FZT955

PNP TRANSISTORS

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SOT-223 Plastic-Encapsulate Transistors

Features

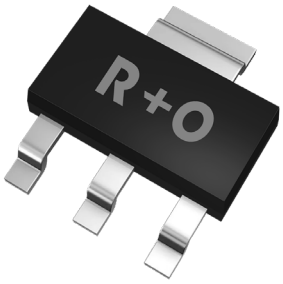
- Power dissipation of 3W
- PNP Low equivalent on-resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Collector-Base Voltage
VCBO -180V
Collector Current
-4.0 Ampere

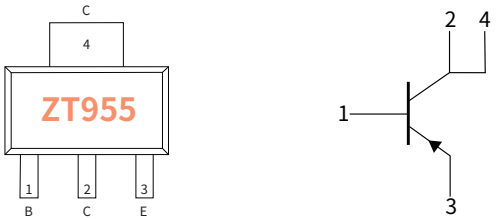
Mechanical Data

- Case: SOT-223
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant,halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

SOT-223



Function Diagram



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	V_{CBO}	V	-180
Collector-Emitter Voltage	V_{CEO}		-140
Emitter-Base Voltage	V_{EBO}		-6.0
Collector Current	I_C	A	-4.0
Peak Pulse Collector Current	I_{CM}	A	-10
Collector Power Dissipation	P_C	W	3.0
Storage temperature	T_{stg}	°C	-55 ~+150
Junction temperature	T_j	°C	-55 ~+150
Typical Thermal Resistance(1)	$R_{\theta J-A}$	°C /W	42

Small-signal Characteristics

ITEM	SYMBOL	Condition	UNIT	Min	Typ	Max
Transition frequency	f_T	I_C= -100mA, V_{CE}=- 10V	MHz	—	110	—

Note :
(1):For a device mounted with the collector lead on 52mm x 52mm 2oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still airconditions whilst operating in steady-state.

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Typ	Max
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	I_C=-100μA, I_E=0	-180	—	—
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$		I_C=-10mA, I_B=0	-140	—	—
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$		I_E=-100μA, I_C=0	-6.0	—	—
Collector-Base cut-off current	I_{CBO}	nA	V_{CB}=-150V,I_E=0	—	—	-50
Emitter-Base cut-off current	I_{EBO}		V_{EB}=- 6.0V,I_C=0	—	—	-10
DC Current Gain	$h_{FE\ (1)}$	—	I_C=-10mA V_{CE}= -5.0V	100	—	—
	$h_{FE\ (2)}$	—	I_C=-1.0A V_{CE}=- 5.0V	100	—	300
	$h_{FE\ (3)}$	—	I_C=-3.0A V_{CE}=- 5.0V	75	—	—
	$h_{FE\ (4)}$	—	I_C=-10A V_{CE}= -5.0V	—	10	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	mV	I_C= -100mA I_B= -5mA	—	—	-60
			I_C= -500mA I_B= -50mA			-120
			I_C= -1A I_B= -100mA			-150
			I_C= -3A I_B= -300mA			-370
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	mV	I_C= -3A I_B= -300mA	—	—	-1110
Base-Emitter On Voltage	$V_{BE(on)}$	mV	V_{CE}= -5V I_C= -3A	—	—	-950
Switching Times	T_{on}	ns	I_C=-1A,I_{B1}=-100mA I_{B2}=100mA, V_{CC}=-50V	—	68	—
	T_{off}			—	1030	—
Output Capacitance	C_{ob}	pF	V_{CB}= -20V， I_E=0, f=1MHZ	—	40	—

