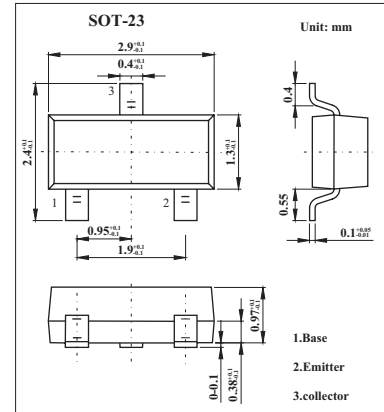


PNP Switching Transistors

BSR15

■ Features

- High current (max. 600 mA).
- Low voltage (max. 60 V).

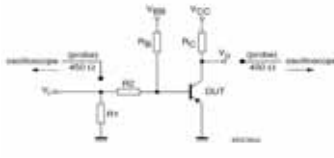
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-60	V
Collector-emitter voltage	V_{CEO}	-40	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-600	mA
Peak collector current	I_{CM}	-800	mA
Peak base current	I_{BM}	-200	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	R_{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.

BSR15

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	ICBO	IE = 0; VCB = -50 V			-20	nA	
		IE = 0; VCB = -50 V; Tj = 150 °C			-20	µA	
Emitter cutoff current	IEBO	IC = 0; VEB = -5 V			-50	nA	
DC current gain	hFE	IC = -0.1 mA; VCE = -10 V	35				
		IC = -1 mA; VCE = -10 V	50				
		IC = -10 mA; VCE = -10 V	75				
		IC = -150 mA; VCE = -10 V*	100		300		
		IC = -500 mA; VCE = -10 V; *	30				
collector-emitter saturation voltage	VCEsat	IC = -150 mA; IB = -15 mA			-400	mV	
		IC = -500 mA; IB = -50 mA			-1.6	V	
base-emitter saturation voltage	VBEsat	IC = -150 mA; IB = -15 mA			-1.3	V	
		IC = -500 mA; IB = -50 mA			-2.6	V	
Collector capacitance	Cc	IE = ie = 0; VCB = -10 V; f = 1 MHz			8	pF	
Emitter capacitance	Ce	IC = ic = 0; VEB = -2 V; f = 1 MHz			30		
Transition frequency	fr	IC = -50 mA; VCE = -20 V; f = 100 MHz	200			MHz	
Turn-on time	ton	ICon = -150 mA; IBon = -15 mA; IBoff = 15 mA (see Fig)			40	ns	
Delay time	td				12	ns	
Rise time	tr					30	ns
Turn-off time	toff					365	ns
Storage time	ts					300	ns
Fall time	tf					65	ns

* Pulse test: tp ≤ 300 µs; d ≤ 0.02.

■ Marking

Marking	T7
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