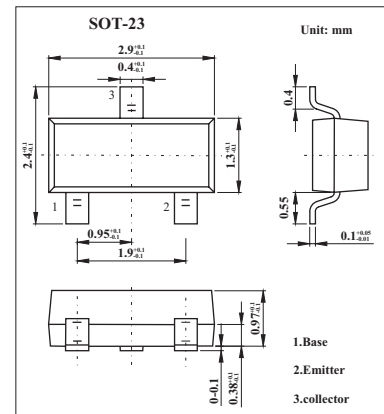


NPN High-Voltage Transistors

BSR19,BSR19A

■ Features

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

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

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	°C
Junction temperature		T_j	150	°C
Operating ambient temperature		R_{amb}	-65 to +150	°C
Thermal resistance from junction to ambient *		$R_{th\ j-a}$	500	K/W

* Transistor mounted on an FR4 printed-circuit board.

BSR19,BSR19A■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current BSR19	I_{CBO}	$I_E = 0; V_{CB} = 100\text{ V}$			100	nA
		$I_E = 0; V_{CB} = 100\text{ V}; T_{amb} = 100^\circ\text{C}$			100	μA
Collector cutoff current BSR19A	I_{CBO}	$I_E = 0; V_{CB} = 120\text{ V}$			50	nA
		$I_E = 0; V_{CB} = 120\text{ V}; T_{amb} = 100^\circ\text{C}$			50	μA
Emitter cutoff current	I_{EBO}	$I_C = 0; V_{EB} = 4\text{ V}$			50	nA
DC current gain * BSR19	h_{FE}	$I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	60		250	
			80		250	
DC current gain * BSR19A	h_{FE}	$I_C = 50\text{ mA}; V_{CE} = 5\text{ V}$	20			
			30			
collector-emitter saturation voltage	V_{CEsat}	$I_C = 10\text{ mA}; I_B = 1\text{ mA}$			150	mV
collector-emitter saturation voltage BSR19	V_{CEsat}	$I_C = 50\text{ mA}; I_B = 5\text{ mA}$			250	mV
					200	mV
Collector capacitance	C_c	$I_E = I_C = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$			6	pF
Transition frequency	f_T	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	100		300	MHz

■ hFE Classification

TYPE	BSR19	BSR19A
Marking	U35	U36