Note : Measured under pulsed conditions. Pulse width ≤ 300 us. Duty cycle ≤ 2%

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

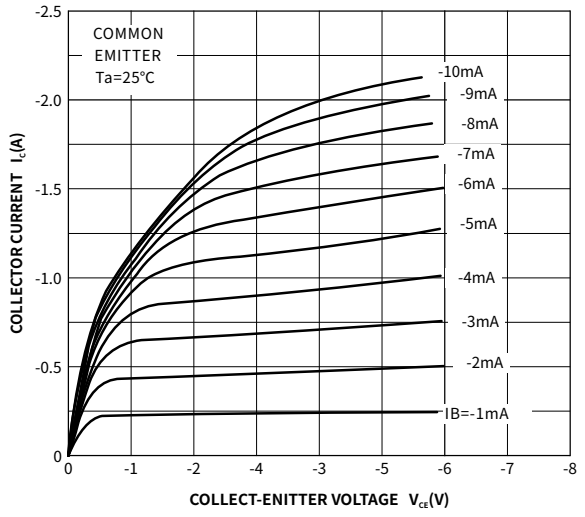


Fig.1 Static Characteristic

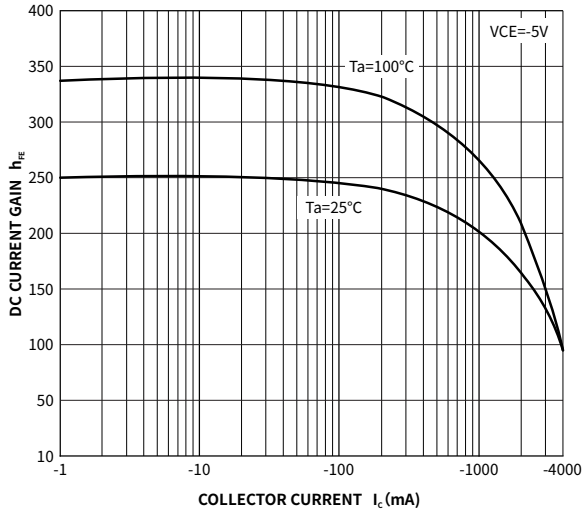


Fig.2 DC Current Gain

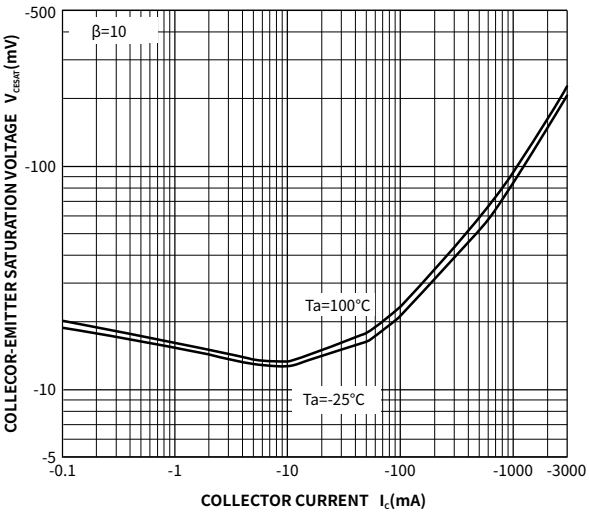


Fig.3 Collector-Emitter Saturation Voltage

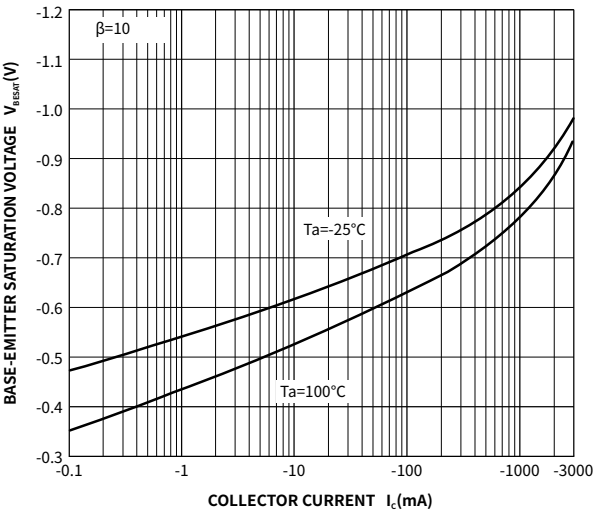


Fig.4 Base-Emitter Saturation Voltage

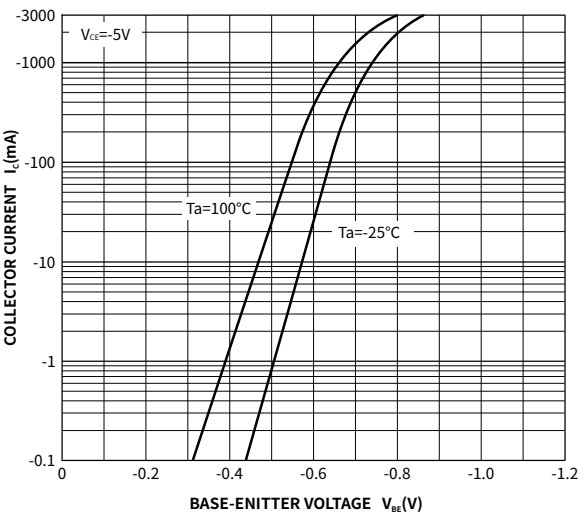


Fig.5 Base-Emitter On Voltage

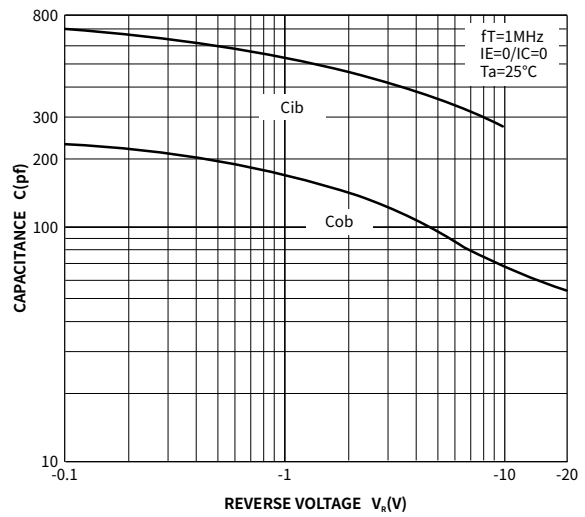
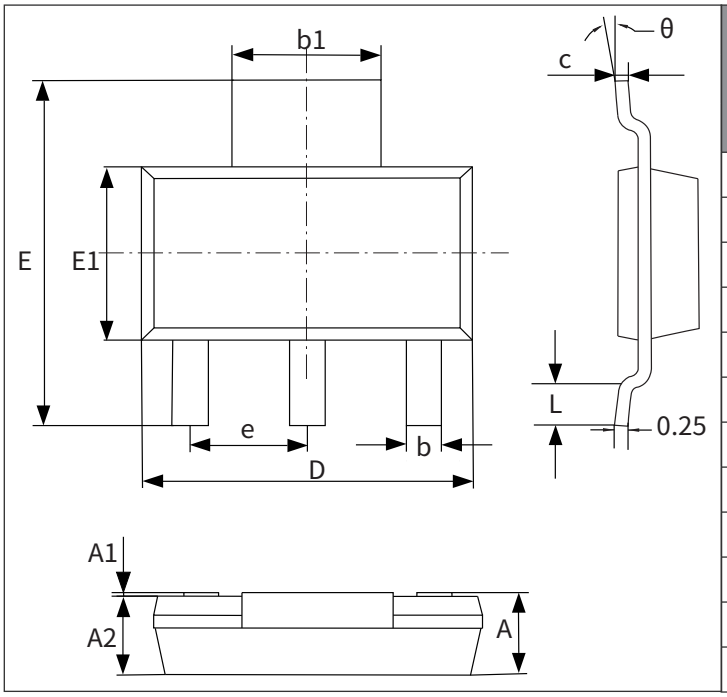


