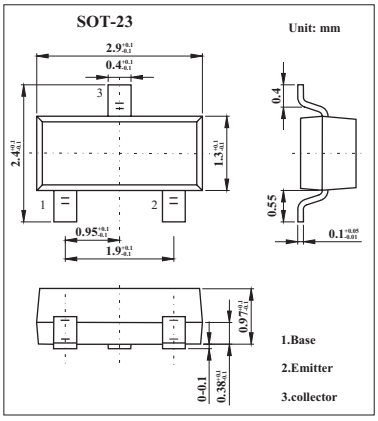
NPN High-Voltage Transistors

BSR19,BSR19A



■ Features

- Low current (max. 300 mA)
- High voltage (max. 160 V).

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector-base voltage	BSR19	V_{CBO}	160	V
	BSR19A		180	V
Collector-emitter voltage	BSR19	V_{CEO}	140	V
	BSR19A		160	V
Emitter-base voltage		V_{EBO}	6	V
Collector current		I_C	300	mA
Peak collector current		I_{CM}	600	mA
Base current		I_B	100	mA
Peak base current		I_{BM}	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.

BSR19,BSR19A

■ Electrical Characteristics Ta = 25℃

Parameter		Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	BSR19	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	BSR19A	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 *	BSR19	h_{FE}	I_C = 10 mA; V_{CE} = 5 V	60		250	
	BSR19A			80		250	
DC current gain *	BSR19	h_{FE}	I_C = 50 mA; V_{CE} = 5 V	20			
	BSR19A			30			
collector-emitter saturation voltage		V_{CEsat}	I_C = 10 mA; I_B = 1 mA			150	mV
collector-emitter saturation voltage	BSR19	V_{CEsat}	I_C = 50 mA; I_B = 5 mA			250	mV
	BSR19A					200	mV
Collector capacitance		C_c	I_E = ie = 0; V_{CB} = 10 V; f = 1 MHz			6	pF
Transition frequency		f_T	I_C = 10 mA; V_{CE} = 10 V; f = 100 MHz	100		300	MHz

■ h_{FE} Classification

TYPE	BSR19	BSR19A
Marking	U35	U36