

2SB709A

Silicon PNP epitaxial planer type

For general amplification

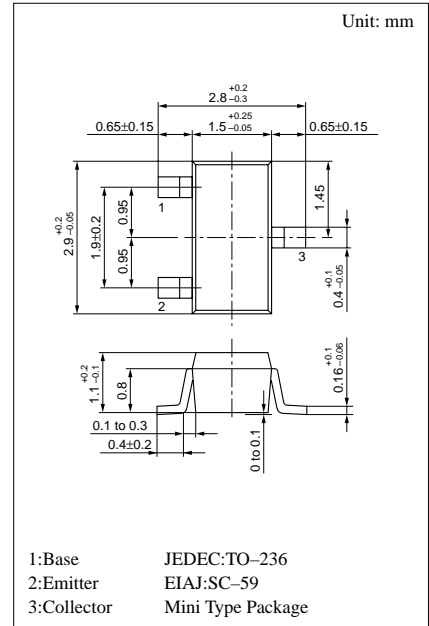
Complementary to 2SD601A

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 (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-45	V
Collector to emitter voltage	V_{CEO}	-45	V
Emitter to base voltage	V_{EBO}	-7	V
Peak collector current	I_{CP}	-200	mA
Collector current	I_C	-100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



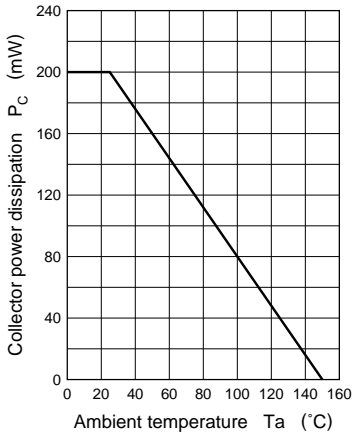
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -20V, I_E = 0$			-0.1	μA
	I_{CEO}	$V_{CE} = -10V, I_B = 0$			-100	μA
Collector to base voltage	V_{CBO}	$I_C = -10\mu A, I_E = 0$	-45			V
Collector to emitter voltage	V_{CEO}	$I_C = -2mA, I_B = 0$	-45			V
Emitter to base voltage	V_{EBO}	$I_E = -10\mu A, I_C = 0$	-7			V
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

