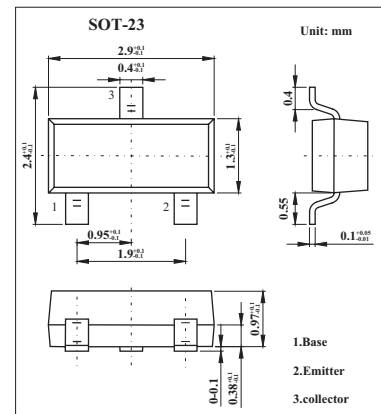


NPN Silicon Switching Transistors

BSS79,BSS81

■ Features

- High DC current gain: 0.1mA to 500 mA.
- Low collector-emitter saturation voltage.

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

Parameter	Symbol	BSS79	BSS81	Unit
Collector-emitter voltage	V_{CE0}	40	35	V
Collector-base voltage	V_{CB0}	75		V
Emitter-base voltage	V_{EB0}	6		V
Collector current	I_C	800		mA
Peak collector current	I_{CM}	1		A
Base current	I_B	100		mA
Peak base current	I_{BM}	200		mA
Total power dissipation, $T_s = 77^\circ\text{C}$	P_{tot}	330		mW
Junction temperature	T_j	150		$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +150		$^\circ\text{C}$
Junction - soldering point	R_{thJS}	≤ 220		K/W

BSS79,BSS81

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	BSS79	Ic = 10 mA, IB = 0	40			V
	BSS81		35			
Collector-base breakdown voltage	V(BR)CBO	Ic = 10 μA, IE = 0	75			V
Emitter-base breakdown voltage	V(BR)EBO	IE = 10 μA, Ic = 0	6			V
Collector cutoff current	ICBO	VCE = 60 V, IE = 0			10	nA
		VCE = 60 V, IE = 0, TA = 150°C			10	μA
Emitter cutoff current	IEBO	VEB = 3 V, Ic = 0			10	nA
DC current gain *	BSS79/81B	Ic = 100μA, VCE = 10 V	20			
	BSS79/81C		35			
	BSS79/81B	Ic = 1 mA, VCE = 10 V	25			
	BSS79/81C		50			
	BSS79/81B	Ic = 10 mA, VCE = 10 V	35			
	BSS79/81C		75			
	BSS79/81B	Ic = 150 mA, VCE = 10 V	40		120	
	BSS79/81C		100		300	
	BSS79/81B	Ic = 500 mA, VCE = 10 V	25			
	BSS79/82C		40			
Collector-emitter saturation voltage *	VCE(sat)	Ic = 150 mA, IB = 15 mA			0.3	V
		Ic = 500 mA, IB = 50 mA			1.3	
Base-emitter saturation voltage *	VBE(sat)	Ic = 150 mA, IB = 15 mA			1.2	
		Ic = 500 mA, IB = 50 mA			2.0	
Transition frequency	fT	Ic = 20 mA, VCE = 20 V, f = 100 MHz		250		MHz
Collector-base capacitance	Ccb	VCE = 10 V, f = 1 MHz		6		pF
Delay time	td	VCC = 30 V, Ic = 150 mA, IB1 = 15 mA, VBE(off) = 0.5 V			10	ns
Rise time	tr	VCC = 30 V, Ic = 150 mA, IB1 = 15 mA, VBE(off) = 0.5 V			25	ns
Storage time	tstg	VCC = 30 V, Ic = 150 mA, IB1=IB2 = 15mA			250	ns
Fall time	tf	VCC = 30 V, Ic = 150 mA, IB1=IB2 = 15mA			60	ns

* Pulse test: t ≤ 300μs, D = 2%.

■ hFE Classification

TYPE	BSS79	
Rank	B	C
Marking	CEs	CFs

TYPE	BSS81	
Rank	B	C
Marking	CDs	CGs