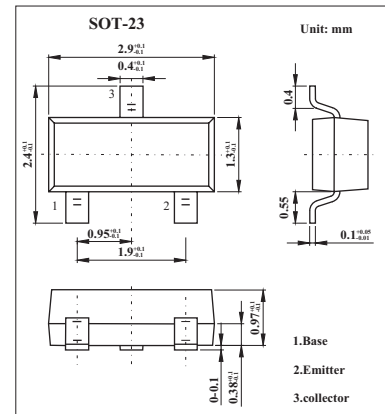


NPN General Purpose Transistors

BCX19

■ Features

- High current (max. 500 mA).
- Low voltage (max. 45 V).

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	45	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	500	mA
Peak collector current	I_{CM}	1	A
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.

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$I_E = 0; V_{CB} = 20\text{ V}$			100	nA
	I_{CBO}	$I_E = 0; V_{CB} = 20\text{ V}; T_j = 150\text{ }^\circ\text{C}$			5	μA
Emitter cutoff current	I_{EBO}	$I_C = 0; V_{EB} = 5\text{ V}$			100	nA
DC current gain *	h_{FE}	$I_C = 100\text{ mA}; V_{CE} = 1\text{ V}$	100		600	
		$I_C = 300\text{ mA}; V_{CE} = 1\text{ V}$	70			
		$I_C = 500\text{ mA}; V_{CE} = 1\text{ V}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}; I_B = 50\text{ mA}$			620	mV
Base to emitter voltage *	V_{BE}	$I_C = 500\text{ mA}; V_{CE} = 1\text{ V}$			1.2	V
Collector capacitance	C_C	$I_E = i_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$		5		pF
Transition frequency	f_T	$I_C = 10\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	100			MHz

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

■ Marking

Marking	U1
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