NPN Transistor



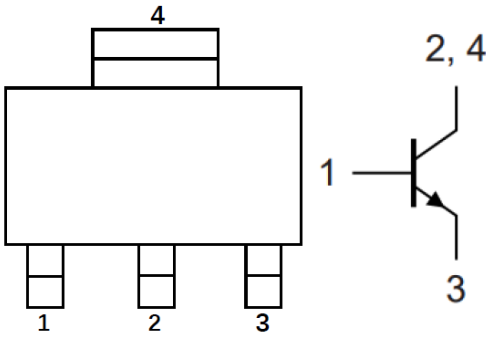
Features

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

Mechanical Data

- **Package**: SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: CZT5551

■Equivalent circuit



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

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	I_C=1mA, I_B=0	160
Minimum Collector-Base Voltage	V_{CBO}	V	I_C=100uA, I_E=0	180
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

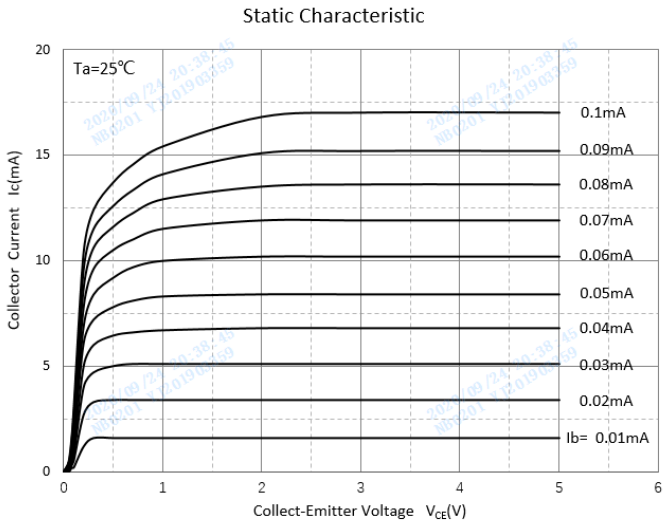
■Electrical Characteristics (Ta=25℃ unless otherwise noted)

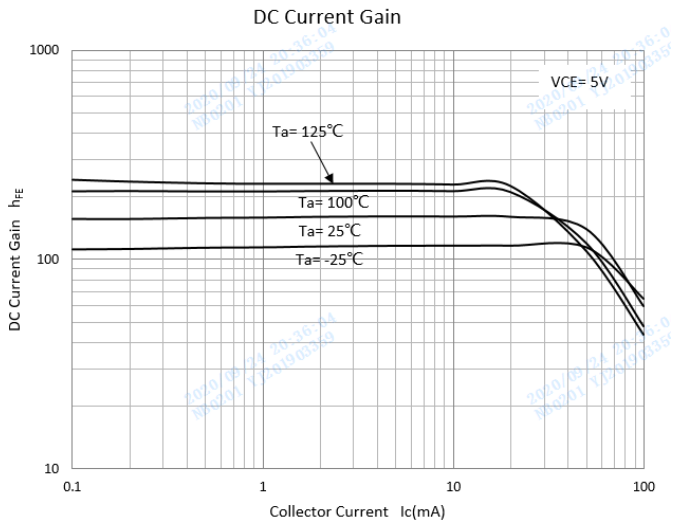
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V_{CEO}	V	I_C=1mAdc, I_B=0	160	-
Collector-Base Voltage	V_{CBO}	V	I_C=100uAdc, I_E=0	180	-
Emitter-Base Voltage	V_{EBO}	V	I_E=10uAdc, I_C=0	6.0	-
Collector-base Cut-off Current	I_{CBO}	nA	V_{CB}=120Vdc	-	50
Emitter-base Cut-off Current	I_{EB0}	nA	V_{EB}=4.0Vdc	-	50
DC Current Gain	h_{FE}		I_C=1.0mA V_{CE}=5.0Vdc	80	-
			I_C=10mA V_{CE}=5.0Vdc	100	300
			I_C=50mA V_{CE}=5.0Vdc	30	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	V	I_C=10mA I_B=1.0mA	-	0.15
	$V_{CE(sat)2}$	V	I_C=50mA I_B=5.0mA	-	0.2
Base-Emitter Saturation Voltage	$V_{BE(sat)1}$	V	I_C=10mA I_B=1.0mA	-	1
	$V_{BE(sat)2}$	V	I_C=50mA I_B=5.0mA	-	1
Output Capacitance	C_{ob}	pF	V_{CB}=10Vdc，I_E=0，f=1MHz	-	6
Transition frequency	f_T	MHz	I_C=10mAdc, V_{CE}=5.0Vdc,f=30MHz	100	300

