

# XN05501 (XN5501)

## Silicon NPN epitaxial planar type

For general amplification

### ■ Features

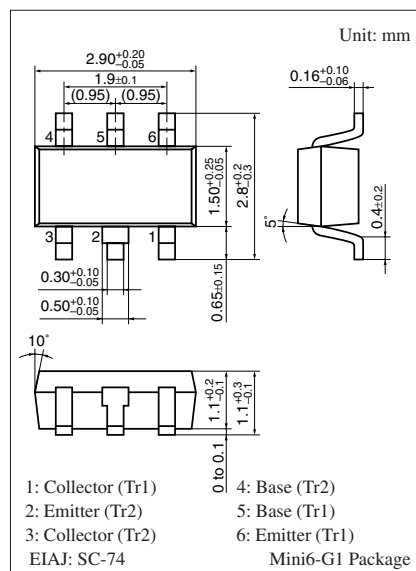
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

### ■ Basic Part Number

- 2SD0601A (2SD601A) × 2

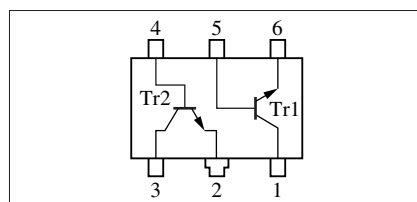
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	60	V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	50	V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	7	V
Collector current	$I_{\text{C}}$	100	mA
Peak collector current	$I_{\text{CP}}$	200	mA
Total power dissipation	$P_{\text{T}}$	300	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$



