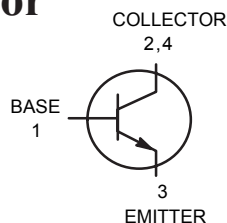
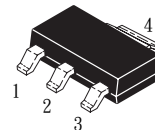


NPN Silicon Planar Epitaxial Transistor

 Lead(Pb)-Free



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



SOT-223

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	160	V
Collector-Base Voltage	V_{CBO}	180	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	600	mA
Total Device Dissipation	P_D	1.5	W
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage, Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

Device Marking

PZT5551=5551

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ($I_C=1\text{mA}, I_B=0$)	$V_{(BR)CEO}$	160	-	-	V
Collector-Base Breakdown Voltage ($I_C=100\mu\text{A}, I_E=0$)	$V_{(BR)CBO}$	180	-	-	V
Emitter-Base Breakdown Voltage ($I_E=10\mu\text{A}, I_C=0$)	$V_{(BR)EBO}$	6	-	-	V
Collector-Emitter Cutoff Current ($V_{CB}=120\text{V}, I_E=0$)	I_{CBO}	-	-	50	nA
Emitter-Base Cutoff Current ($V_{EB}=4\text{V}, I_C=0$)	I_{EBO}	-	-	50	nA

ON CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
DC Current Gain ($V_{CE} = 5V$, $I_C = 1mA$) ($V_{CE} = 5V$, $I_C = 10mA$) ($V_{CE} = 5V$, $I_C = 50mA$)	h_{FE1} h_{FE2} h_{FE3}	80 80 50	- 160 -	- 400 -	-
Collector-Emitter Saturation Voltages ($I_C = 10mA$, $I_B = 1mA$) ($I_C = 50mA$, $I_B = 5mA$)	$V_{CE(sat)}$	- -	- -	0.15 0.2	V V
Base-Emitter Saturation Voltages ($I_C = 10mA$, $I_B = 1mA$) ($I_C = 50mA$, $I_B = 5mA$)	$V_{BE(sat)}$	-	-	1	V

DYNAMIC CHARACTERISTICS

Current-Gain ($V_{CE} = 10V$, $I_C = 10mA$, $f = 100MHz$)	f_T	100	-	300	MHz
Output Capacitance ($V_{CB} = 10V$, $I_E = 0$, $f = 1MHz$)	C_{ob}	-	-	6	pF

