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2SD0875 (2SD875)

Silicon NPN epitaxial planar type

For low-frequency power amplification
Complementary to 2SB0767 (2SB767)

■ Features

- Large collector power dissipation P_C
- High collector-emitter voltage (Base open) V_{CEO}
- Mini power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

■ 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 | $^\circ\text{C}$ |

Note) *: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

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

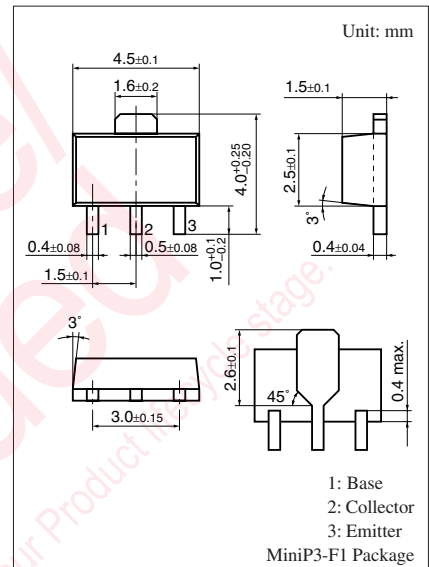
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|------|-----|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}, I_E = 0$ | 80 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 100 \mu\text{A}, I_B = 0$ | 80 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 5 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 20 \text{V}, I_E = 0$ | | | 0.1 | μA |
| Forward current transfer ratio | h_{FE1} * | $V_{CE} = 10 \text{V}, I_C = 150 \text{mA}$ | 130 | | 330 | — |
| | h_{FE2} | $V_{CE} = 50 \text{V}, I_C = 500 \text{mA}$ | 50 | 100 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 300 \text{mA}, I_B = 30 \text{mA}$ | | 0.2 | 0.4 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = 300 \text{mA}, I_B = 30 \text{mA}$ | | 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.

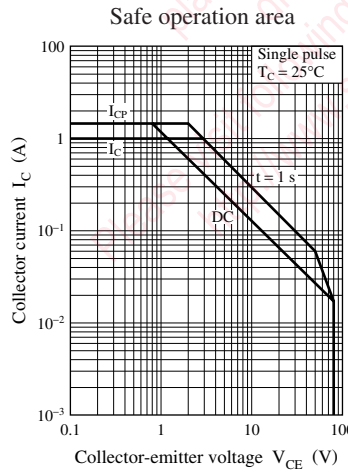
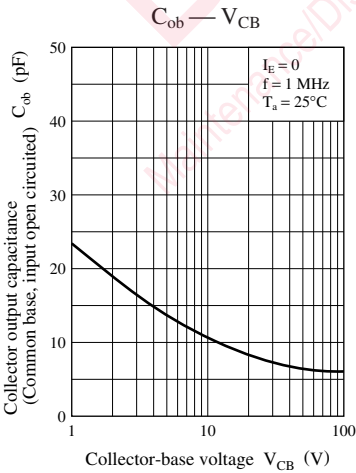
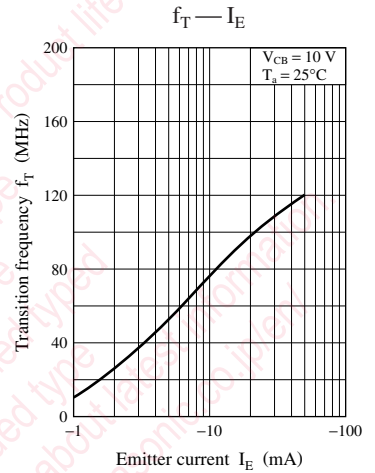
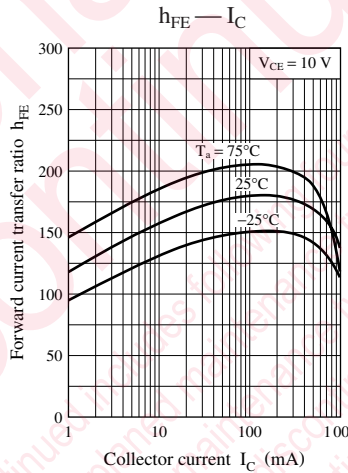
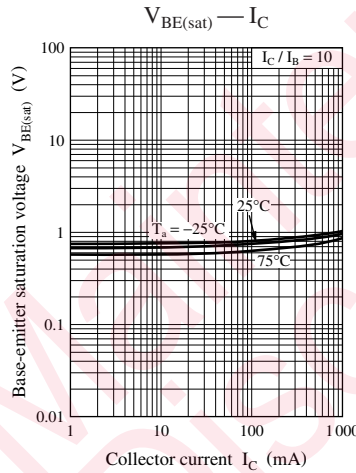
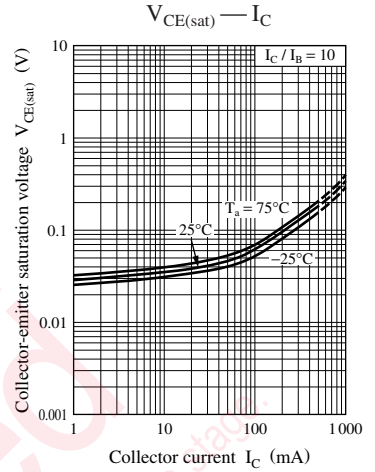
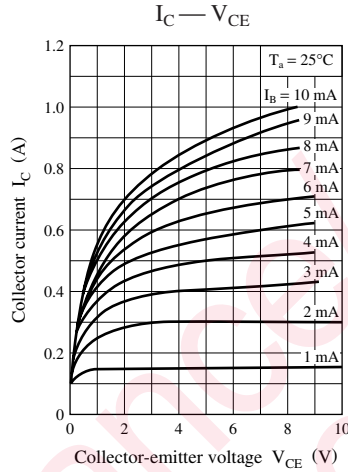
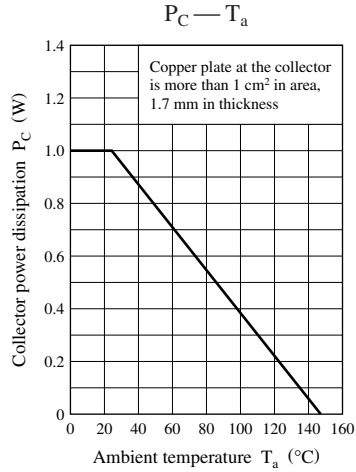
2. *: Rank classification

| Rank | R | S |
|-----------|------------|------------|
| h_{FE1} | 130 to 220 | 185 to 330 |

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



Marking Symbol: X



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