Marking Symbol: 5L

Internal Connection



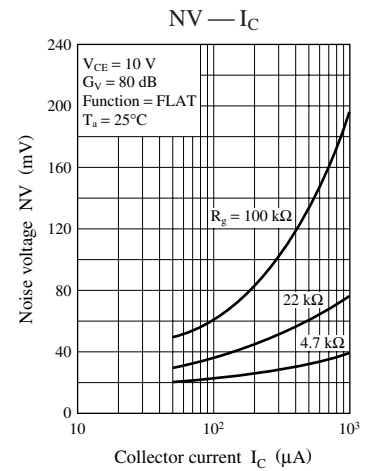
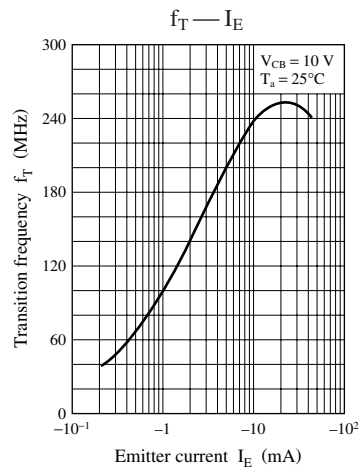
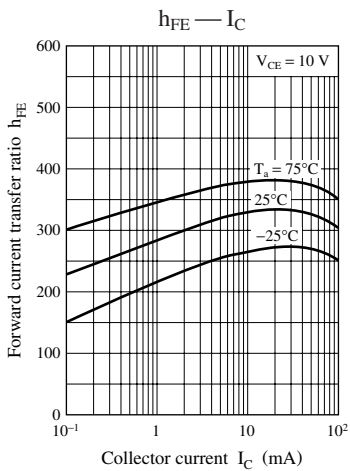
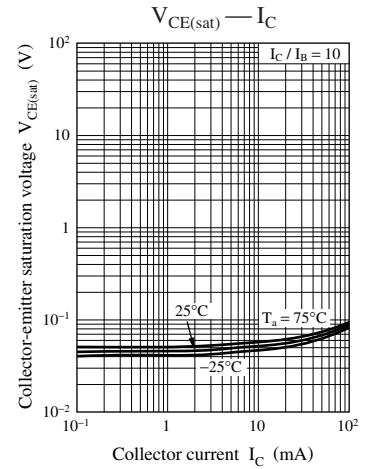
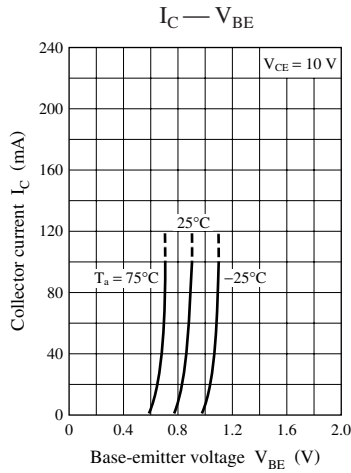
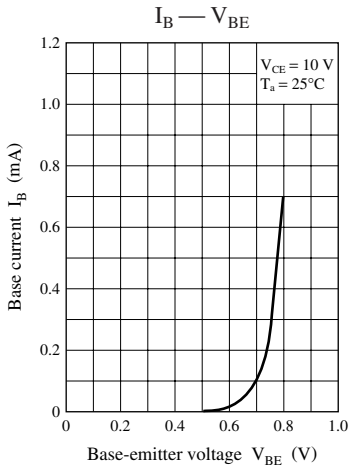
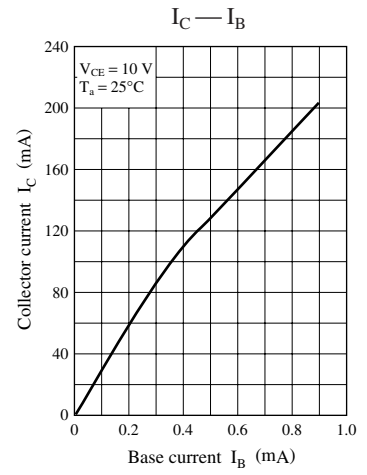
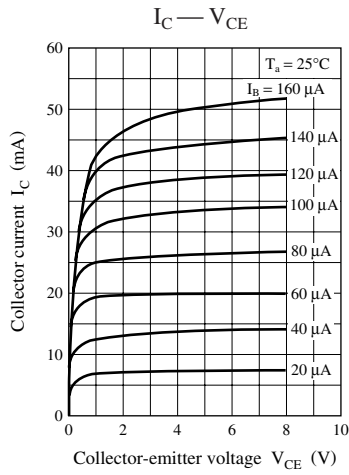
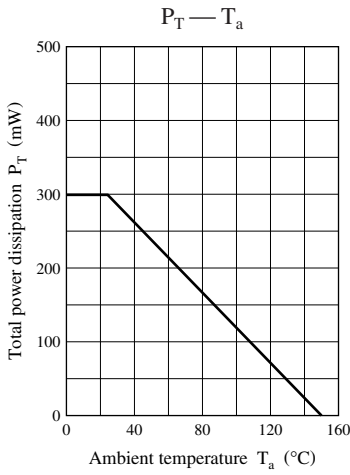
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 10 \mu\text{A}$ , $I_{\text{E}} = 0$	60			V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	$I_{\text{C}} = 2 \text{mA}$ , $I_{\text{B}} = 0$	50			V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	$I_{\text{E}} = 10 \mu\text{A}$ , $I_{\text{C}} = 0$	7			V
Collector-base cutoff current (Emitter open)	$I_{\text{CBO}}$	$V_{\text{CB}} = 20 \text{V}$ , $I_{\text{E}} = 0$			0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{\text{CEO}}$	$V_{\text{CE}} = 10 \text{V}$ , $I_{\text{B}} = 0$			100	$\mu\text{A}$
Forward current transfer ratio	$h_{\text{FE}}$	$V_{\text{CE}} = 10 \text{V}$ , $I_{\text{C}} = 2 \text{mA}$	160		460	—
$h_{\text{FE}}$ ratio *	$h_{\text{FE}}(\text{Small/Large})$	$V_{\text{CE}} = 10 \text{V}$ , $I_{\text{C}} = 2 \text{mA}$	0.50	0.99		—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 100 \text{mA}$ , $I_{\text{B}} = 10 \text{mA}$		0.1	0.3	V
Transition frequency	$f_{\text{T}}$	$V_{\text{CB}} = 10 \text{V}$ , $I_{\text{E}} = -2 \text{mA}$ , $f = 200 \text{MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	$C_{\text{ob}}$	$V_{\text{CB}} = 10 \text{V}$ , $I_{\text{E}} = 0$ , $f = 1 \text{MHz}$		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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