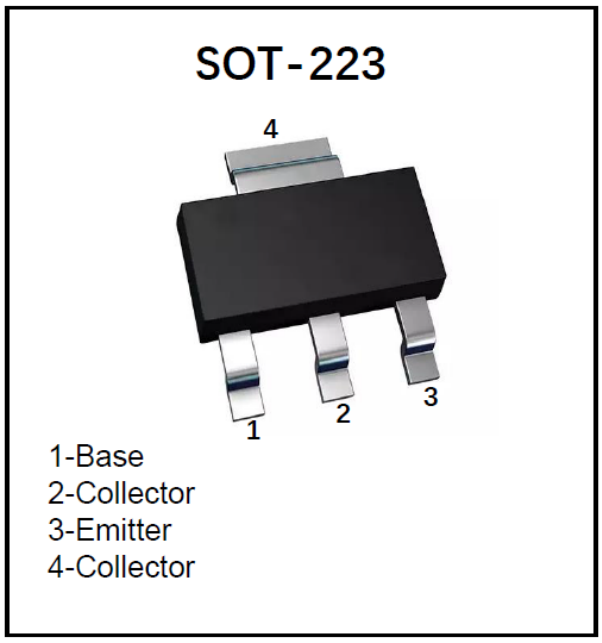
NPN Transistor



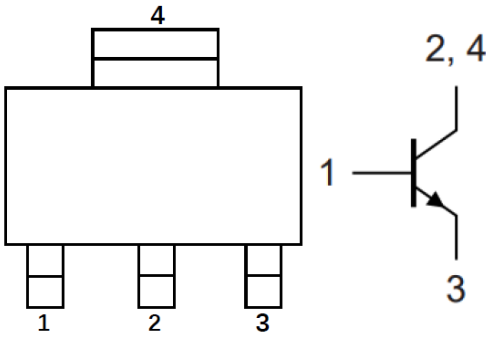
Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- Moitsure Sensitivity Level 1

Mechanical Data

- **Package**: SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: ZT2222A

■Equivalent circuit



■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	I_C=10mA, I_B=0	40
Minimum Collector-Base Voltage	V_{CBO}	V	I_C=10uA, I_E=0	75
Minimum Emitter-Base Voltage	V_{EBO}	V	I_E=10uA, I_C=0	6
Collector Current	I_C	A		0.6
Power Dissipation	P_D	W		1
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	℃/W		125
Operation Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

■Electrical Characteristics (Ta=25℃ unless otherwise noted)

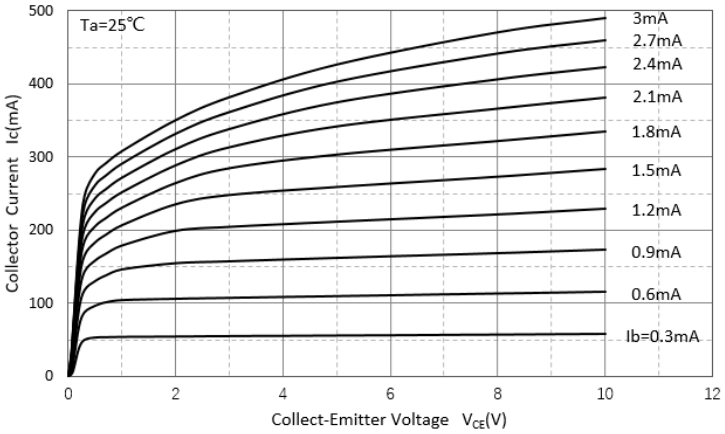
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=10uA,IE=0	75	-	-
Collector-emitter breakdown voltage	V_{CEO*}	V	IC =10mA,IB=0	40	-	-
Emitter-base breakdown voltage	V_{EBO}	V	IE=10μA,IC=0	6	-	-
Collector-base cut-off current	I_{CBO}	nA	VCB=60V, IE =0	-	-	10
Emitter-base cut-off current	I_{EBO}	nA	VEB=3V, IC =0	-	-	10
DC current gain	h_{FE}		VCE=10V,IC=0.1mA	35	-	-
	h_{FE}		VCE=10V,IC=1mA	50	-	-
	h_{FE}		VCE=10V,IC=10mA	75	-	-
	h_{FE}		VCE=10V,IC=150mA	100	-	300
	h_{FE}		VCE=1V,IC=150mA	50	-	-
	h_{FE}		VCE=10V,IC=500mA	40	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=150mA,IB=15mA	-	-	0.3
			IC=500mA,IB=50mA	-	-	1
Base-emitter saturation voltage	$V_{BE(sat)}$	V	IC=150mA,IB=15mA	-	-	1.2
			IC=500mA,IB=50mA	-	-	2
Transition frequency	f_T	MHz	VCE=20V,IC=20mA,f=100MHz	250	-	-
Output Capacitance	Cob	pF	VCB=10V, IE=0, f=1MHz	-	-	8
Delay time	td	ns	VCC=30V, IC=150mA,IB1=15mA	-	-	10
Rise time	tr	ns		-	-	25
Storage time	ts	ns	VCC=30V,IC=150mA,IB1=-IB2=15mA	-	-	225
Fall time	tf	ns		-	-	60

