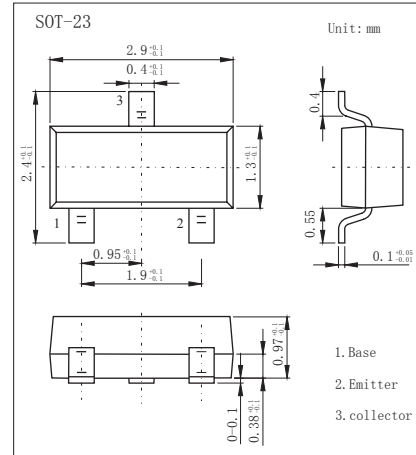


PNP Transistors

2SB709A

■ Features

- For general amplification
- Complimentary to 2SD601A.



■ 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	
Emitter - Base Voltage	V_{EBO}	-7	
Collector Current - Continuous	I_C	-100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = -100 \mu\text{A}, I_E = 0$	-45			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = -2 \text{mA}, I_B = 0$	-45			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100 \mu\text{A}, I_C = 0$	-7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -40 \text{V}, I_E = 0$			-0.1	uA
Collector-Emitter cut-off current	I_{CEO}	$V_{CE} = -20 \text{V}, I_B = 0$			-100	
Emitter cut-off current	I_{EBO}	$V_{EB} = -6 \text{V}, I_C = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100 \text{mA}, I_B = -10 \text{mA}$			-0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100 \text{mA}, I_B = -10 \text{mA}$			-1.2	
DC current gain	h_{FE}	$V_{CE} = -10 \text{V}, I_C = -2 \text{mA}$	160		460	
Collector output capacitance	C_{ob}	$V_{CB} = -10 \text{V}, I_E = 0, f = 1 \text{MHz}$			2.7	pF
Transition frequency	f_T	$V_{CE} = -10 \text{V}, I_C = -1 \text{mA}, f = 200 \text{MHz}$	60			MHz

■ Classification of h_{FE}

Type	2SB709A- Q	2SB709A- R	2SB709A- S
Range	160-260	210-340	290-460
Marking	BQ1	BR1	BS1

PNP Transistors

2SB709A

■ Typical Characteristics

