

XN04608 (XN4608)

Silicon NPN epitaxial planer transistor (Tr1)
 Silicon PNP epitaxial planer transistor (Tr2)

For general amplification (Tr1)
 For amplification of low frequency output (Tr2)

Features

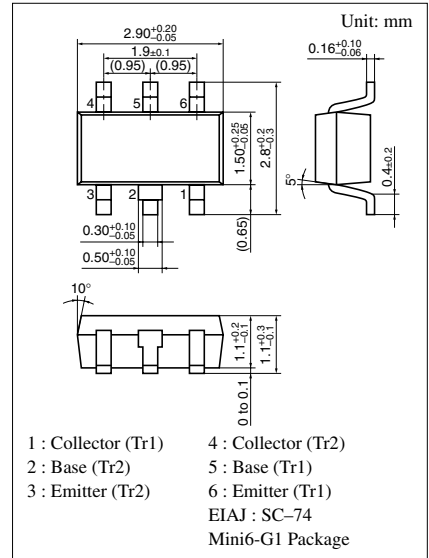
- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

- 2SD0601A(2SD601A) + 2SB0970(2SB970)

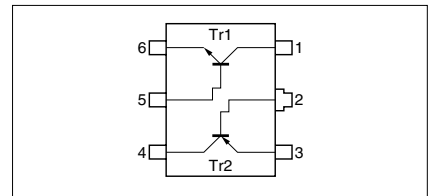
Absolute Maximum Ratings (Ta=25°C)

	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}	-15	V
	Collector to emitter voltage	V_{CEO}	-10	V
	Emitter to base voltage	V_{EBO}	-7	V
	Collector current	I_C	-0.5	A
	Peak collector current	I_{CP}	-1	A
Overall	Total power dissipation	P_T	300	mW
	Junction temperature	T_j	150	°C
	Storage temperature	T_{stg}	-55 to +150	°C



Marking Symbol: 5E

Internal Connection



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

■ Electrical Characteristics (Ta=25°C)

● Tr1

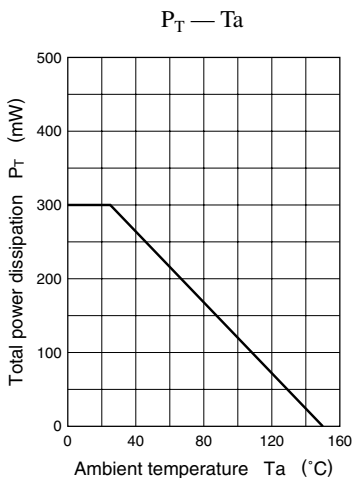
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	60			V
Collector to emitter voltage	V_{CEO}	$I_C = 2mA, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	7			V
Collector cutoff current	I_{CBO}	$V_{CB} = 20V, I_E = 0$			0.1	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

