

2SD0965 (2SD965)

Silicon NPN epitaxial planar type

For low-frequency power amplification

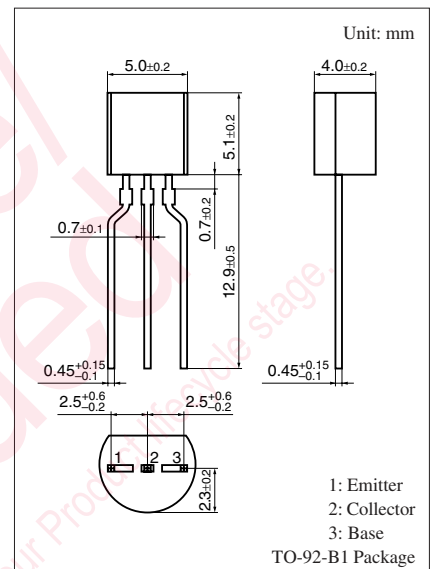
For stroboscope

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Satisfactory operation performances at high efficiency with the low-voltage power supply.

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 40 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 20 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 7 | V |
| Collector current | I_C | 5 | A |
| Peak collector current | I_{CP} | 8 | A |
| Collector power dissipation | P_C | 750 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



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

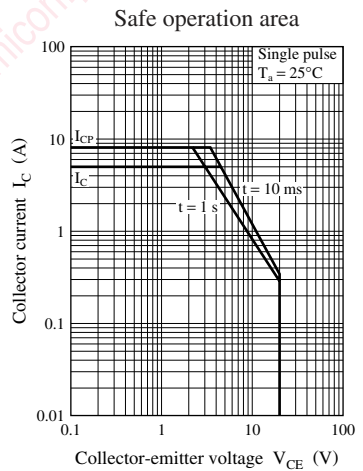
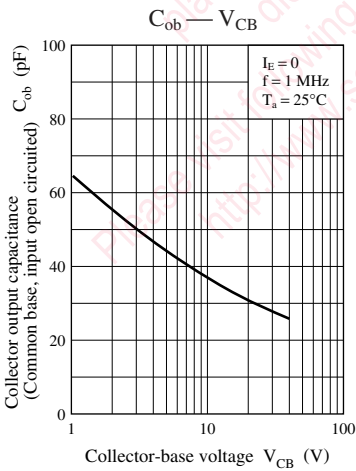
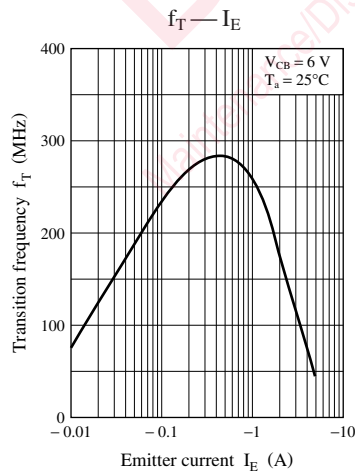
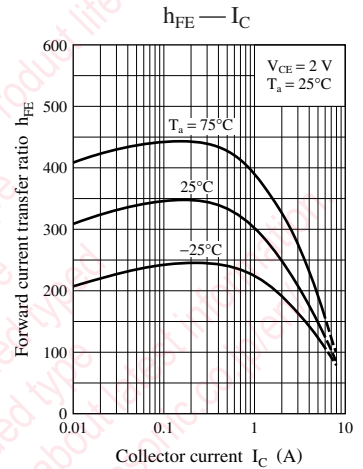
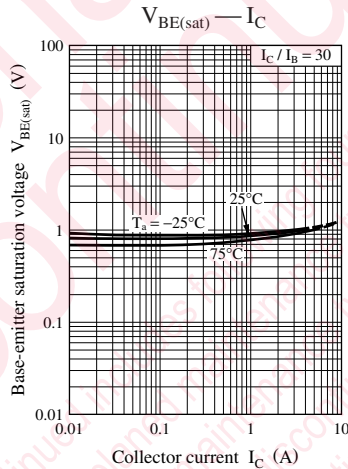
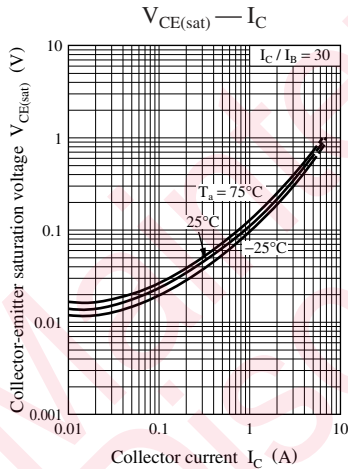
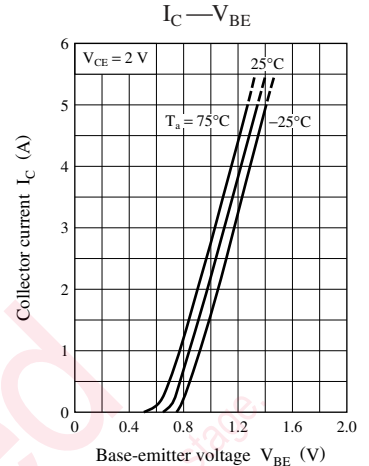
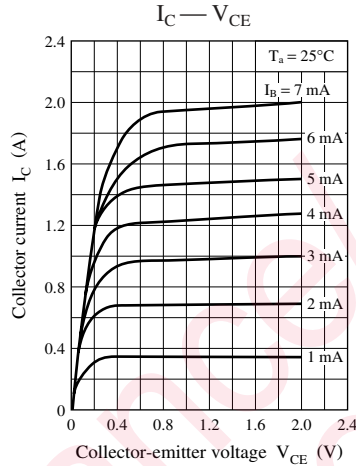
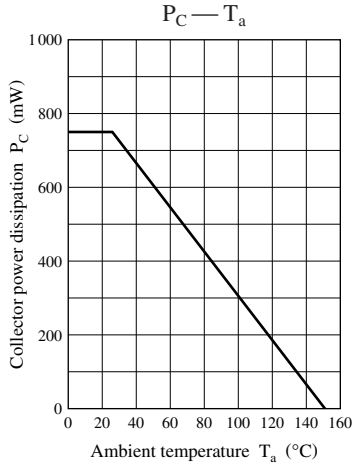
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|---------------|---|-----|------|------|---------------|
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 1 \text{ mA}, I_B = 0$ | 20 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}, I_C = 0$ | 7 | | | V |
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 10 \text{ V}, I_E = 0$ | | | 0.1 | μA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 10 \text{ V}, I_B = 0$ | | | 1 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 7 \text{ V}, I_C = 0$ | | | 0.1 | μA |
| Forward current transfer ratio | h_{FE1}^* | $V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$ | 230 | | 600 | — |
| | h_{FE2} | $V_{CE} = 2 \text{ V}, I_C = 1 \text{ A}$ | 150 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 3 \text{ A}, I_B = 0.1 \text{ A}$ | | 0.28 | 1.00 | V |
| Transition frequency | f_T | $V_{CB} = 6 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$ | | 150 | | MHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 26 | 50 | pF |

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

2. *: Rank classification

| Rank | Q | R |
|-----------|------------|------------|
| h_{FE1} | 230 to 380 | 340 to 600 |

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



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