|----------|-----------|------------|
| $h_{FE1}$ | 40 to 90 | 70 to 150 | 120 to 250 |





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