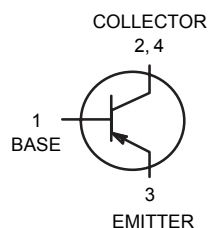
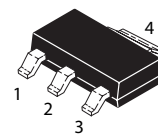


### PNP Silicon Planar Epitaxial Transistor

 Lead(Pb)-Free



1.BASE  
2.COLLECTOR  
3.EMITTER  
4.COLLECTOR



SOT-223

#### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	-80	V
Collector-Base Voltage	V <sub>CBO</sub>	-100	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current (DC)	I <sub>C(DC)</sub>	1	A
Total Device Dissipation T <sub>A</sub> =25°C	P <sub>D</sub>	1.5	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage, Temperature	T <sub>stg</sub>	-65 to +150	°C

#### Device Marking

BCP53=BCX53

#### ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage (I <sub>C</sub> =-1mA, I <sub>B</sub> =0)	V <sub>(BR)CEO</sub>	-80	-	-	V
Collector-Base Breakdown Voltage (I <sub>C</sub> =-100μA, I <sub>E</sub> =0)	V <sub>(BR)CBO</sub>	-100	-	-	V
Emitter-Base Breakdown Voltage (I <sub>E</sub> =-10 μA, I <sub>C</sub> =0)	V <sub>(BR)EBO</sub>	-5	-	-	V
Collector-Emitter Cutoff Current (V <sub>CB</sub> =-30V, I <sub>E</sub> =0)	I <sub>CBO</sub>	-	-	-100	nA
Emitter-Base Cutoff Current (V <sub>EB</sub> =-5V, I <sub>C</sub> =0)	I <sub>EBO</sub>	-	-	-100	nA

## ON CHARACTERISTICS<sup>(1)</sup>

DC Current Gain ( $V_{CE} = -2V, I_C = 5mA$ ) ( $V_{CE} = -2V, I_C = 150mA$ ) ( $V_{CE} = -2V, I_C = 500mA$ )	$h_{FE1}$ $h_{FE2}$ $h_{FE3}$	63 63 40	- - -	- 250 -	- - -
Collector-Emitter Saturation Voltages ( $I_C = -500mA, I_B = -50mA$ )	$V_{CE(sat)}$	-	-	-500	mV
Base-Emitter ON Voltages ( $V_{CE} = -2V, I_C = -500mA$ )	$V_{BE(ON)}$	-	-	-1.0	V

## DYNAMIC CHARACTERISTICS

Transition frequency ( $V_{CE} = -5V, I_C = 10mA, f = 100MHz$ )	ft	-	50	-	MHz
--------------------------------------------------------------------	----	---	----	---	-----

Note: 1. Pulse Test : Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$ .

## CLASSIFICATION OF $h_{FE2}$

Rank	A	B
Range	63-160	100-250

## CHARACTERISTICS CURVE

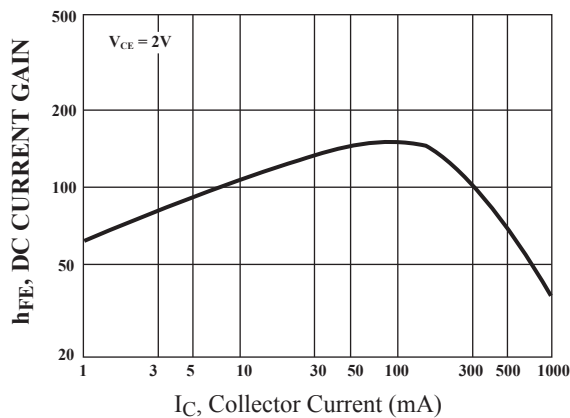


Fig.1 Current Gain & Collector Current

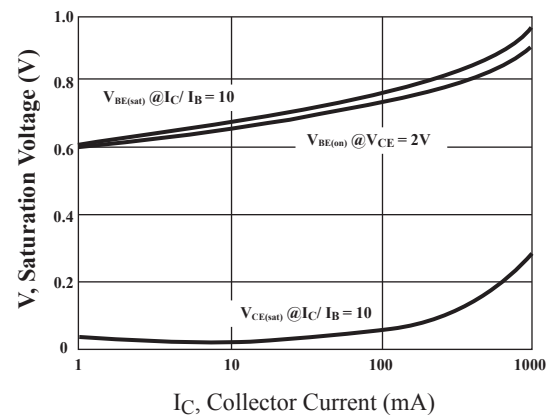


Fig.2 Saturation Voltage, ON Voltage & Current Gain

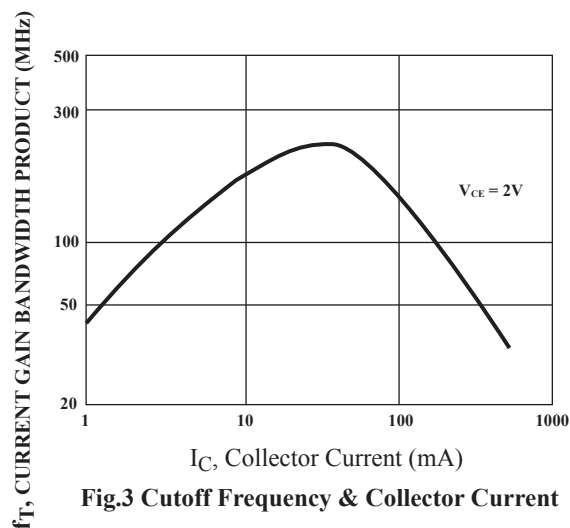
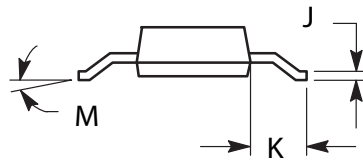
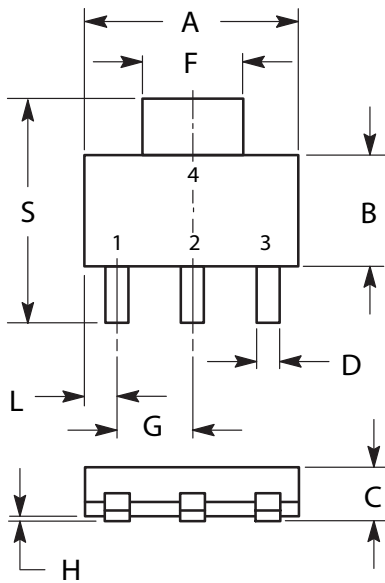


Fig.3 Cutoff Frequency & Collector Current

## SOT-223 Outline Dimensions

unit:mm



DIM	MILLIMETERS	
	MIN	MAX
A	6.30	6.70
B	3.30	3.70
C	1.50	1.75
D	0.60	0.89
F	2.90	3.20
G	2.20	2.40
H	0.020	0.100
J	0.24	0.35
K	1.50	2.00
L	0.85	1.05
M	0°	10°
S	6.70	7.30