

2SB0709A (2SB709A)

Silicon PNP epitaxial planar type

For general amplification

Complementary to 2SD0601A (2SD601A)

■ Features

- High forward current transfer ratio h_{FE}
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-45	V
Collector-emitter voltage (Base open)	V_{CEO}	-45	V
Emitter-base voltage (Collector open)	V_{EBO}	-7	V
Collector current	I_C	-100	mA
Peak collector current	I_{CP}	-200	mA
Collector power dissipation	P_C	200	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}	$I_C = -10 \mu\text{A}, I_E = 0$	-45			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -2 \text{ mA}, I_B = 0$	-45			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	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -10 \text{ V}, I_B = 0$			-100	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -10 \text{ V}, I_C = -2 \text{ mA}$	160	460	—	
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$		-0.3	-0.5	V
Transition frequency	f_T	$V_{CB} = -10 \text{ V}, I_E = 1 \text{ mA}, f = 200 \text{ MHz}$		80		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		2.7		pF

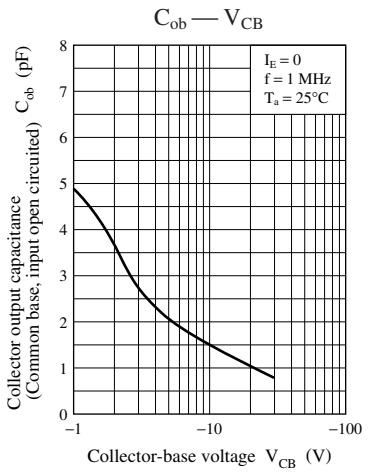
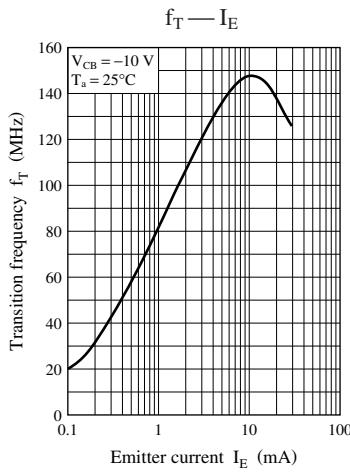
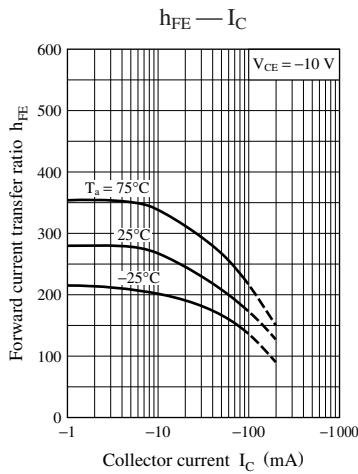
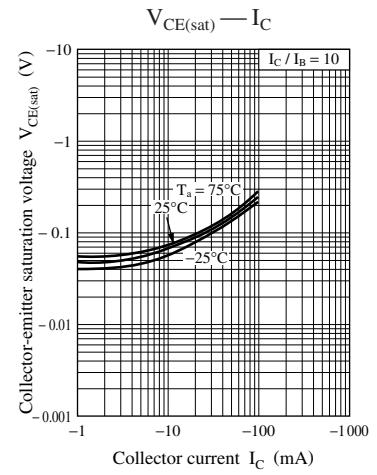
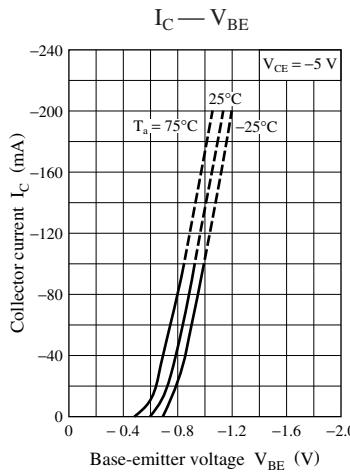
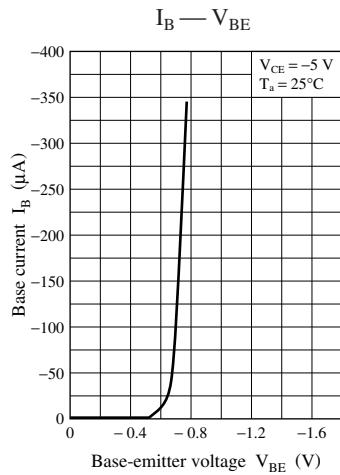
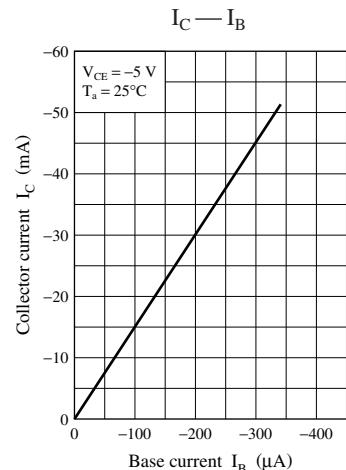
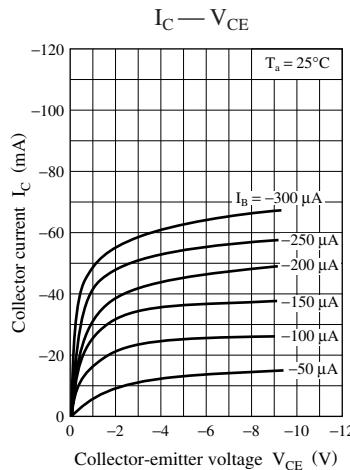
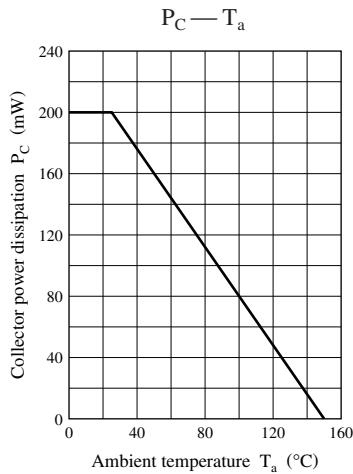
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

