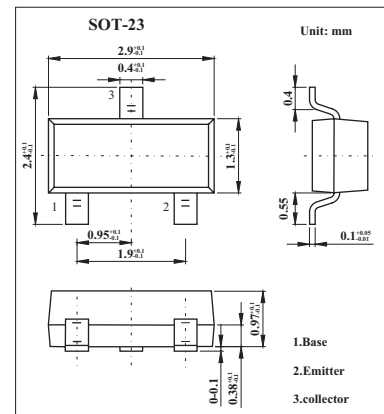


PNP Switching Transistor

BSR18A

■ Features

- Low current (max. 100 mA).
- Low voltage (max. 40 V).

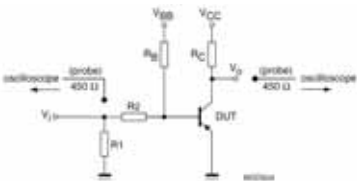
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-40	V
Collector-emitter voltage	V_{CE0}	-40	V
Emitter-base voltage	V_{EB0}	-6	V
Collector current (DC)	I_C	-100	mA
Peak collector current	I_{CM}	-200	mA
Peak base current	I_{BM}	-100	mA
Total power dissipation	P_{tot}	250	mW
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$
Operating ambient temperature	T_{amb}	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient *	$R_{th(j-a)}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

BSR18A

■ Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cutoff current	ICBO	IE = 0 A; VCB = -30 V			-50	nA	
Emitter cutoff current	IEBO	IC = 0 A; VEB = -6 V			-50	nA	
DC current gain *	hFE	VCE = -1 V; IC = -0.1 mA	60				
		VCE = -1 V; IC = -1 mA	80				
		VCE = -1 V; IC = -10 mA	100		300		
		VCE = -1 V; IC = -50 mA	60				
		VCE = -1 V; IC = -100 mA	30				
Collector-emitter saturation voltage *	VCEsat	IC = -10 mA; IB = -1 mA			-200	mV	
		IC = -50 mA; IB = -5 mA			-200	mV	
Base-emitter saturation voltage *	VBEsat	IC = -10 mA; IB = -1 mA	-650		-850	mV	
		IC = -50 mA; IB = -5 mA			-950	mV	
Collector capacitance	Cc	IE = ie = 0 A; VCB = -5 V; f = 1 MHz			4.5	pF	
Emitter capacitance	Ce	IC = ic = 0 A; VEB = -500 mV; f = 1 MHz			10	pF	
Transition frequency	fT	IC = -10 mA; VCE = -20 V; f = 100 MHz	250			MHz	
Noise figure	NF	IC = -100 μA; VCE = -5 V; Rs = 1 kΩ; f = 10 Hz to 15.7 kHz			4	dB	
Turn-on time	ton				65	ns	
Delay time	td					35	ns
Rise time	tr					35	ns
Turn-off time	toff					300	ns
Storage time	ts					225	ns
Fall time	tf	V1 = -5 V; T = 500 μs; tp = 10 μs; tr = tr ≤ 3 ns, R1 = 56 Ω; R2 = 2.5 kΩ; RB = 3.9 kΩ; RC = 270 Ω. VBE = 1.9 V; VCC = -3 V. Oscilloscope input impedance Zi = 50 Ω				75	ns

* Pulse test: $t_p \leq 300\text{ }\mu\text{s}; d \leq 0.02$.

■ Marking

Marking	T92
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