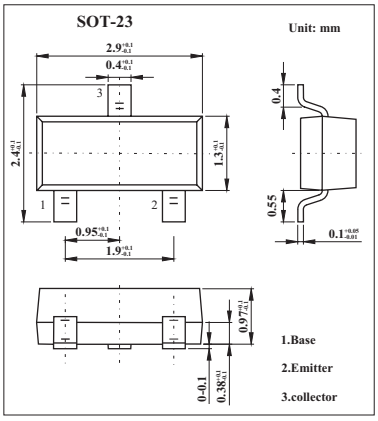
PNP High-Voltage Transistors

BSR20,BSR20A



■ Features

- Low current (max. 300 mA)
- High voltage (max. 150 V).

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector-base voltage	BSR20	V_{CBO}	-130	V
	BSR20A		-160	V
Collector-emitter voltage	BSR20	V_{CEO}	-120	V
	BSR20A		-150	V
Emitter-base voltage		V_{EBO}	-5	V
Collector current		I_C	-300	mA
Peak collector current		I_{CM}	-600	mA
Base current		I_B	-100	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.

BSR20,BSR20A

■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	BSR20	I_{CBO}	I_E = 0; V_{CB} = -100 V			-100	nA
			I_E = 0; V_{CB} = -100 V; T_{amb} = 100 ℃			-100	μA
Collector cutoff current	BSR20A	I_{CBO}	I_E = 0; V_{CB} = -120 V			-50	nA
			I_E = 0; V_{CB} = -120 V; T_{amb} = 100 ℃			-50	μA
Emitter cutoff current		I_{EBO}	I_C = 0; V_{EB} = -4 V			-50	nA
DC current gain	BSR20	h_{FE}	I_C = -1 mA; V_{CE} = -5 V	30			
	BSR20A			50			
DC current gain	BSR20	h_{FE}	I_C = -10 mA; V_{CE} = -5 V	40		180	
	BSR20A			60		240	
DC current gain	BSR20	h_{FE}	I_C = -50 mA; V_{CE} = -5 V	40			
	BSR20A			50			
base-emitter saturation voltage		V_{CEsat}	I_C = -10 mA; I_B = -1 mA			-200	mV
			I_C = -50 mA; I_B = -5 mA			-500	mV
Collector capacitance		C_c	I_E = ie = 0; V_{CB} = -10 V; f = 1 MHz			6	pF
Transition frequency	BSR20	f_T	I_C = -10 mA; V_{CE} = -10 V; f = 100 MHz	100		400	MHz
	BSR20A			100		300	MHz

■ h_{FE} Classification

TYPE	BSR20	BSR20A
Marking	T35	T36