

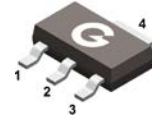
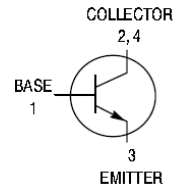
Features

- Complementary to CZT32C
- Power amplifier applications up to 3A

HF

Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-223

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
CZT31C	SOT-223	4000 pcs / Tape & Reel	CZT31C

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	100	V
Collector-Emitter Breakdown Voltage	V _{CEO}	100	V
Emitter-Base Breakdown Voltage	V _{EBO}	5	V
Collector Current (Continuous)	I _C	3	A
Collector Current (Peak)	I _{CM}	5	A
Base Current (continuous)	I _B	1	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	1	W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	100	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 30\text{mA}, I_B = 0$	100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$	-	-	50	μA
Collector Cut-off Current	I_{CEO}	$V_{CE} = 60\text{V}, I_B = 0$	-	-	50	μA
Collector Cut-off Current	I_{CES}	$V_{CE} = 100\text{V}, V_{EB} = 0$	-	-	20	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	1	mA
DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 1\text{A}$	25	-	-	-
		$V_{CE} = 4\text{V}, I_C = 3\text{A}$	15	-	75	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.375\text{A}$	-	-	1.2	V
Base-emitter on voltage	$V_{BE(on)}$	$V_{CE} = 4\text{V}, I_C = 3\text{A}$	-	-	1.8	V
Transition Frequency	f_T	$I_C = 0.5\text{A}, V_{CE} = 10\text{V}$	3	-	-	MHz

