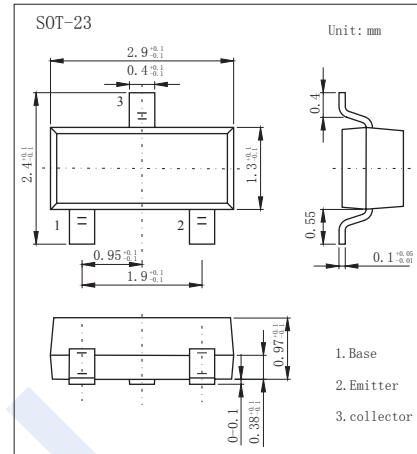


## PNP Transistors

### 2SA1022

#### ■ Features

- High transition frequency fr.
- Complementary to 2SC2295



#### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	-30	V
Collector - Emitter Voltage	V <sub>CE0</sub>	-20	
Emitter - Base Voltage	V <sub>EB0</sub>	-5	
Collector Current - Continuous	I <sub>C</sub>	-30	mA
Collector Power Dissipation	P <sub>C</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature range	T <sub>stg</sub>	-55 to 150	

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>C</sub> = -100 μA, I <sub>E</sub> =0	-30			V
Collector- emitter breakdown voltage	V <sub>CE0</sub>	I <sub>C</sub> = -1 mA, I <sub>B</sub> =0	-20			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = -100 μA, I <sub>C</sub> =0	-5			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = -30 V, I <sub>E</sub> =0			-0.1	μA
Collector- emittercut-off current	I <sub>CE0</sub>	V <sub>CE</sub> = -20 V, I <sub>E</sub> =0			-10	
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> =0			-0.1	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-10 mA, I <sub>B</sub> =-1mA		-0.1		V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-10 mA, I <sub>B</sub> =-1mA			-1.2	
Base - emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -10 V, I <sub>C</sub> =-1mA		-0.7		
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = -10 V, I <sub>C</sub> =-1mA	70		220	
Reverse transfer impedance	R <sub>rb</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 1mA, f = 2MHz		22		Ω
Noise figure	NF	V <sub>CB</sub> = -10V, I <sub>E</sub> = 1mA, f = 5MHz		2.8		dB
Common emitter reverse transfer capacitance	C <sub>re</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -1mA,f=10.7MHz		1.2		pF
Transition frequency	f <sub>T</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 1mA,f=200MHz	150	300		MHz

#### ■ Classification of h<sub>FE</sub>

Marking	EB	EC
Rank	B	C
Range	70-140	110-220

## PNP Transistors 2SA1022

■ Typical Characteristics