● Tr2

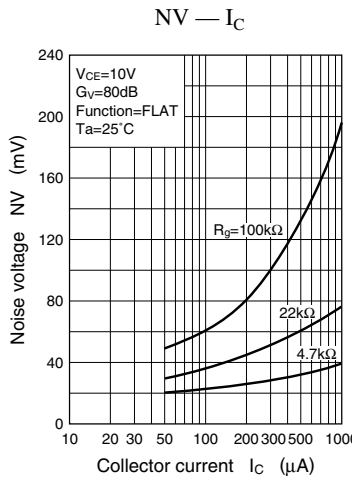
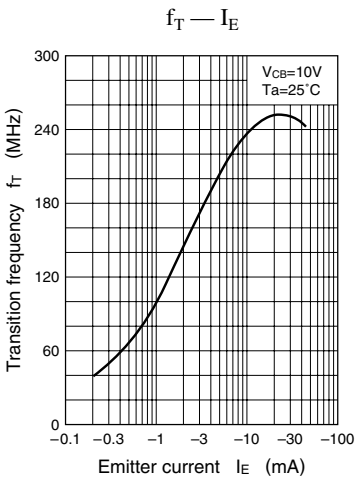
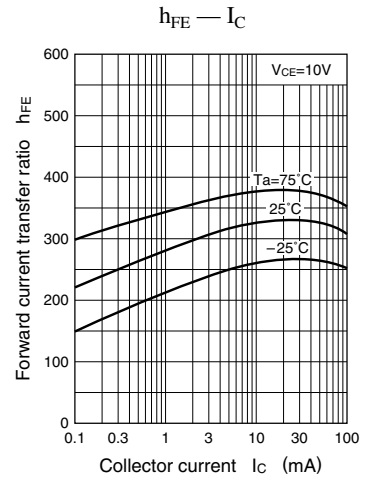
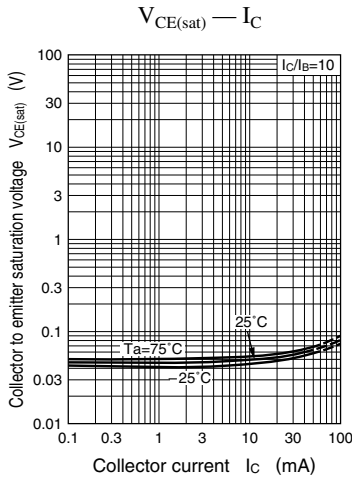
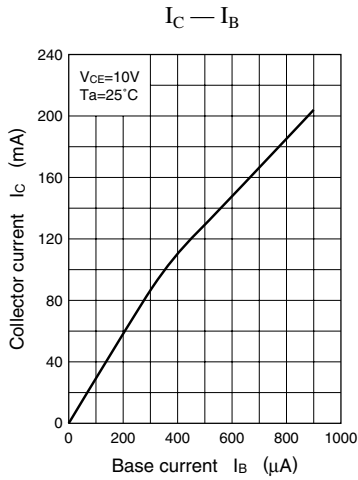
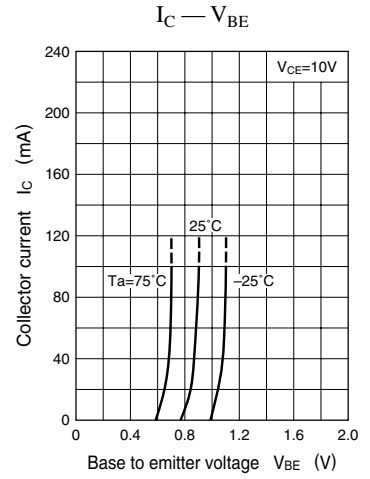
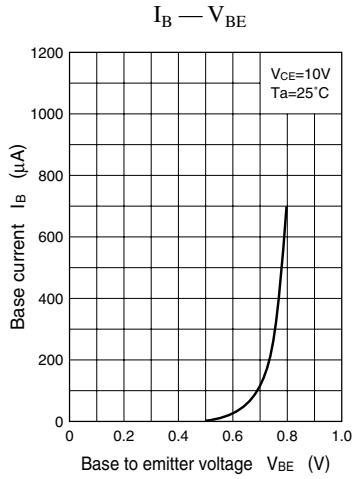
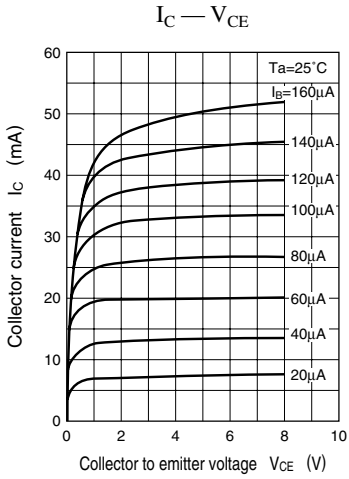
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V_{CBO}	$I_C = -10\mu A, I_E = 0$	-15			V
Collector to emitter voltage	V_{CEO}	$I_C = -1mA, I_B = 0$	-10			V
Emitter to base voltage	V_{EBO}	$I_E = -10\mu A, I_C = 0$	-7			V
Collector cutoff current	I_{CBO}	$V_{CB} = -10V, I_E = 0$			-0.1	μA
	h_{FE1}	$V_{CE} = -2V, I_C = -0.5A^*$	100		350	
Forward current transfer ratio	h_{FE2}	$V_{CE} = -2V, I_C = -1A^*$	60			
	$V_{CE(sat)}$	$I_C = -0.4A, I_B = -8mA$		-0.16	-0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -0.4A, I_B = -8mA$		-0.8	-1.2	V
Transition frequency	f_T	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		130		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		22		pF