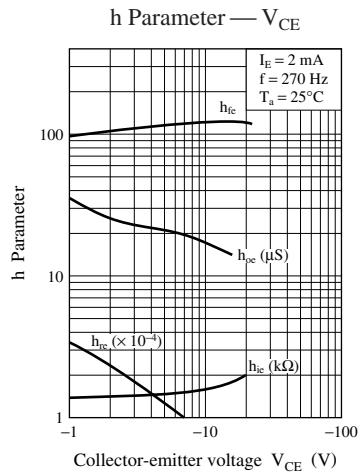
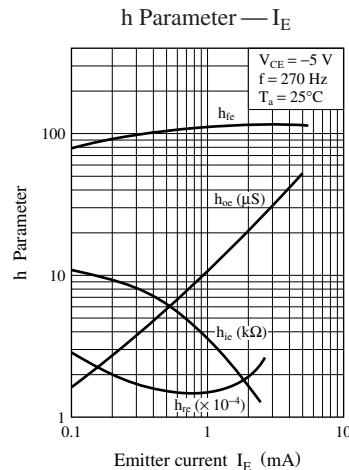
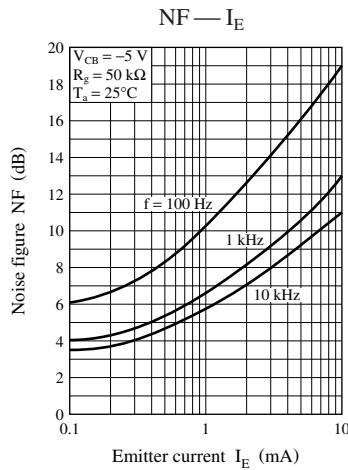
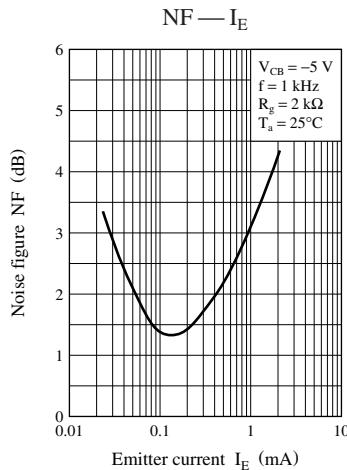
2. *: Rank classification

Rank	Q	R	S	No-rank
h_{FE}	160 to 260	210 to 340	290 to 460	160 to 460
Marking symbol	BQ	BR	BS	B

Product of no-rank is not classified and have no marking symbol for rank.

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





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