■Ordering Information (Example)

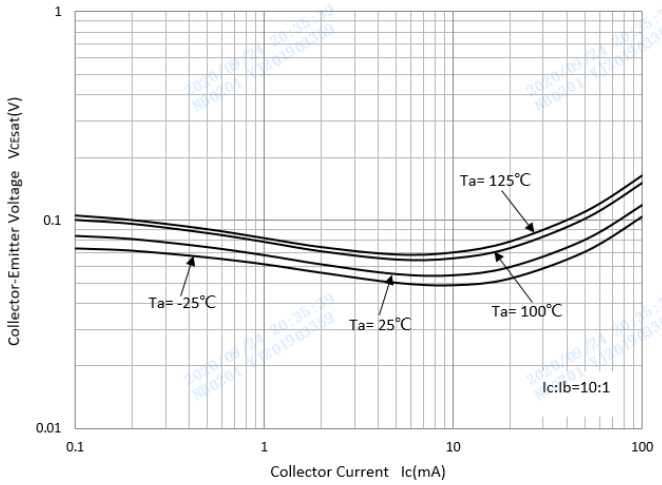
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
CZT5551	F2	Approximate 0.11	2500	5000	25000	13” reel

■Characteristics (Typical)

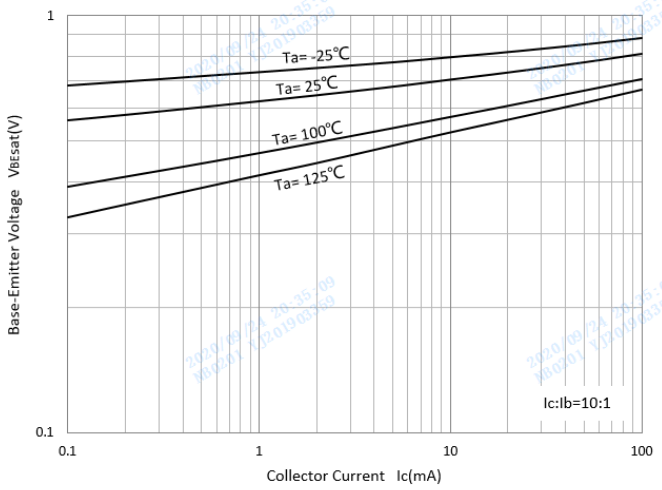




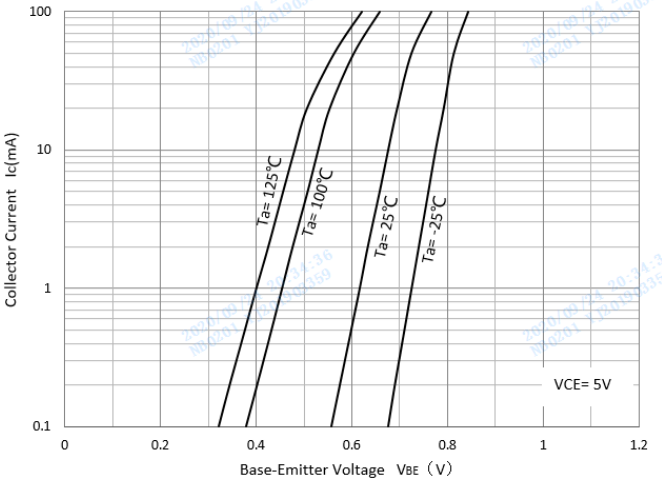
Collector-Emitter Saturation Voltage



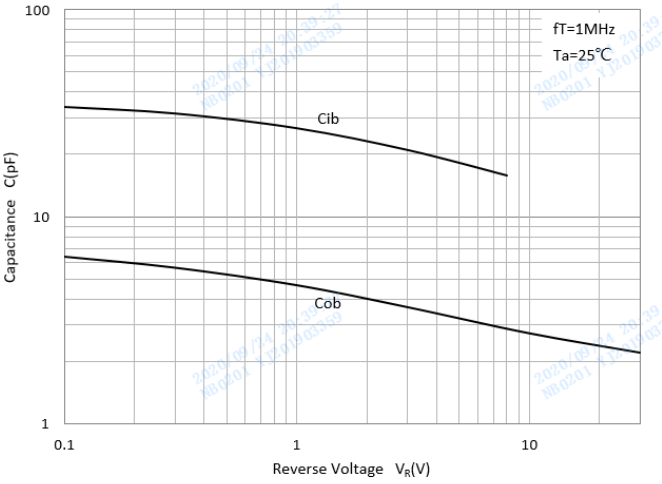