Fig.6 Cob/Cib-$V_{CB}V_{EB}$

Ordering Information

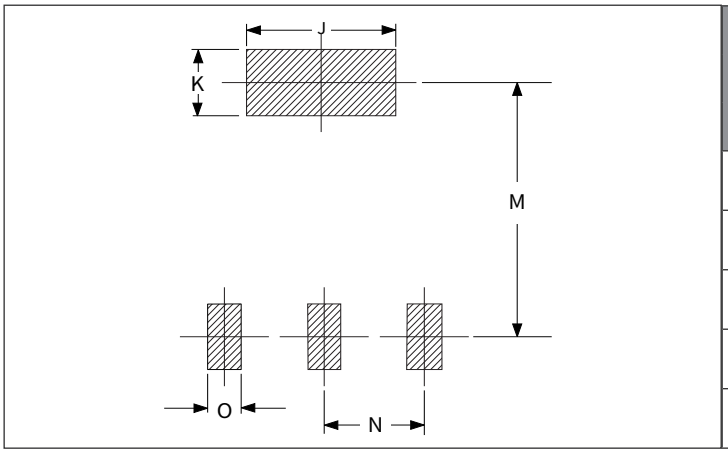
PACKAGE	PACKAGE CODE	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-223	R1	2500	10000	40000	7''

Package Outline Dimensions (SOT-223)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	-	1.8	-	0.071
A1	0.020	0.100	0.001	0.004
A2	1.50	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091TYP	
L	0.750	-	0.030	-
θ	0°	10°	0°	10°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	3.20	3.60	0.126	0.142
K	1.40	1.80	0.055	0.071
M	5.90	6.30	0.23	0.25
N	2.15	2.45	0.085	0.096
O	0.60	0.85	0.024	0.033