

XN05601 (XN5601)

Silicon PNP epitaxial planer transistor (Tr1)

Silicon NPN epitaxial planer transistor (Tr2)

For general amplification

Features

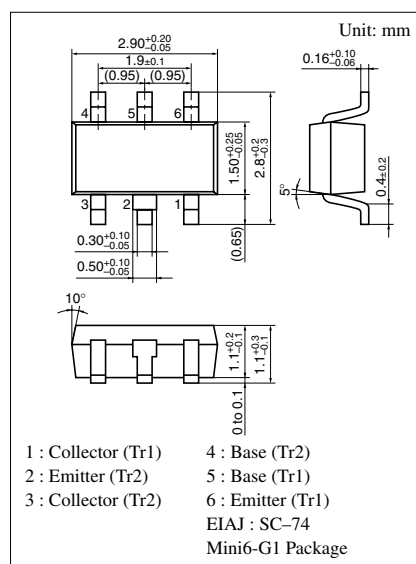
- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

- 2SB0709A(2SB709A) + 2SD0601A(2SD601A)

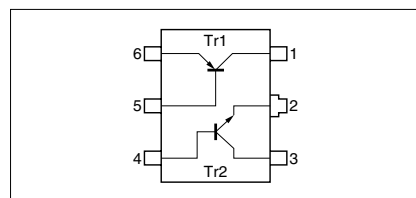
Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Ratings	Unit
Tr1	Collector to base voltage	V_{CBO}	-60	V
	Collector to emitter voltage	V_{CEO}	-50	V
	Emitter to base voltage	V_{EBO}	-7	V
	Collector current	I_C	-100	mA
	Peak collector current	I_{CP}	-200	mA
Tr2	Collector to base voltage	V_{CBO}	60	V
	Collector to emitter voltage	V_{CEO}	50	V
	Emitter to base voltage	V_{EBO}	7	V
	Collector current	I_C	100	mA
	Peak collector current	I_{CP}	200	mA
Overall	Total power dissipation	P_T	300	mW
	Junction temperature	T_j	150	°C
	Storage temperature	T_{stg}	-55 to +150	°C



Marking Symbol: 4N

Internal Connection



Note) The Part number in the Parenthesis shows conventional part number.

■ Electrical Characteristics (T_a=25°C)

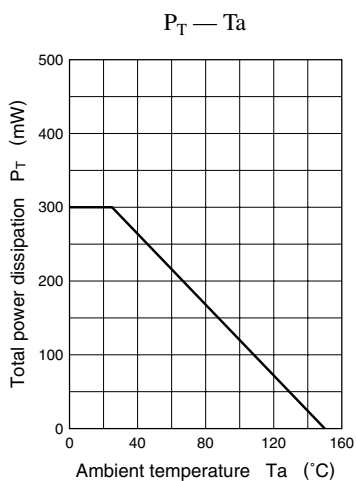
● Tr1

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V _{CBO}	I _C = -10μA, I _E = 0	-60			V
Collector to emitter voltage	V _{CEO}	I _C = -2mA, I _B = 0	-50			V
Emitter to base voltage	V _{EBO}	I _E = -10μA, I _C = 0	-7			V
Collector cutoff current	I _{CBO}	V _{CB} = -20V, I _E = 0			- 0.1	μA
	I _{CEO}	V _{CE} = -10V, I _B = 0			-100	μA
Forward current transfer ratio	h _{FE}	V _{CE} = -10V, I _C = -2mA	160		460	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = -100mA, I _B = -10mA		- 0.3	- 0.5	V
Transition frequency	f _T	V _{CB} = -10V, I _E = 1mA, f = 200MHz		80		MHz
Collector output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz		2.7		pF

