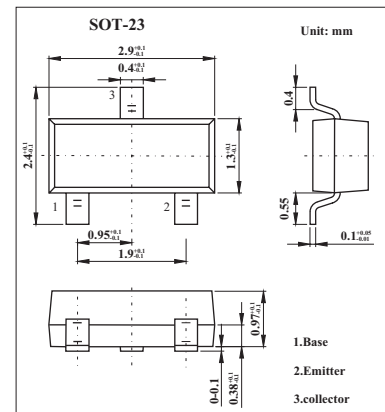


Silicon PNP Epitaxial Planar Type

2SB709A

■ 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	V_{CBO}	-45	V
Collector-emitter voltage	V_{CEO}	-45	V
Emitter-base voltage	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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base voltage	V_{CBO}	$I_C = -10 \mu\text{A}$, $I_E = 0$	-45			V
Collector-emitter voltage	V_{CEO}	$I_C = -2 \text{ mA}$, $I_B = 0$	-45			V
Emitter-base voltage	V_{EBO}	$I_E = -10 \mu\text{A}$, $I_C = 0$	-7			V
Collector-base current	I_{CBO}	$V_{CB} = -20 \text{ V}$, $I_E = 0 \text{ A}$			-0.1	μA
Collector-emitter current	I_{CEO}	$V_{CE} = -10 \text{ V}$, $I_B = 0 \text{ A}$			-100	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = -10 \text{ V}$, $I_C = -2 \text{ mA}$	160		460	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100 \text{ mA}$, $I_B = -10 \text{ mA}$		-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	C_{ob}	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$		2.7		pF

■ h_{FE} Classification

Marking	BQ	BR	BS
h_{FE}	160~260	210~340	290~460