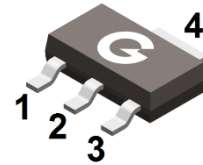
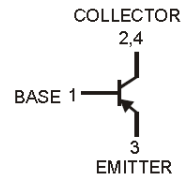


Features

- Epitaxial planar die construction
- High continuous collector current
- Low saturation voltage $V_{CE(SAT)}$
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 standards for high reliability

HF



SOT-223

Mechanical Data

- Case: SOT-223
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TFZT751	SOT-223	4000 pcs / Tape & Reel	FZT751

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-80	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-60	V
Emitter-Base Breakdown Voltage	V_{EBO}	-5	V
Collector Current (Continuous)	I_C	-3	A
Collector Current (Pulse)	I_{CM}	-6	A

Thermal Characteristics

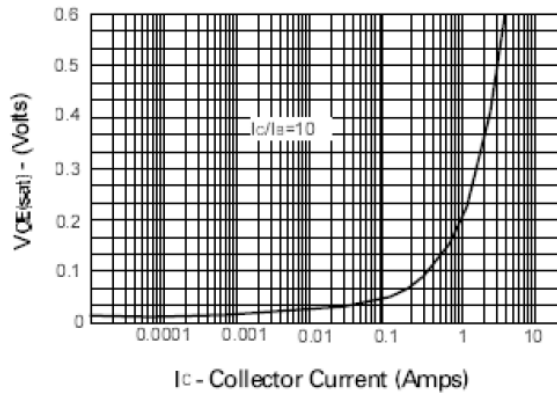
Parameter	Symbol	Value	Unit
Power Dissipation($T_A = 25^\circ\text{C}$)	P_D	2	W
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$
Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

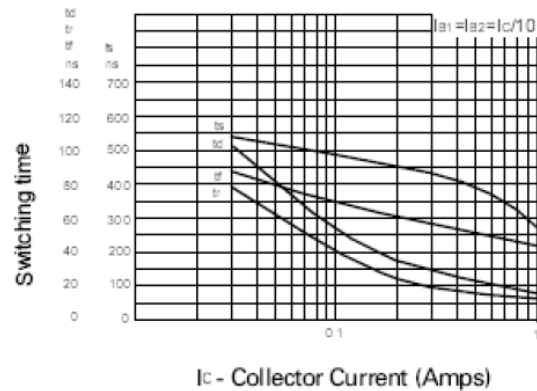
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -80\text{V}, I_E = 0$	-	-	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-100	nA
DC Current Gain *1	h_{FE}	$V_{CE} = -2\text{V}, I_C = -50\text{mA}$	75	-	-	-
		$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	75	-	-	-
		$V_{CE} = -2\text{V}, I_C = -1\text{A}$	75	-	-	-
		$V_{CE} = -2\text{V}, I_C = -2\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage *1	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -100\text{mA}$	-	-	-0.3	V
		$I_C = -3\text{A}, I_B = -300\text{mA}$	-	-	-0.6	V
Base-emitter Saturation Voltage *1	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -100\text{mA}$	-	-	-1.25	V
Base-Emitter Turn-On Voltage *1	$V_{BE(ON)}$	$I_C = -1\text{A}, V_{CE} = -2\text{V}$	-	-	-1	V
Output Capacitance	C_{OBO}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	30	pF
Transition Frequency	f_T	$I_C = -100\text{mA}, V_{CE} = -5\text{V}$ $f = 100\text{MHz}$	100	-	-	MHZ
Turn-on Time	t_{on}	$V_{CC} = -10\text{V}, I_C = -0.5\text{A},$ $I_{B1} = -I_{B2} = -50\text{mA}$	-	40	-	ns
Turn-off Time	t_{off}		-	450	-	ns

Note 1. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$

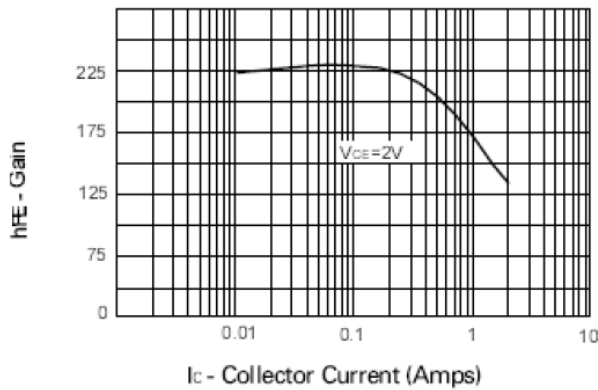
Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)



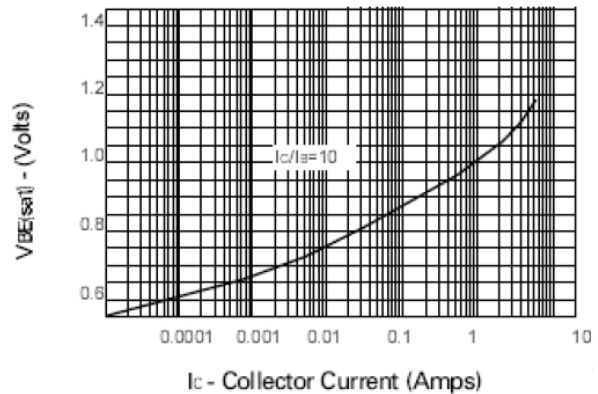
$V_{CE(sat)}$ v I_C



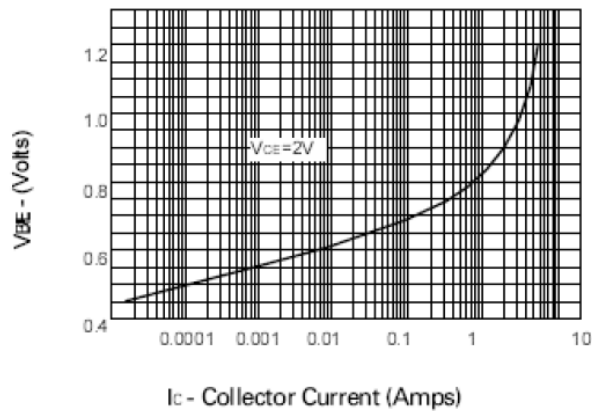
Switching Speeds



h_{FE} v I_C

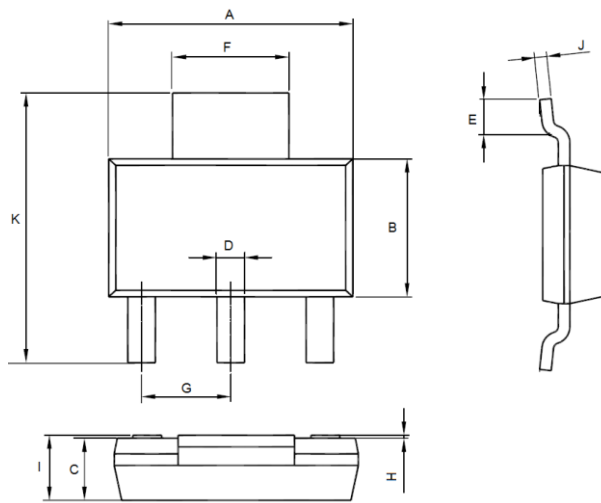


$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C

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