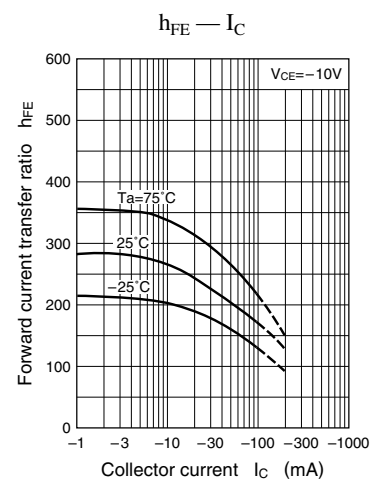
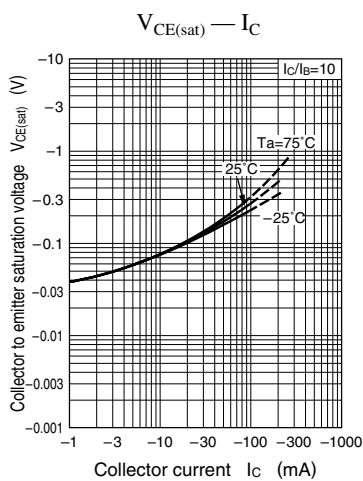
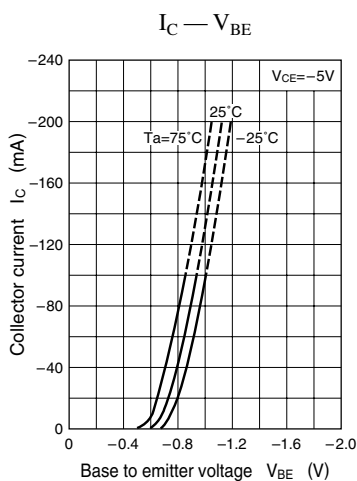
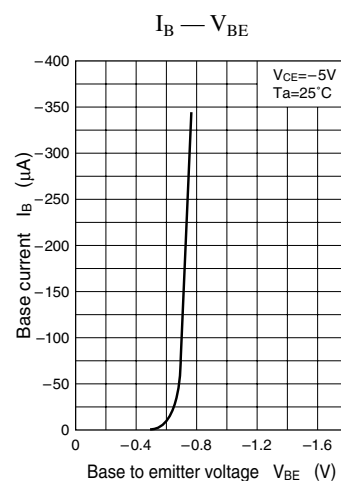
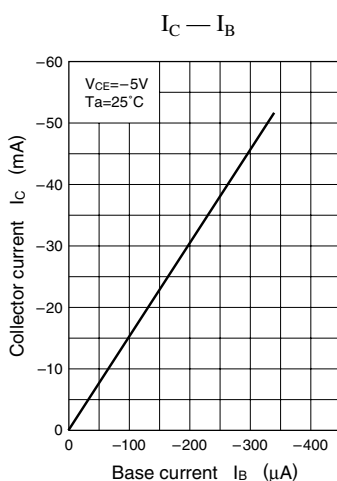
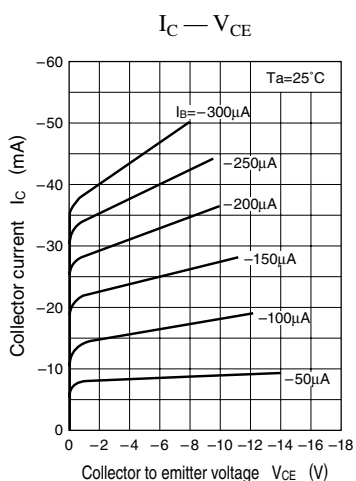
● Tr2