■Ordering Information (Example)

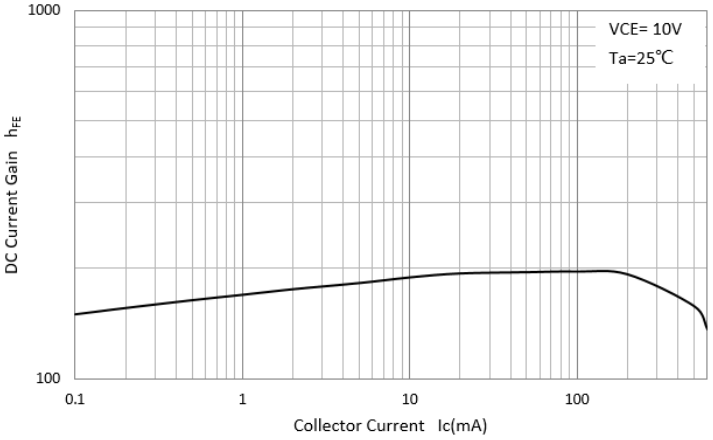
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PZT2222A	F2	Approximate 0.11	2500	5000	25000	13” reel

■Characteristics (Typical)

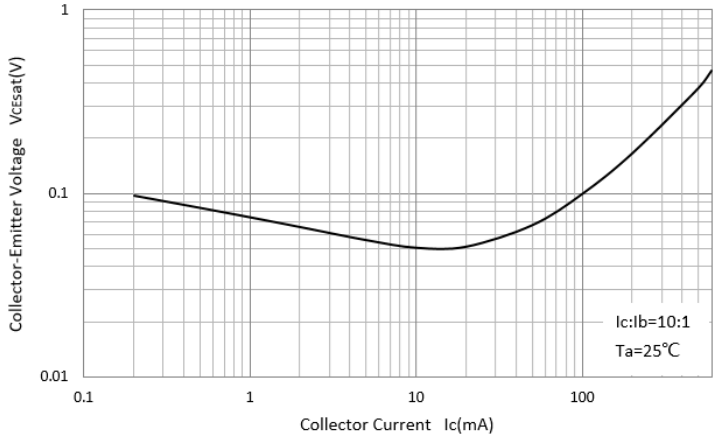
Static Characteristic



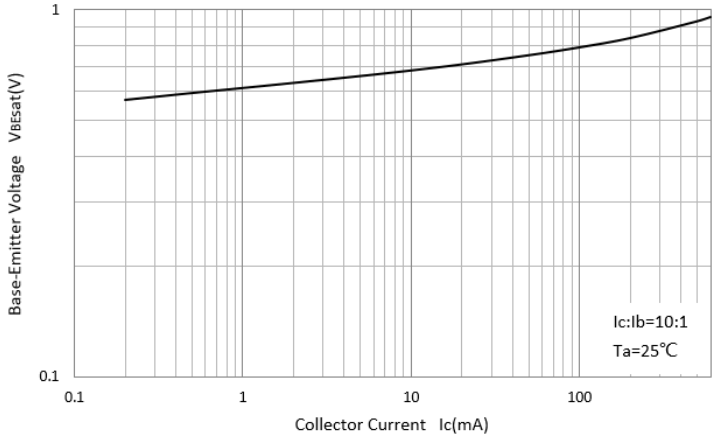
DC Current Gain



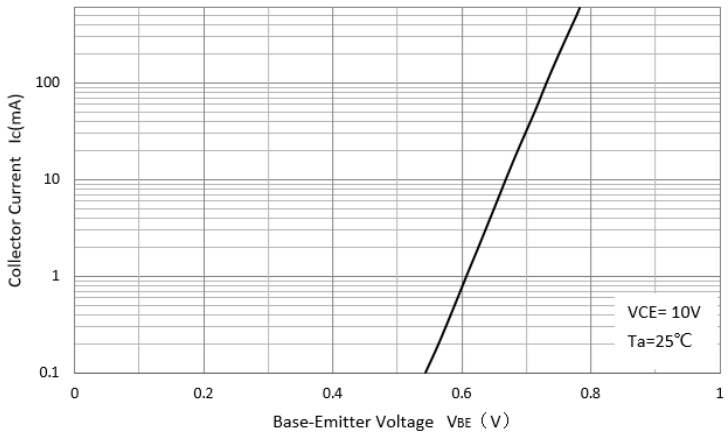
Collector-Emitter Saturation Voltage



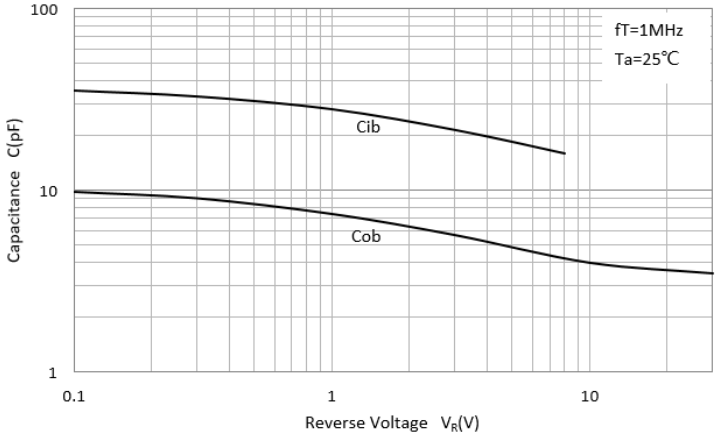
Base-Emitter Saturation Voltage

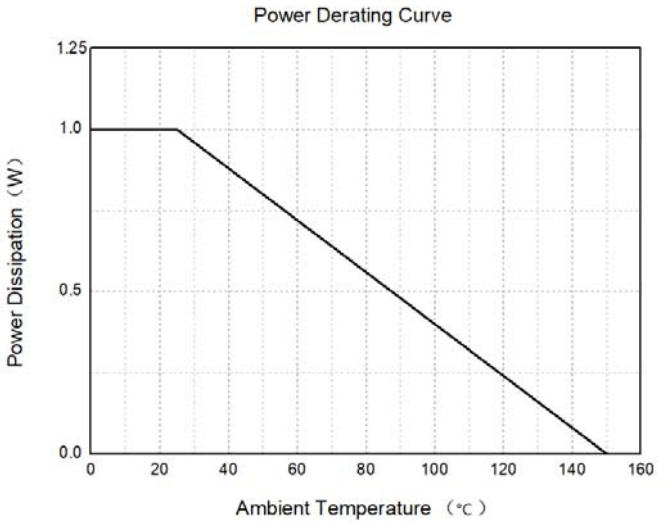


Base-Emitter On Voltage

