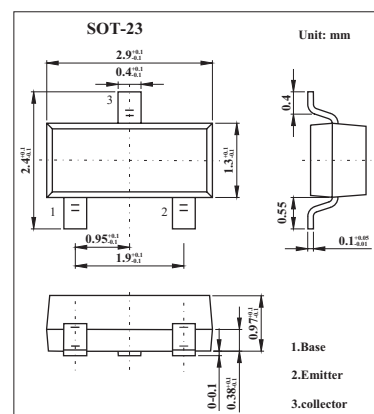


## NPN High-Voltage Transistors

## 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	$\mu\text{A}$
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

## ■ hFE Classification

TYPE	BF820	BF822
Marking	1V	1X