CLASSIFICATION OF h_{FE2}

Rank	A	N	C
Range	80 - 200	100 - 250	160 - 400

Characteristics Curve

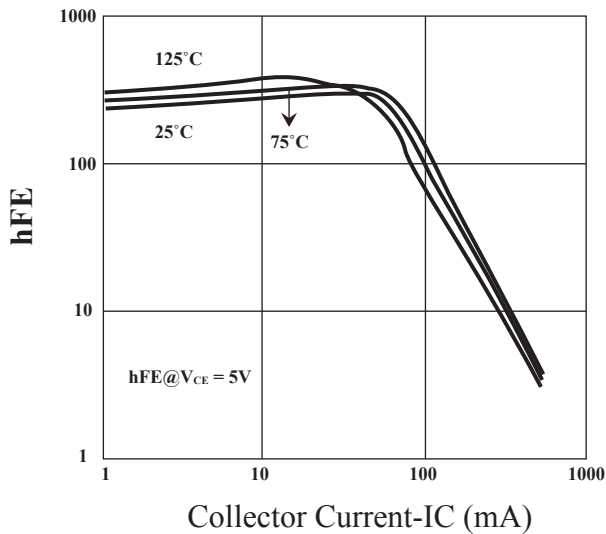


Fig.1 Current Gain & Collector Current

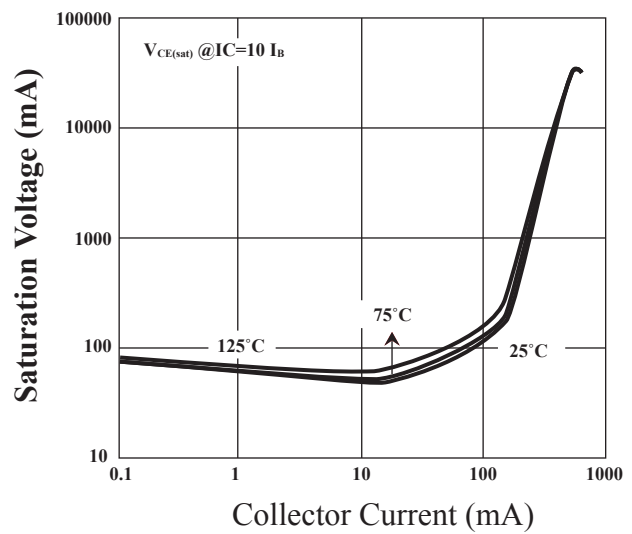


Fig.2 Saturation Voltage & Collector Current

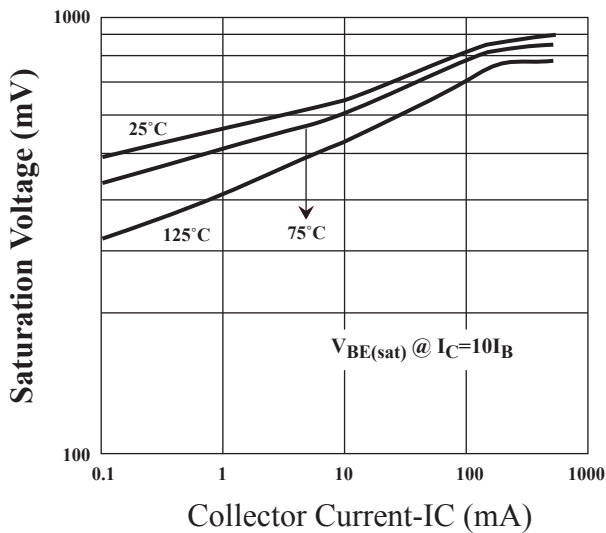


Fig.3 Saturation Voltage & Collector Current

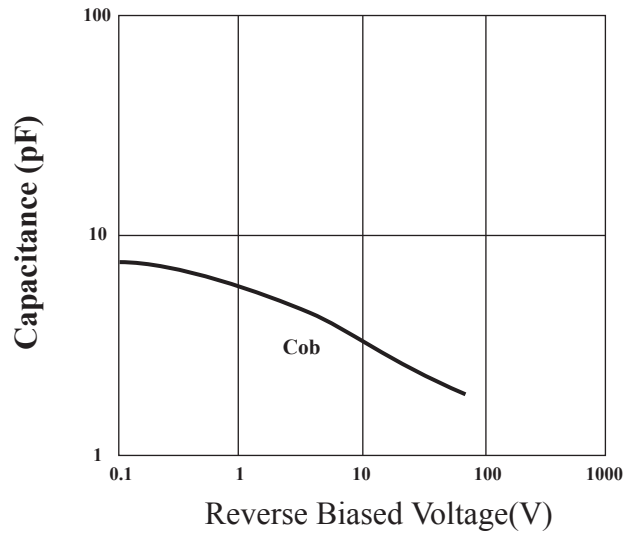


Fig.4 Capacitance & Reverse-Biased Voltage

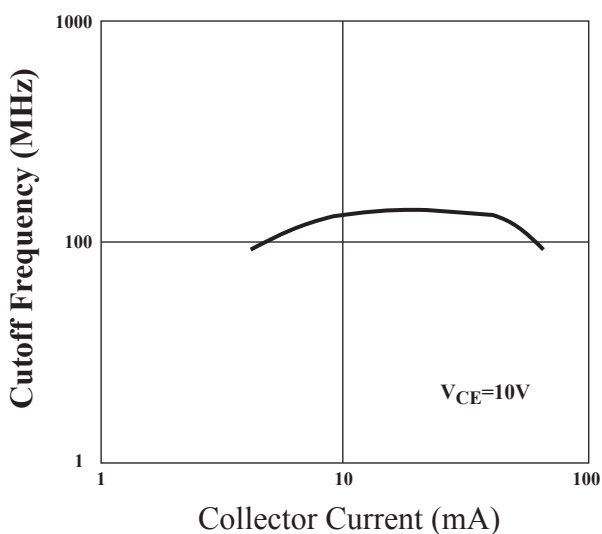


Fig.5 Cutoff Frequency & Collector Current

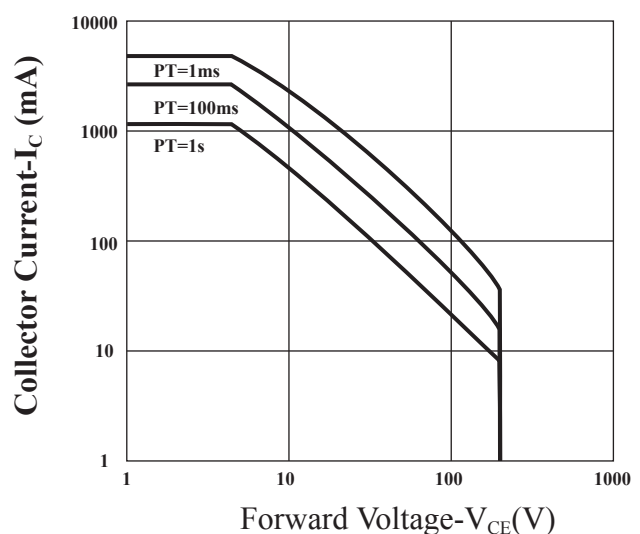
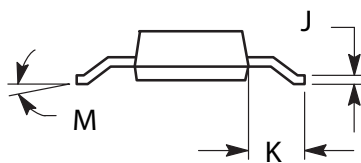
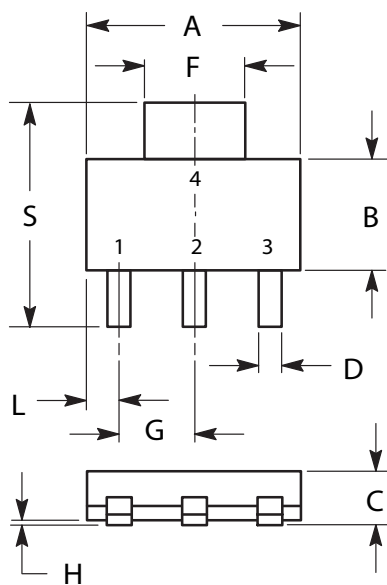


Fig.6 Safe Operation Area

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