

# 2SD1266, 2SD1266A

## Silicon NPN triple diffusion planar type

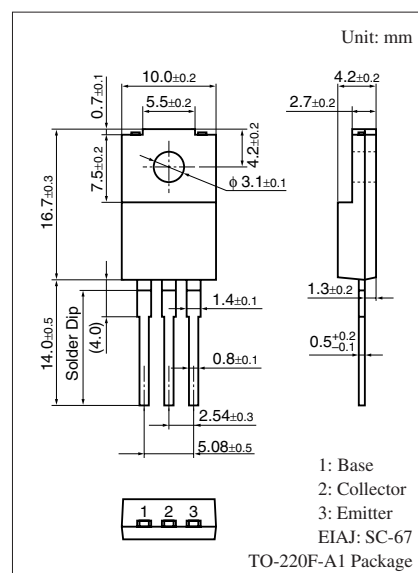
For power amplification

### ■ 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) | 2SD1266                    | $V_{CBO}$        | 60          | V                  |
|                                          | 2SD1266A                   |                  | 80          |                    |
| Collector-emitter voltage<br>(Base open) | 2SD1266                    | $V_{CEO}$        | 60          | V                  |
|                                          | 2SD1266A                   |                  | 80          |                    |
| Emitter-base voltage (Collector open)    |                            | $V_{EBO}$        | 6           | V                  |
| Collector current                        |                            | $I_C$            | 3           | A                  |
| Peak collector current                   |                            | $I_{CP}$         | 5           | A                  |
| Collector power<br>dissipation           | $T_C = 25^{\circ}\text{C}$ | $P_C$            | 35          | W                  |
|                                          |                            |                  | 2.0         |                    |
| Junction temperature                     |                            | $T_j$            | 150         | $^{\circ}\text{C}$ |
| Storage temperature                      |                            | $T_{\text{stg}}$ | -55 to +150 | $^{\circ}\text{C}$ |



