

2SD0958 (2SD958)

Silicon NPN epitaxial planar type

For low-frequency and low-noise amplification

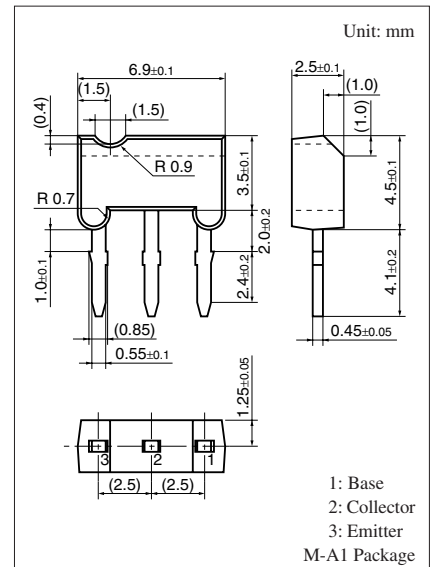
Complementary to 2SB0788 (2SB788)

■ Features

- High collector-emitter voltage (Base open) V_{CEO}
- Low noise voltage NV
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

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

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 120 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 120 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 7 | V |
| Collector current | I_C | 20 | mA |
| Peak collector current | I_{CP} | 50 | mA |
| Collector power dissipation | P_C | 400 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |



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

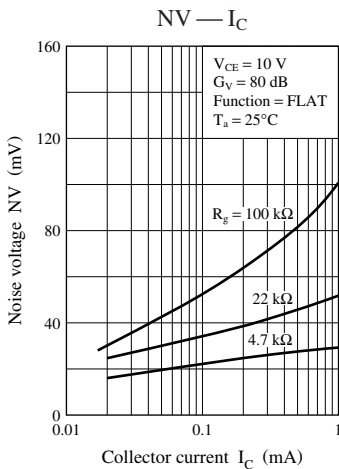
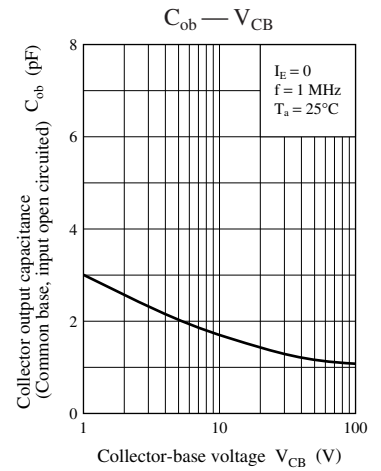
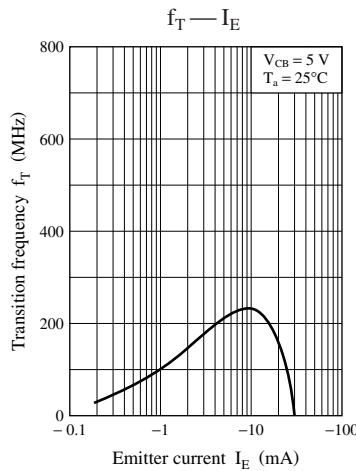
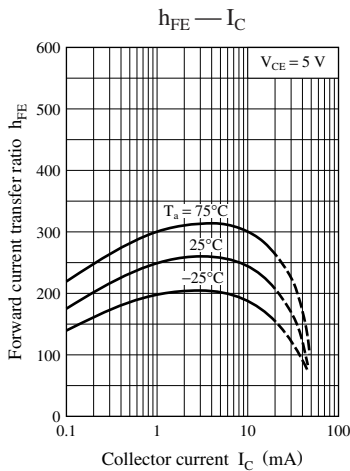
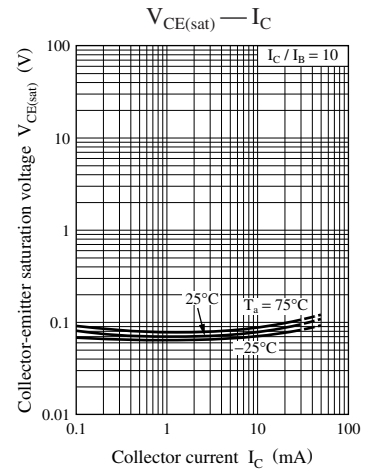
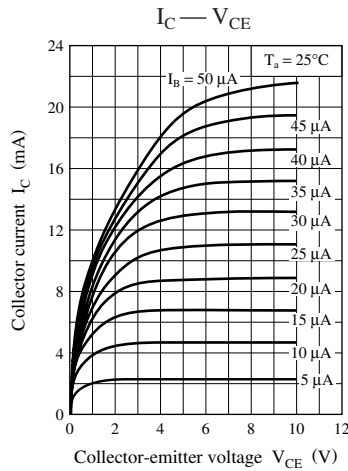
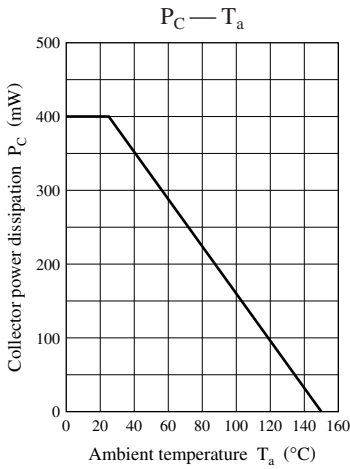
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-----------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-base voltage (Emitter open) | V_{CBO} | $I_C = 10 \mu\text{A}$, $I_E = 0$ | 120 | | | V |
| Collector-emitter voltage (Base open) | V_{CEO} | $I_C = 1 \text{ mA}$, $I_B = 0$ | 120 | | | V |
| Emitter-base voltage (Collector open) | V_{EBO} | $I_E = 10 \mu\text{A}$, $I_C = 0$ | 7 | | | V |
| Collector-base cut-off current (Emitter open) | I_{CBO} | $V_{CB} = 50 \text{ V}$, $I_E = 0$ | | | 100 | nA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 50 \text{ V}$, $I_B = 0$ | | | 1 | μA |
| Forward current transfer ratio * | h_{FE} | $V_{CE} = 5 \text{ V}$, $I_C = 2 \text{ mA}$ | 180 | | 700 | — |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 20 \text{ mA}$, $I_B = 2 \text{ mA}$ | | | 0.6 | V |
| Transition frequency | f_T | $V_{CB} = 5 \text{ V}$, $I_E = -2 \text{ mA}$, $f = 200 \text{ MHz}$ | | 200 | | MHz |
| Noise voltage | NV | $V_{CE} = 40 \text{ V}$, $I_C = 1 \text{ mA}$, $G_V = 80 \text{ dB}$ $R_g = 100 \text{ k}\Omega$, Function = FLAT | | | 150 | mV |

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

2. *: Rank classification

| Rank | R | S | T |
|----------|------------|------------|------------|
| h_{FE} | 180 to 360 | 260 to 520 | 360 to 700 |

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



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