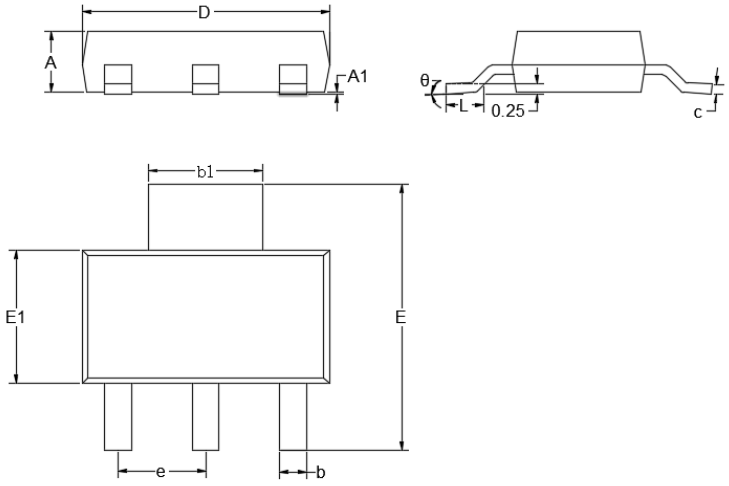


Cob/Cib-V_{CB}/V_{EB}



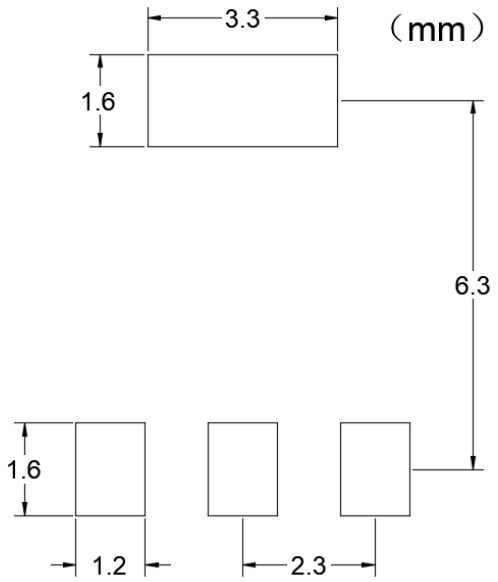


■SOT-223 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.0591	0.0670	1.5000	1.7000
A1	0.0008	0.0039	0.0200	0.1000
b	0.0259	0.0330	0.6600	0.8400
b1	0.1140	0.1220	2.9000	3.1000
c	0.0090	0.0138	0.2300	0.3500
D	0.2480	0.2640	6.3000	6.7000
E	0.2637	0.2874	6.7000	7.3000
E1	0.1290	0.1460	3.3000	3.7000
e	0.0866	0.0945	2.2000	2.4000
L	0.0295	0.0492	0.7500	1.2500
Θ	0°	10°	0°	10°

■SOT-223 Suggested Pad Layout



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