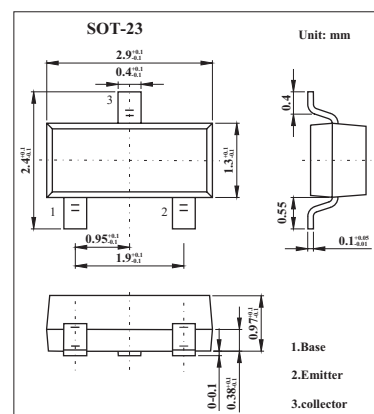


NPN High-Voltage Transistors

BF820, BF822

■ Features

- Low current (max. 50 mA)
- High voltage (max. 300 V).

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	BF820	300	V
	BF822	250	V
Collector-emitter voltage	BF820	300	V
	BF822	250	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	50	mA
Peak collector current	I_{CM}	100	mA
Peak base current	I_{BM}	50	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}	$I_E = 0; V_{CB} = 200\text{ V}$			10	nA
		$I_E = 0; V_{CB} = 200\text{ V}; T_j = 150\text{ }^\circ\text{C}$			10	μA
Emitter cutoff current	I_{EBO}	$I_C = 0; V_{EB} = 5\text{ V}$			50	nA
DC current gain *	h_{FE}	$I_C = 25\text{ mA}; V_{CE} = 20\text{ V}$	50			
collector-emitter saturation voltage	V_{CEsat}	$I_C = 30\text{ mA}; I_B = 5\text{ mA}$			600	mV
Feedback capacitance	C_{re}	$I_C = I_E = 0; V_{CB} = 30\text{ V}; f = 1\text{ MHz}$			1.6	pF
Transition frequency	f_T	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	60			MHz

■ h_{FE} Classification

TYPE	BF820	BF822
Marking	1V	1X