

# XP02501 (XP2501)

Silicon NPN epitaxial planar type

For general amplification

■ Features

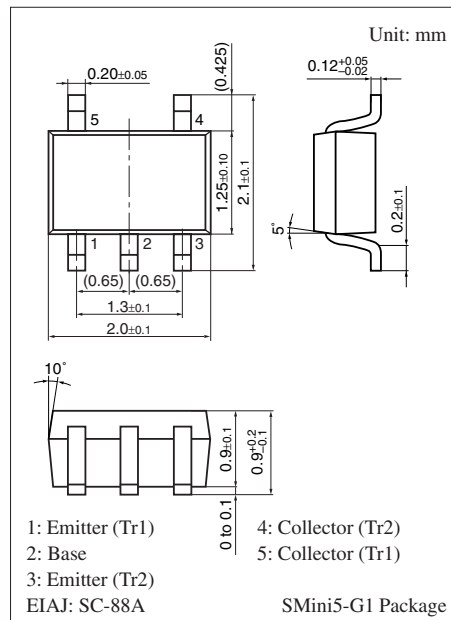
- Two elements incorporated into one package (Base-coupled transistors)
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number

- 2SD0601A (2SD601A) × 2

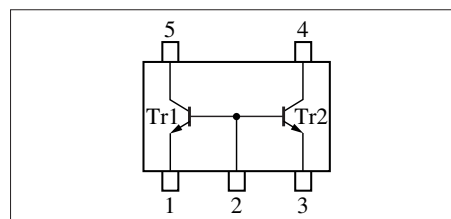
■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

| Parameter                             | Symbol    | Rating      | Unit             |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | $V_{CBO}$ | 60          | V                |
| Collector-emitter voltage (Base open) | $V_{CEO}$ | 50          | V                |
| Emitter-base voltage (Collector open) | $V_{EBO}$ | 7           | V                |
| Collector current                     | $I_C$     | 100         | mA               |
| Peak collector current                | $I_{CP}$  | 200         | mA               |
| Total power dissipation               | $P_T$     | 150         | mW               |
| Junction temperature                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |



