

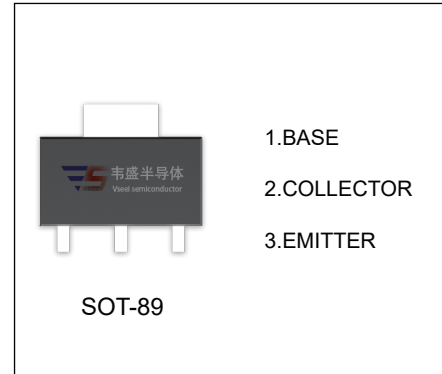
BSR43 TRANSISTOR (NPN)

FEATURES

- Low Voltage
- High Current
- Complement to BSR33

APPLICATIONS

- Thick and Thin-Film Circuits
- Telephony and General Industrial Applications



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	90	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^\circ\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	90			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=5\text{V}, I_C=0.1\text{mA}$	30			
	$h_{FE(2)}^*$	$V_{CE}=5\text{V}, I_C=100\text{mA}$	100		300	
	$h_{FE(3)}^*$	$V_{CE}=5\text{V}, I_C=500\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=150\text{mA}, I_B=15\text{mA}$			0.25	V
		$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=150\text{mA}, I_B=15\text{mA}$			1	V
		$I_C=500\text{mA}, I_B=50\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			12	pF
Emitter input capacitance	C_{ib}	$V_{BE}=0.5\text{V}, I_C=0, f=1\text{MHz}$			90	pF

*Pulse test