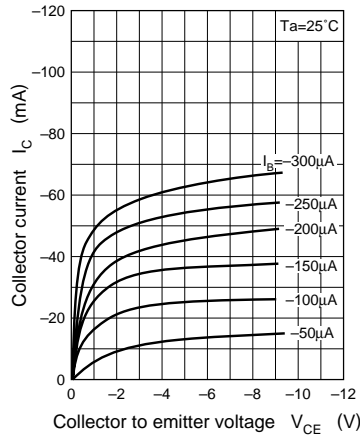
* h_{FE} Rank classification

Rank	Q	R	S
h_{FE}	160 ~ 260	210 ~ 340	290 ~ 460
Marking Symbol	BQ	BR	BS

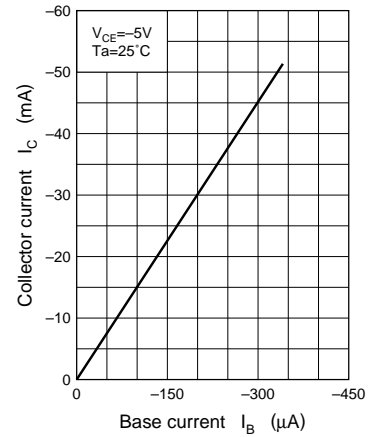
$P_C - T_a$



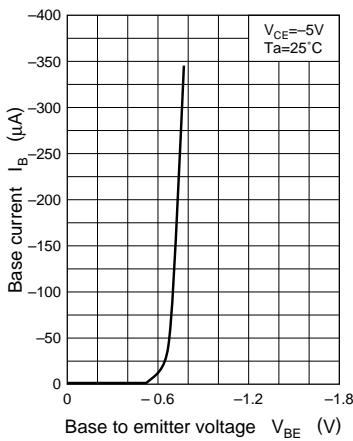
$I_C - V_{CE}$



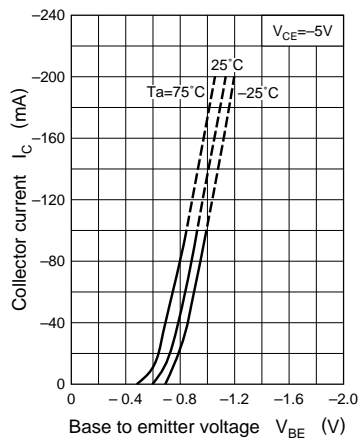
$I_C - I_B$



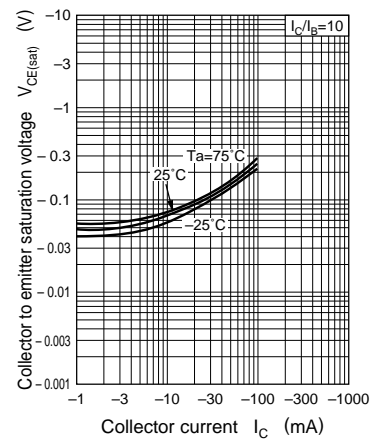
$I_B - V_{BE}$



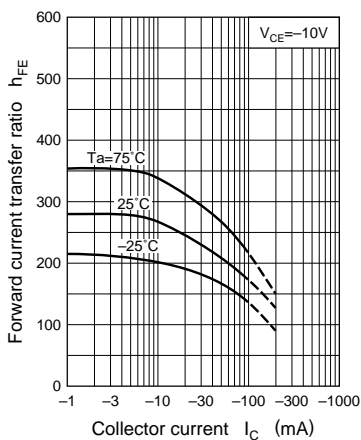
$I_C - V_{BE}$



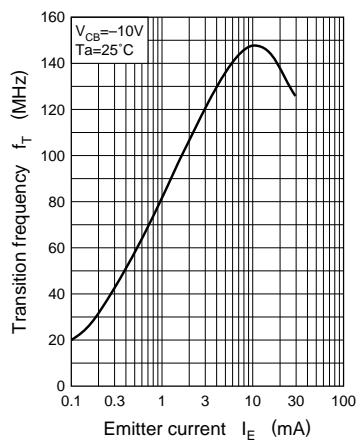
$V_{CE(sat)} - I_C$



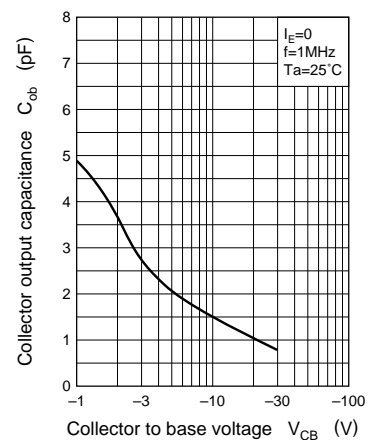
$h_{FE} - I_C$



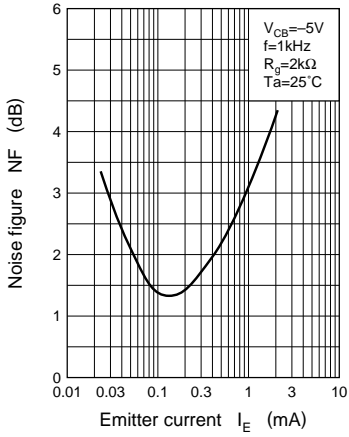
$f_T - I_E$



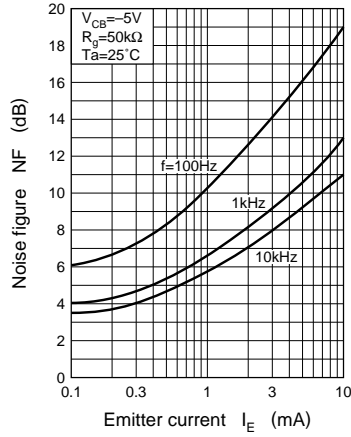
$C_{ob} - V_{CB}$



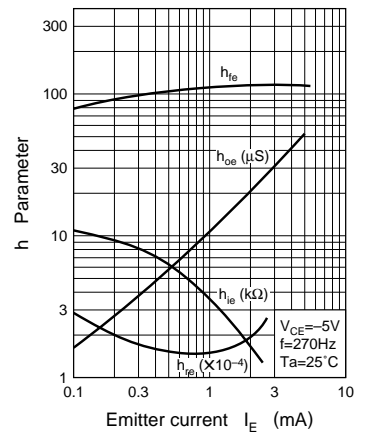
NF — I_E



NF — I_E



h Parameter — I_E



h Parameter — V_{CE}

