

# 2SB0929 (2SB929), 2SB0929A (2SB929A)

## Silicon PNP epitaxial planar type

For power amplification

Complementary to 2SD1252, 2SD1252A

### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

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

| Parameter                                | Symbol    | Rating                   | Unit             |   |
|--|-----------|--------------------------|------------------|---|
| Collector-base voltage<br>(Emitter open) | 2SB0929   | $V_{CBO}$                | -60              | V |
|  | 2SB0929A  |                          | -80              |   |
| Collector-emitter voltage<br>(Base open) | 2SB0929   | $V_{CEO}$                | -60              | V |
|  | 2SB0929A  |                          | -80              |   |
| Emitter-base voltage (Collector open)    | $V_{EBO}$ | -5                       | V                |   |
| Collector current                        | $I_C$     | -3                       | A                |   |
| Peak collector current                   | $I_{CP}$  | -5                       | A                |   |
| Collector power dissipation              | $P_C$     |                          | 35               | W |
|  |           | $T_a = 25^\circ\text{C}$ | 1.3              |   |
| Junction temperature                     | $T_j$     | 150                      | $^\circ\text{C}$ |   |
| Storage temperature                      | $T_{stg}$ | -55 to +150              | $^\circ\text{C}$ |   |

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

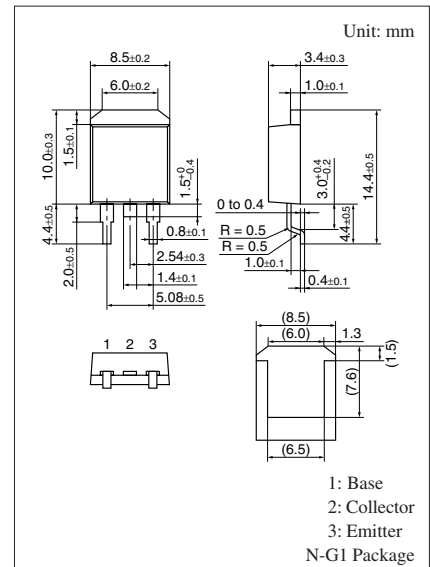
| Parameter                                       | Symbol        | Conditions  | Min | Typ | Max  | Unit          |
|---|---------------|---|-----|-----|------|---------------|
| Collector-emitter voltage<br>(Base open)        | 2SB0929       | $I_C = -30\text{ mA}, I_B = 0$                                  | -60 |     |      | V             |
|   | 2SB0929A      |   | -80 |     |      |               |
| Collector-emitter cutoff<br>current (E-B short) | 2SB0929       | $V_{CE} = -60\text{ V}, V_{BE} = 0$                             |     |     | -200 | $\mu\text{A}$ |
|   | 2SB0929A      |   |     |     | -200 |               |
| Collector-emitter cutoff<br>current (Base open) | 2SB0929       | $V_{CE} = -30\text{ V}, I_B = 0$                                |     |     | -300 | $\mu\text{A}$ |
|   | 2SB0929A      |   |     |     | -300 |               |
| Emitter-base cutoff current (Collector open)    | $I_{EBO}$     | $V_{EB} = -5\text{ V}, I_C = 0$                                 |     |     | -1   | mA            |
| Forward current transfer ratio                  | $h_{FE1}^*$   | $V_{CE} = -4\text{ V}, I_C = -1\text{ A}$                       | 70  |     | 250  | —             |
|   | $h_{FE2}$     | $V_{CE} = -4\text{ V}, I_C = -3\text{ A}$                       | 10  |     |      |               |
| Base-emitter voltage                            | $V_{BE}$      | $V_{CE} = -4\text{ V}, I_C = -3\text{ A}$                       |     |     | -1.8 | V             |
| 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                                    | $t_{on}$      | $I_C = -1\text{ A}$   |     | 0.5 |      | $\mu\text{s}$ |
| Storage time                                    | $t_{stg}$     | $I_{B1} = -0.1\text{ A}, I_{B2} = 0.1\text{ A}$                 |     | 1.2 |      | $\mu\text{s}$ |
| Fall time                                       | $t_f$         | $V_{CC} = -50\text{ V}$   |     | 0.3 |      | $\mu\text{s}$ |