Marking Symbol: 5W

Internal Connection

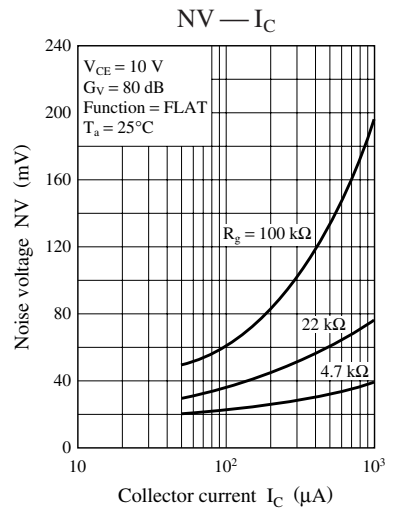
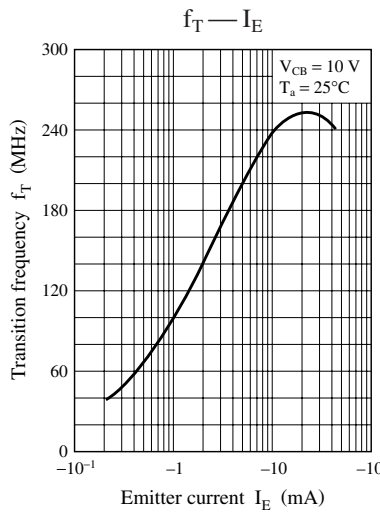
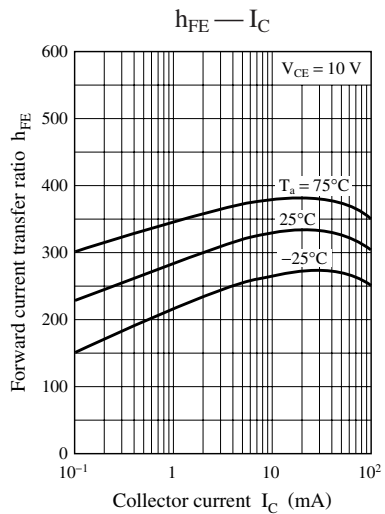
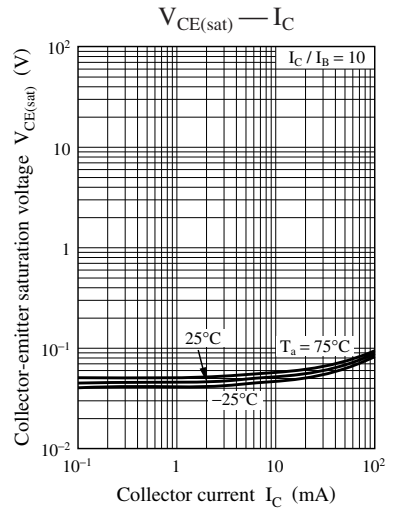
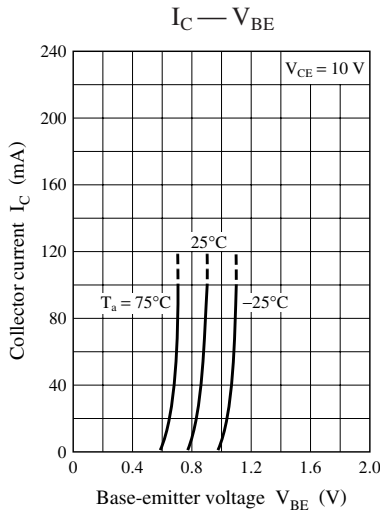
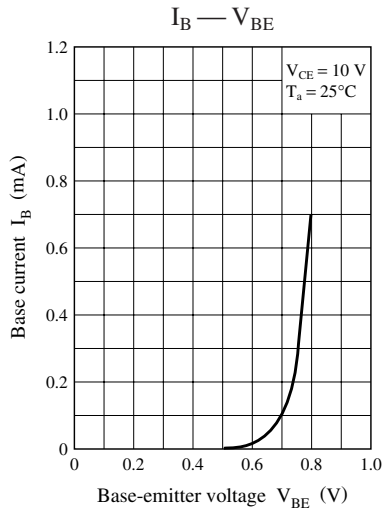
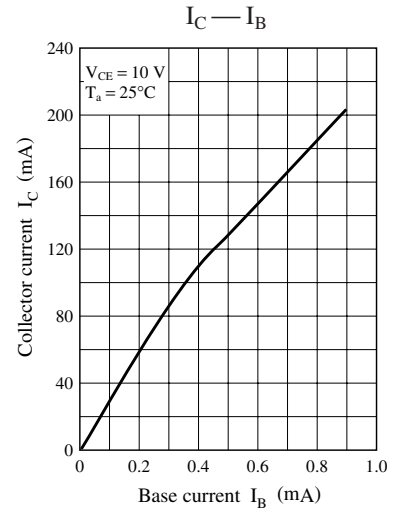
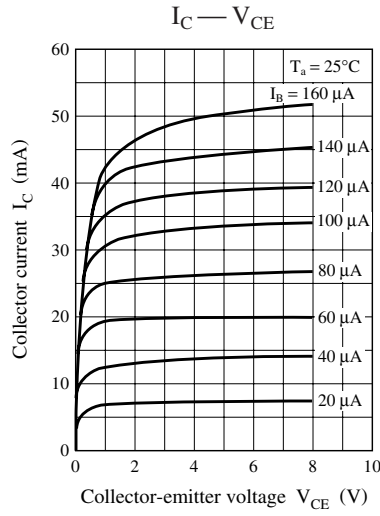
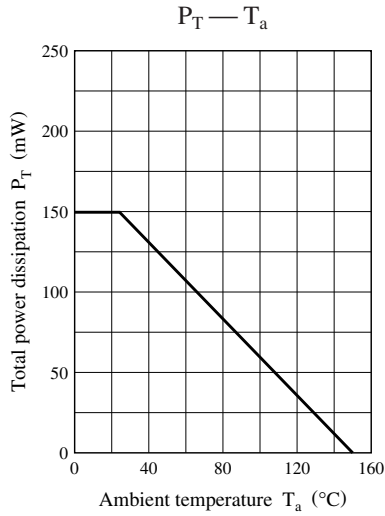


■ Electrical Characteristics  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter  | Symbol                       | Conditions   | Min  | Typ  | Max | Unit          |
|--|------------------------------|--|------|------|-----|---------------|
| Collector-base voltage (Emitter open)                            | $V_{CBO}$                    | $I_C = 10 \mu\text{A}, I_E = 0$                                | 60   |      |     | V             |
| Collector-emitter voltage (Base open)                            | $V_{CEO}$                    | $I_C = 2 \text{mA}, I_B = 0$                                   | 50   |      |     | 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)                     | $I_{CBO}$                    | $V_{CB} = 20 \text{V}, I_E = 0$                                |      |      | 0.1 | $\mu\text{A}$ |
| Collector-emitter cutoff current (Base open)                     | $I_{CEO}$                    | $V_{CE} = 10 \text{V}, I_B = 0$                                |      |      | 100 | $\mu\text{A}$ |
| Forward current transfer ratio                                   | $h_{FE}$                     | $V_{CE} = 10 \text{V}, I_C = 2 \text{mA}$                      | 160  |      | 460 | —             |
| $h_{FE}$ ratio *   | $h_{FE(\text{Small/Large})}$ | $V_{CE} = 10 \text{V}, I_C = 2 \text{mA}$                      | 0.50 | 0.99 |     | —             |
| Collector-emitter saturation voltage                             | $V_{CE(\text{sat})}$         | $I_C = 100 \text{mA}, I_B = 10 \text{mA}$                      |      | 0.1  | 0.3 | V             |
| Transition frequency   | $f_T$                        | $V_{CB} = 10 \text{V}, I_E = -2 \text{mA}, f = 200 \text{MHz}$ |      | 150  |     | MHz           |
| Collector output capacitance (Common base, input open circuited) | $C_{ob}$                     | $V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$              |      | 3.5  |     | pF            |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.  
 2. \*: Ratio between 2 elements

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



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