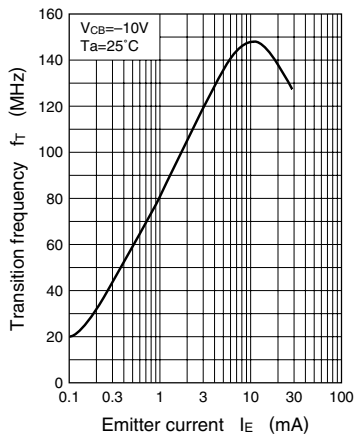
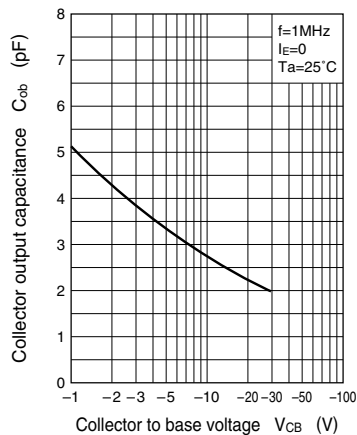
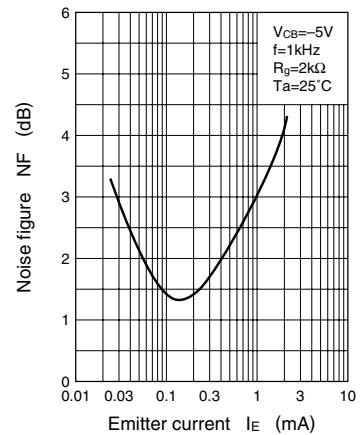
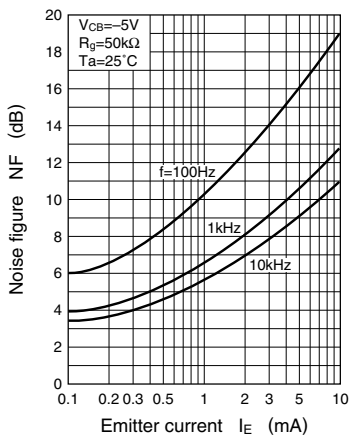
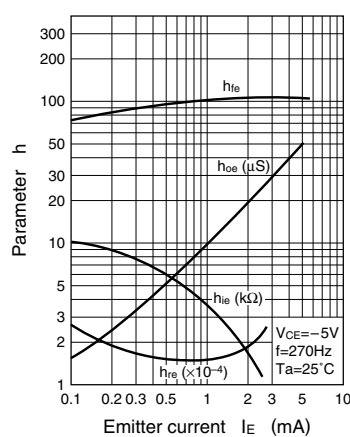
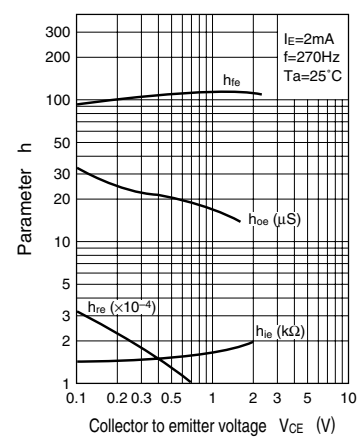
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V _{CBO}	I _C = 10μA, I _E = 0	60			V
Collector to emitter voltage	V _{CEO}	I _C = 2mA, I _B = 0	50			V
Emitter to base voltage	V _{EBO}	I _E = 10μA, I _C = 0	7			V
Collector cutoff current	I _{CBO}	V _{CB} = 20V, I _E = 0			0.1	μA
	I _{CEO}	V _{CE} = 10V, I _B = 0			100	μA
Forward current transfer ratio	h _{FE}	V _{CE} = 10V, I _C = 2mA	160		460	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 100mA, I _B = 10mA		0.1	0.3	V
Transition frequency	f _T	V _{CB} = 10V, I _E = -2mA, f = 200MHz		150		MHz
Collector output capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz		3.5		pF

