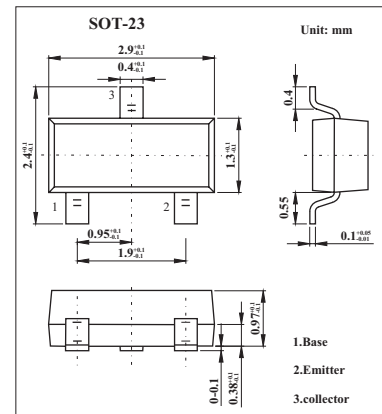


NPN High-Voltage Transistors

BSR19,BSR19A

■ Features

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



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	BSR19	160	V
	BSR19A	180	V
Collector-emitter voltage	BSR19	140	V
	BSR19A	160	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	300	mA
Peak collector current	ICM	600	mA
Base current	IB	100	mA
Peak base current	IBM	100	mA
Total power dissipation *	Ptot	250	mW
Storage temperature	Tstg	-65 to +150	°C
Junction temperature	Tj	150	°C
Operating ambient temperature	Ramb	-65 to +150	°C
Thermal resistance from junction to ambient *	Rth j-a	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

BSR19,BSR19A

■ Electrical Characteristics Ta = 25°C

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 °C		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 °C		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		
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 = i _e = 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

■ hFE Classification

TYPE	BSR19	BSR19A
Marking	U35	U36