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

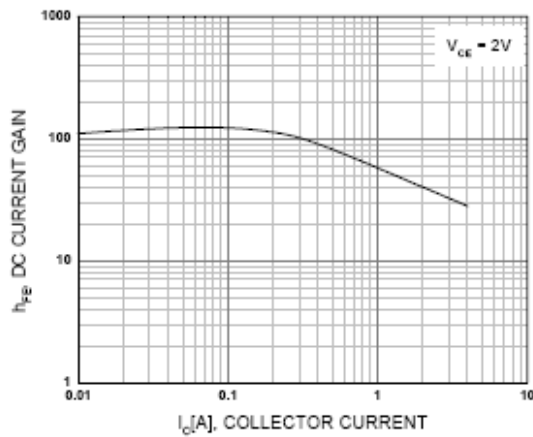


Figure 1. DC current Gain

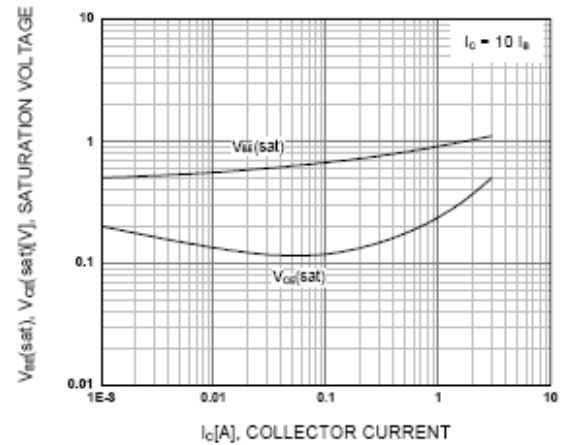


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

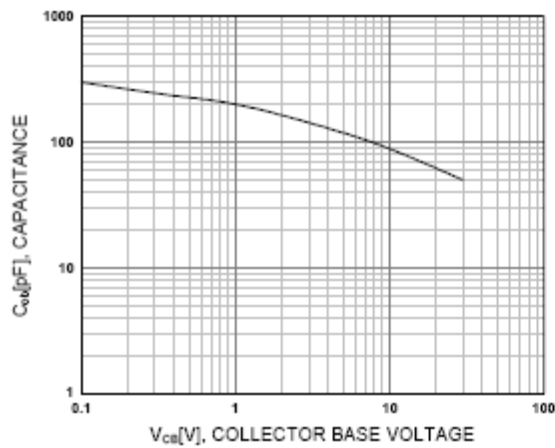


Figure 3. Collector Capacitance

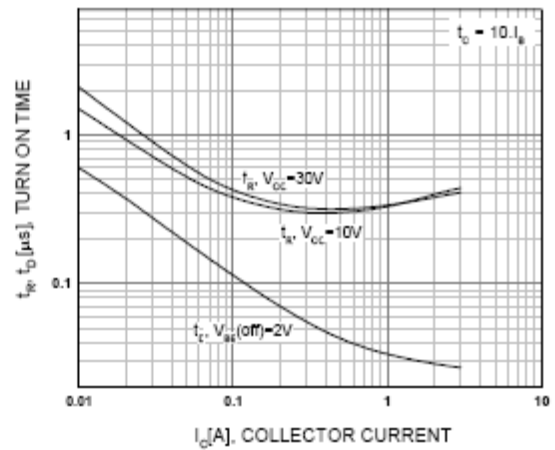


Figure 4. Turn On Time

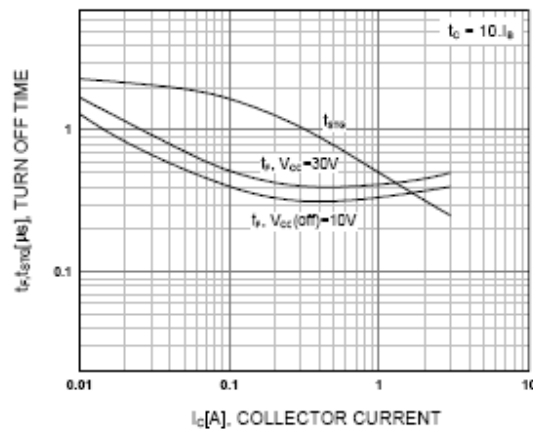


Figure 5. Turn Off Time

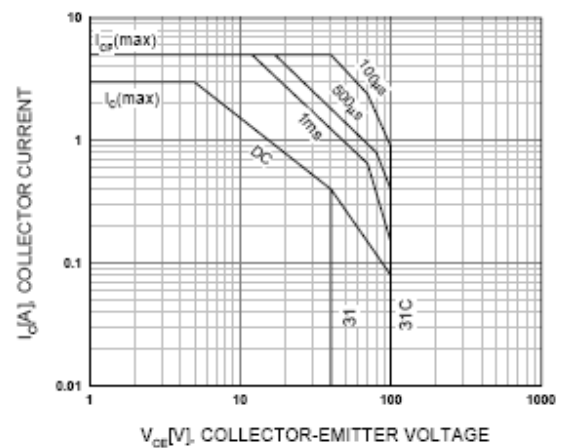
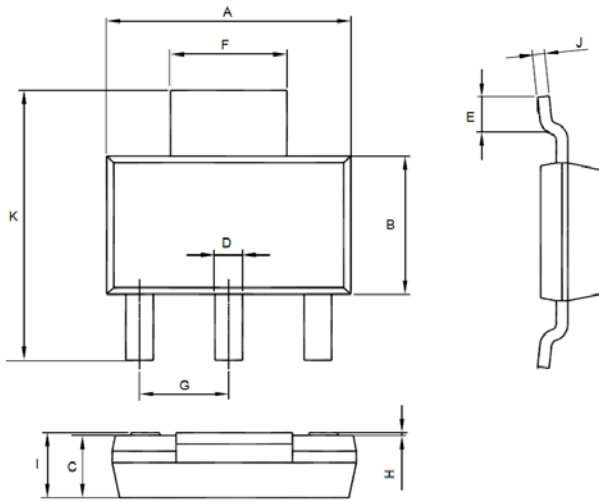


Figure 6. Safe Operating

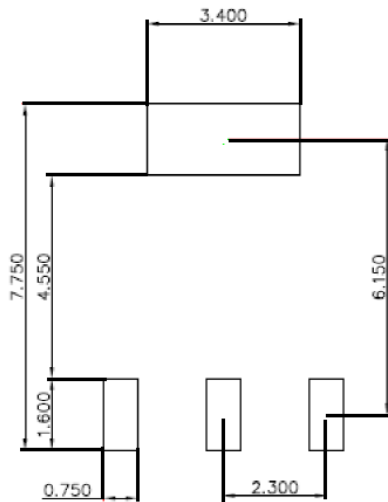
Package Outline Dimensions (Unit: mm)



SOT-223		
Dimension	Min.	Max.
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30

Mounting Pad Layout (Unit: mm)

SOT-223



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