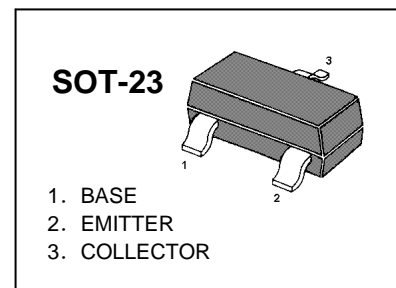


## BFS19 NPN Medium Frequency Transistor

### ■ Features

- Low current (max. 30 mA)
- Low Voltage (max. 20 V)

### ■ Marking F2



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

Parameter	Symbol	Max	Unit
Collector-base voltage (Emitter open)	$V_{CB0}$	30	V
Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	30	mA
Peak collector current	$I_{CM}$	30	mA
Total power dissipation	$P_{tot}$	250	mW
Storage temperature	$T_{stg}$	150	$^{\circ}\text{C}$
Junction temperature	$T_j$	150	$^{\circ}\text{C}$
Operating ambient temperature	$T_{amb}$	150	$^{\circ}\text{C}$

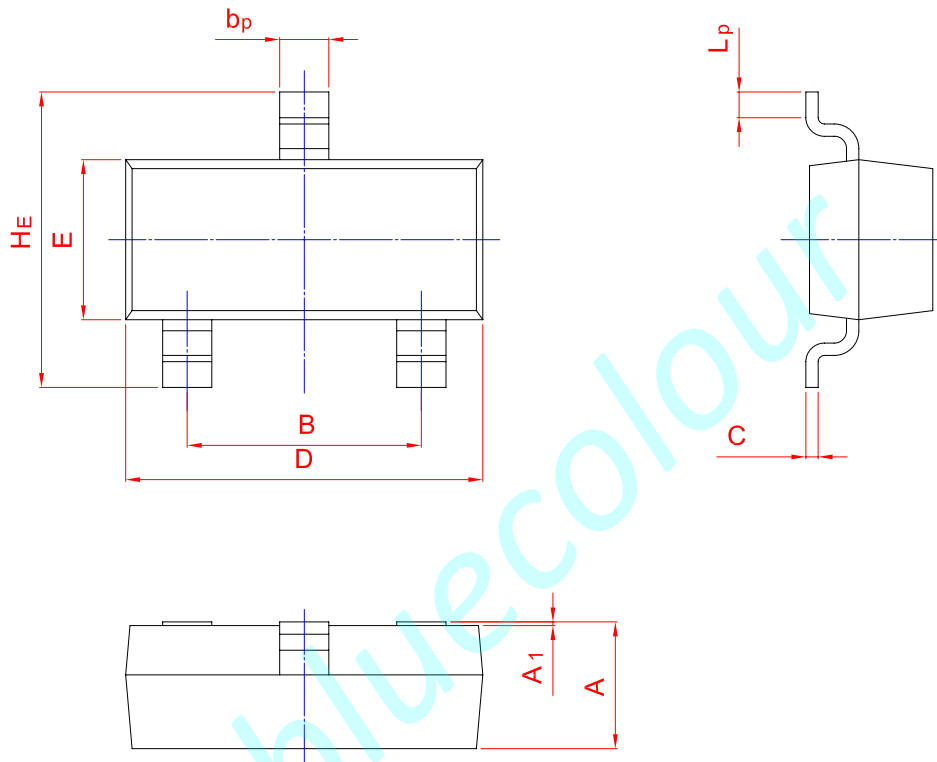
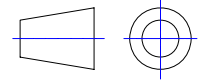
### ■ Electrical Characteristics $T_A=25^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base Breakdown voltage	$BV_{CB0}$	$I_C = 100 \mu\text{A}, I_E = 0$	30			V
Collector-emitter Breakdown voltage	$BV_{CEO}$	$I_C = 1\text{mA}, I_B = 0$	20			V
Emitter-base Breakdown voltage	$BV_{EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current	$I_{CB0}$	$V_{CB} = 20\text{V}, I_E = 0$			100	nA
		$V_{CB} = 20\text{V}, I_E = 0, T_j = 100^{\circ}\text{C}$			10	$\mu\text{A}$
Emitter-base cutoff current	$I_{EBO}$	$V_{EB} = 5.0\text{V}, I_C = 0$			100	nA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10\text{V}, I_C = 1.0\text{mA}$	65		225	
Emitter-base voltage	$V_{BE}$	$V_{CE} = 10\text{V}, I_C = 1.0\text{mA}$	650		740	mV
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}$		260		MHz
Collector capacitance	$C_C$	$V_{CB} = 10\text{V}, I_E = 1\text{mA}, f = 1\text{MHz}$		1		pF
Feedback capacitance	$C_{re}$	$V_{CB} = 10\text{V}, I_C = 0\text{mA}, f = 1\text{MHz}$		0.85		pF

## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20