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

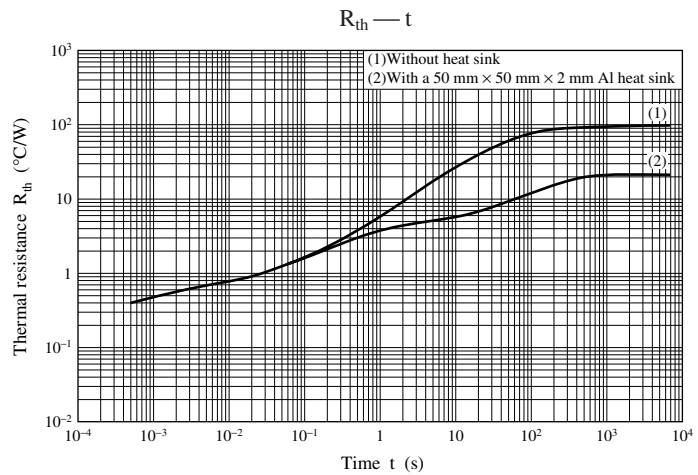
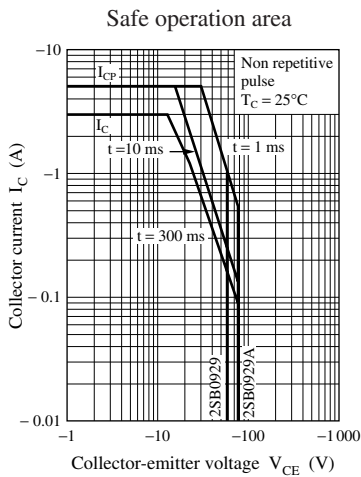
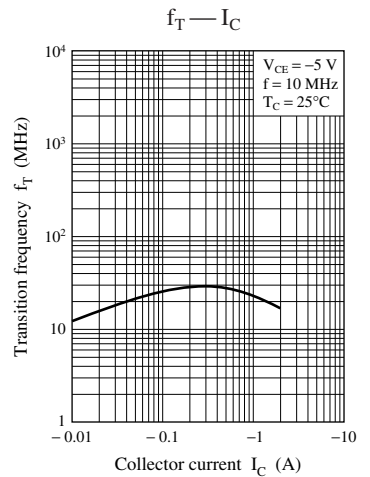
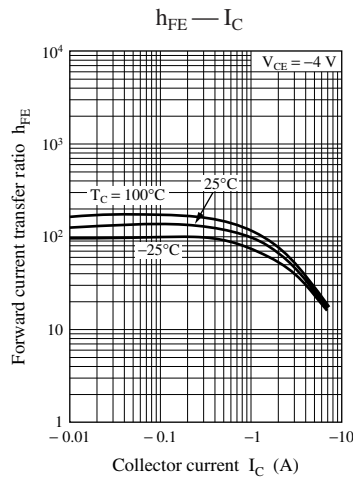
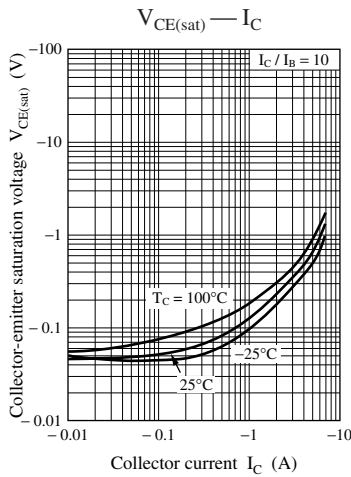
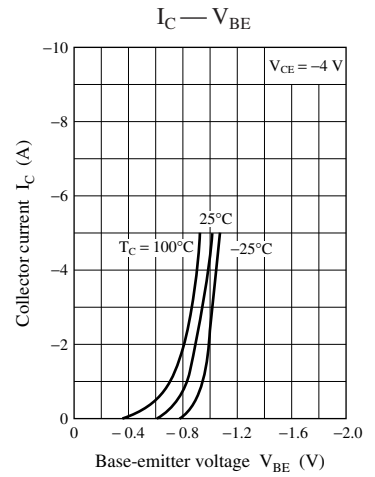
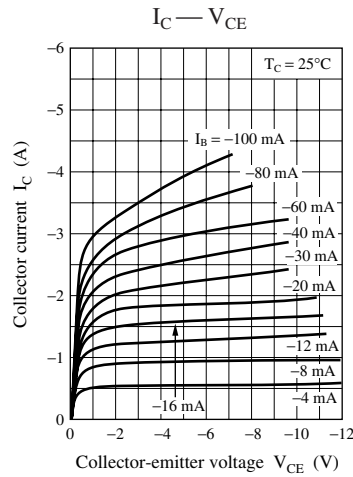
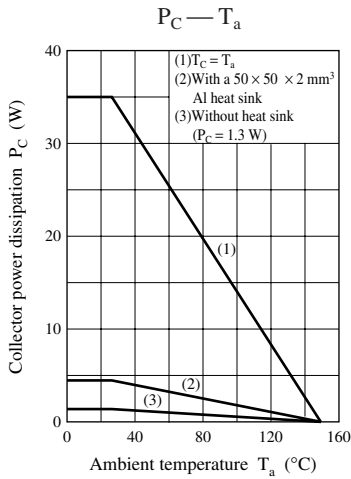
2. \*: Rank classification

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

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



Note) Self-supported type package is also prepared.



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