* Pulse measurement

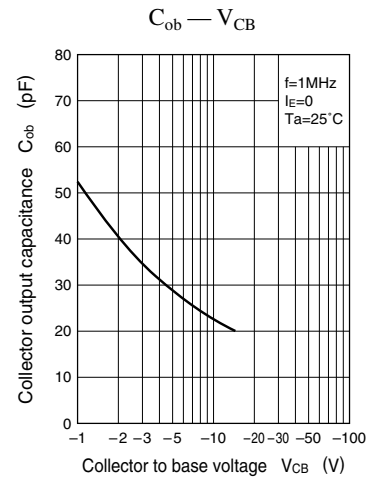
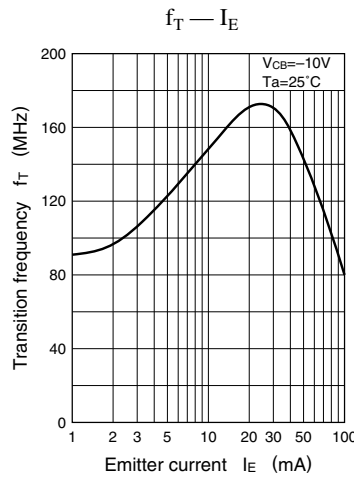
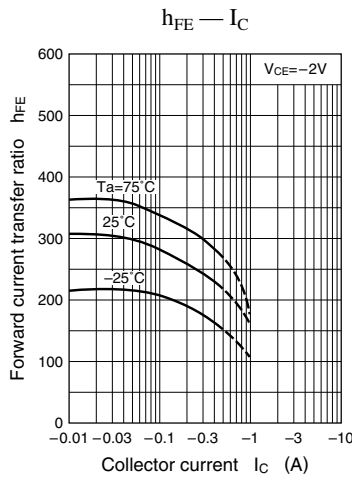
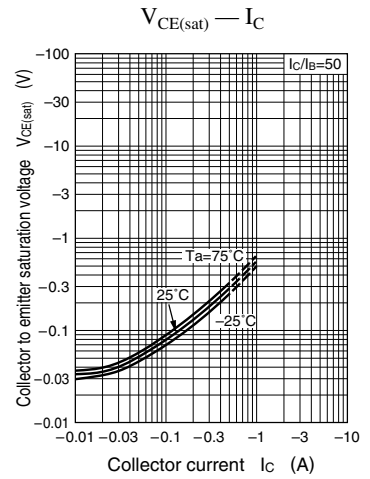
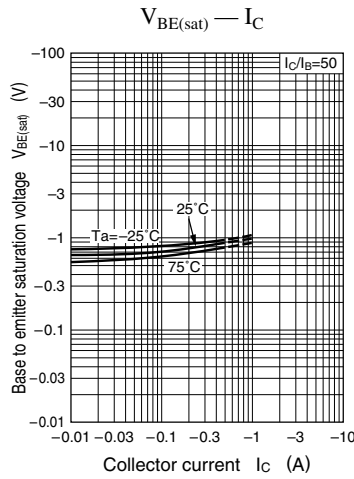
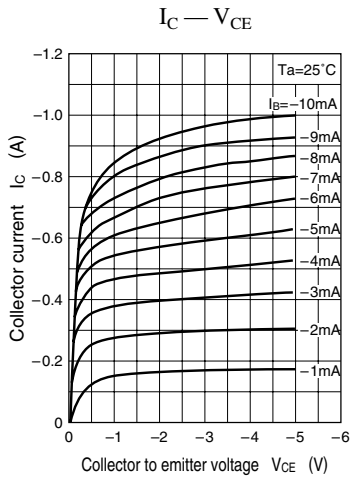
Common characteristics chart



Characteristics charts of Tr1



Characteristics charts of Tr2



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