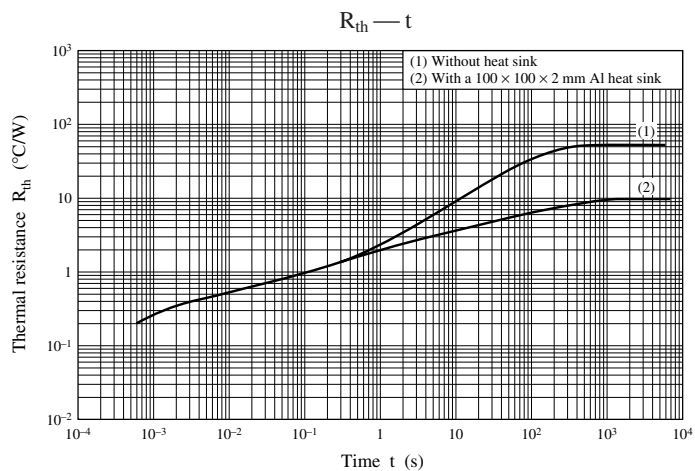
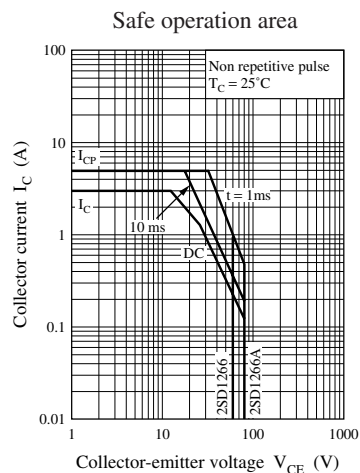
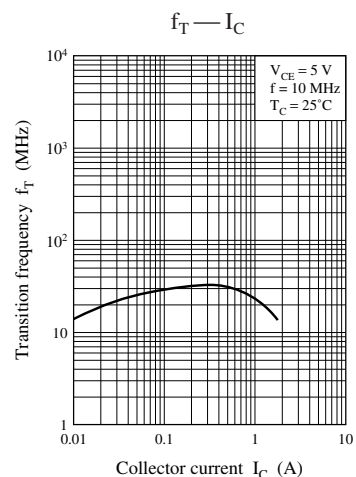
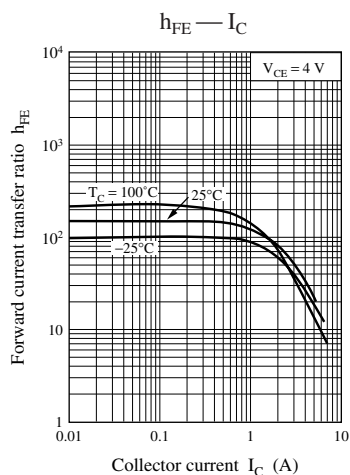
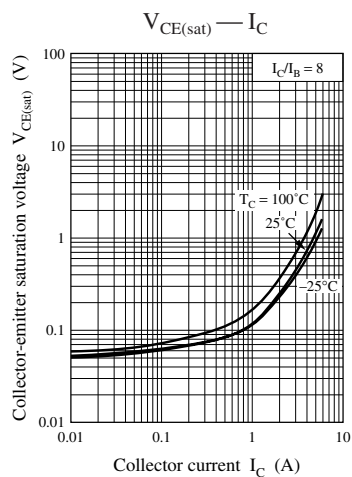
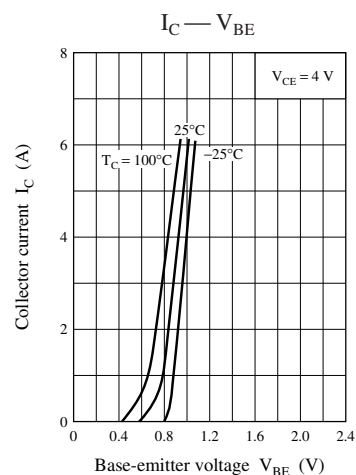
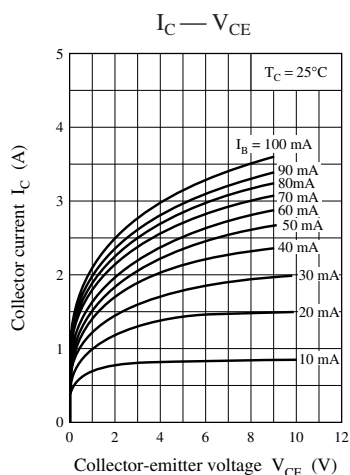
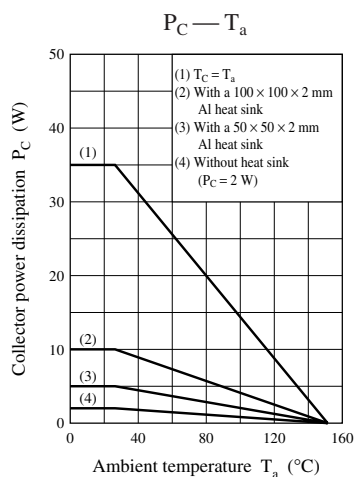
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter                                       | Symbol              | Conditions                                                         | Min | Typ | Max | Unit          |
|-------------------------------------------------|---------------------|--------------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-emitter voltage<br>(Base open)        | 2SD1266<br>2SD1266A | $V_{CEO}$<br>$I_C = 30\text{ mA}, I_B = 0$                         | 60  |     |     | V             |
|                                                 |                     |                                                                    | 80  |     |     |               |
| Base-emitter voltage                            | $V_{BE}$            | $V_{CE} = 4\text{ V}, I_C = 3\text{ A}$                            |     |     | 1.8 | V             |
| Collector-emitter cutoff<br>current (E-B short) | 2SD1266<br>2SD1266A | $V_{CE} = 60\text{ V}, V_{BE} = 0$                                 |     |     | 200 | $\mu\text{A}$ |
|                                                 |                     | $V_{CE} = 80\text{ V}, V_{BE} = 0$                                 |     |     | 200 |               |
| Collector-emitter cutoff<br>current (Base open) | 2SD1266<br>2SD1266A | $V_{CE} = 30\text{ V}, I_B = 0$                                    |     |     | 300 | $\mu\text{A}$ |
|                                                 |                     | $V_{CE} = 60\text{ V}, I_B = 0$                                    |     |     | 300 |               |
| Emitter-base cutoff current (Collector open)    | $I_{EBO}$           | $V_{EB} = 6\text{ V}, I_C = 0$                                     |     |     | 1   | mA            |
| Forward current transfer ratio                  | $h_{FE1}^*$         | $V_{CE} = 4\text{ V}, I_C = 1\text{ A}$                            | 70  |     | 320 | —             |
|                                                 | $h_{FE2}$           | $V_{CE} = 4\text{ V}, I_C = 3\text{ A}$                            | 10  |     |     |               |
| Collector-emitter saturation voltage            | $V_{CE(sat)}$       | $I_C = 3\text{ A}, I_B = 0.375\text{ A}$                           |     |     | 1.2 | V             |
| Transition frequency                            | $f_T$               | $V_{CE} = 10\text{ V}, I_C = 0.5\text{ A}, f = 10\text{ MHz}$      |     | 30  |     | MHz           |
| Turn-on time                                    | $t_{on}$            | $I_C = 1\text{ A}, I_{B1} = 0.1\text{ A}, I_{B2} = -0.1\text{ mA}$ |     | 0.5 |     | $\mu\text{s}$ |
| Storage time                                    | $t_{stg}$           | $V_{CC} = 50\text{ V}$                                             |     | 2.5 |     | $\mu\text{s}$ |
| Fall time                                       | $t_f$               |                                                                    |     | 0.4 |     | $\mu\text{s}$ |

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

2. \*: Rank classification

| Rank      | Q         | P          | O          |
|-----------|-----------|------------|------------|
| $h_{FE1}$ | 70 to 150 | 120 to 250 | 160 to 320 |



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