Base-Emitter Saturation Voltage



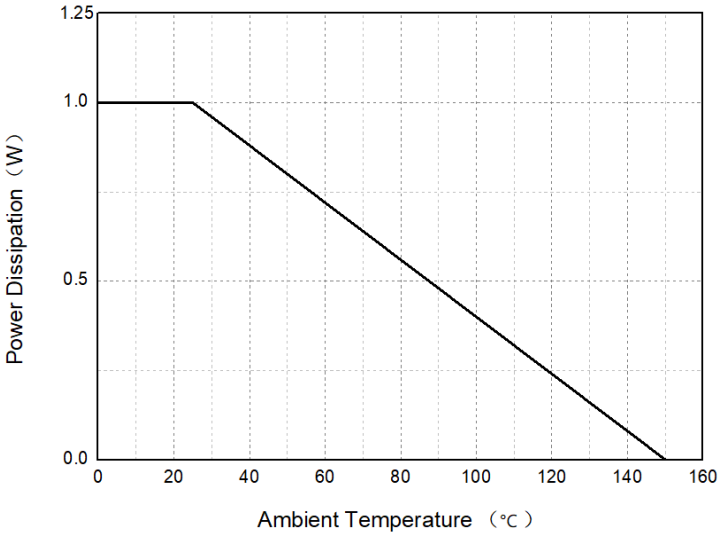
Base-Emitter On Voltage



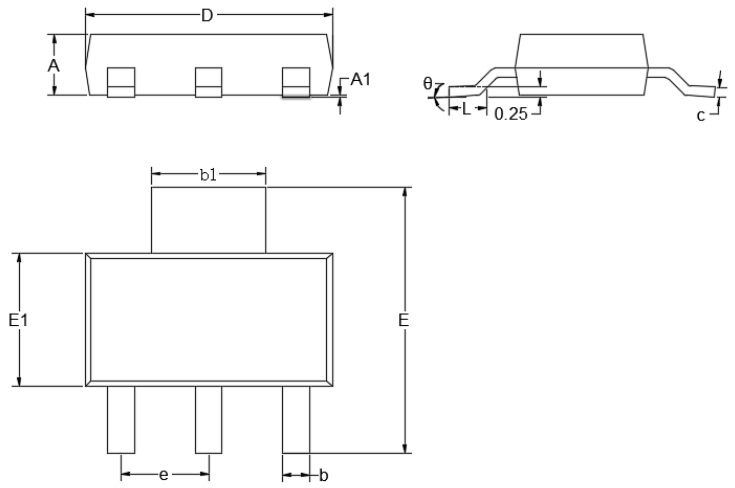
Cob/Cib-V_{CB}/V_{EB}



Power Derating Curve

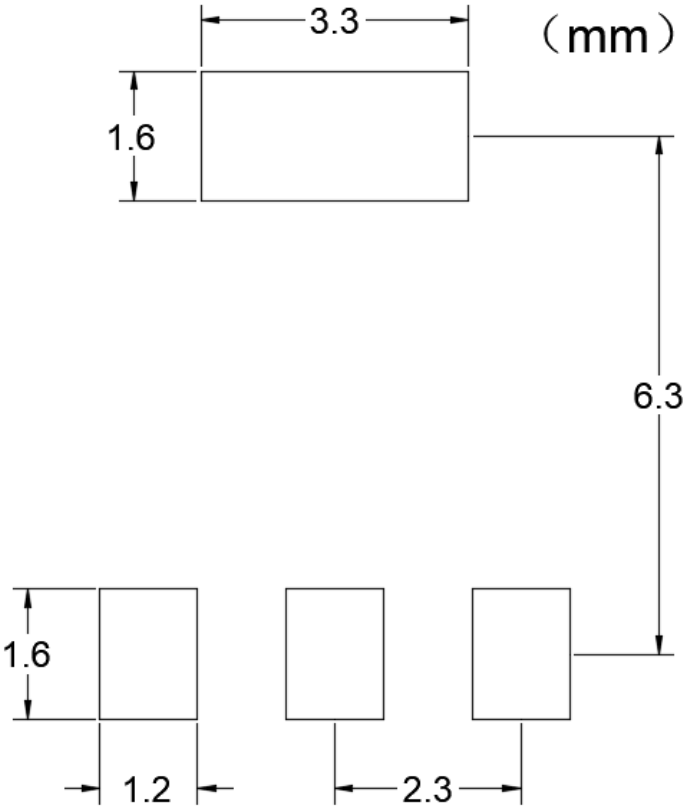


■SOT-223 Package Outline Dimensions



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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