Common characteristics chart

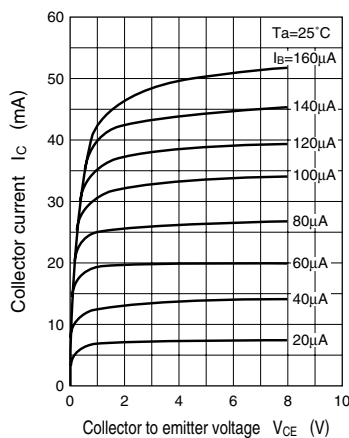
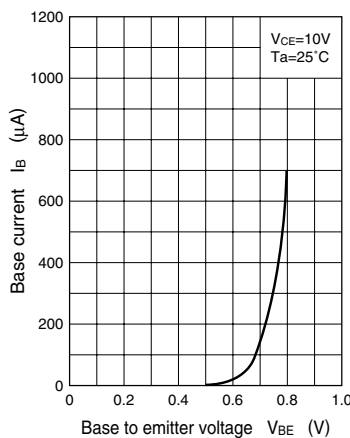
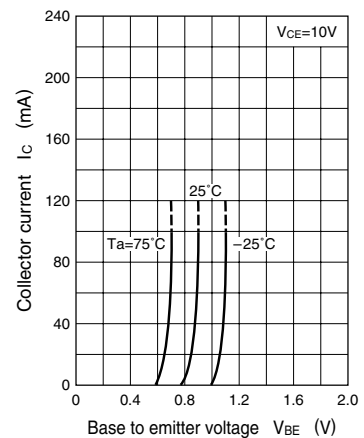


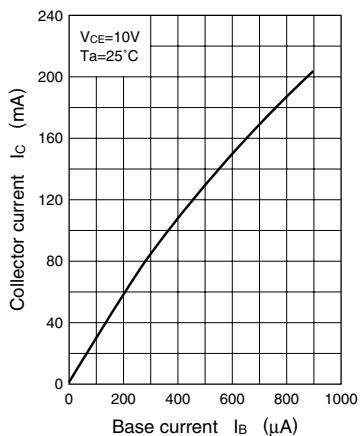
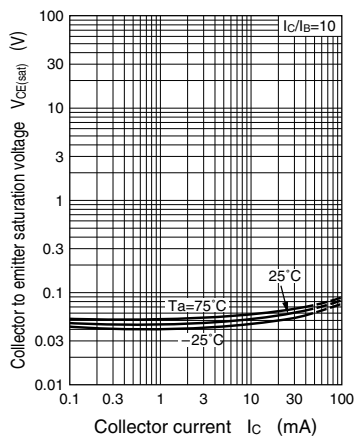
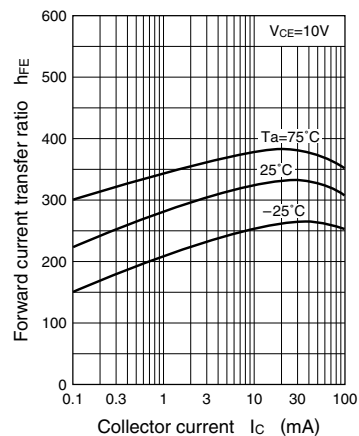
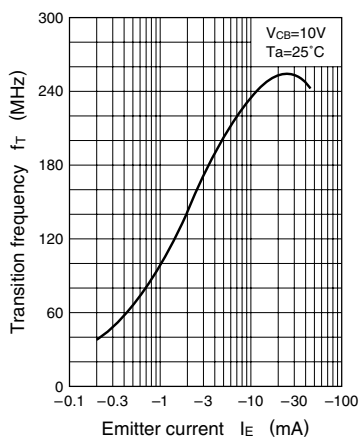
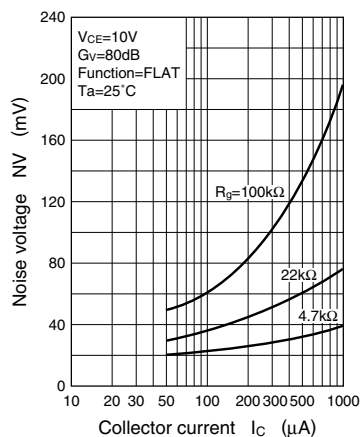
Characteristics charts of Tr1



$f_T - I_E$  $C_{ob} - V_{CB}$  $NF - I_E$  $NF - I_E$  h Parameter — I_E  h Parameter — V_{CE} 

Characteristics charts of Tr2

 $I_C - V_{CE}$  $I_B - V_{BE}$  $I_C - V_{BE}$ 

$I_C - I_B$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $NV - I_C$ 

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