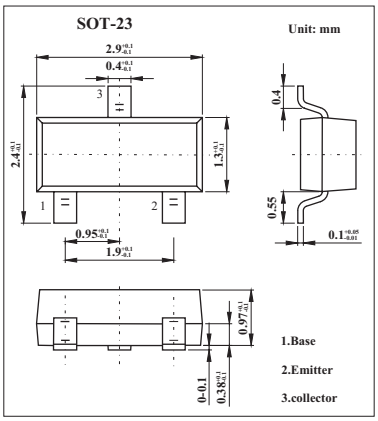
NPN General Purpose Transistors

BCX19



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	45	V
Emitter-base voltage	V_{EBO}	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	℃
Junction temperature	T_j	150	℃
Operating ambient temperature	R_{amb}	-65 to +150	℃
Thermal resistance from junction to ambient *	$R_{th\ j\text{-}a}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

■ Electrical Characteristics Ta = 25℃

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

* Pulse test: tp ⩽ 300 μs; d ⩽ 0.02.

■ Marking

Marking	U1