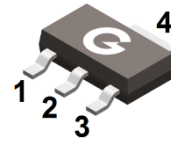
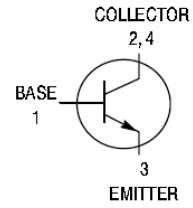


Features

- Epitaxial planar die construction
- Ideal for low power amplification and switching
- Complementary PNP type available TPZT5401
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOT-223

Mechanical Data

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

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TPZT5551	SOT-223	4000 pcs / Tape & Reel	G1

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	180	V
Collector-Emitter Breakdown Voltage	V _{CEO}	160	V
Emitter-Base Breakdown Voltage	V _{EBO}	6	V
Continuous Collector Current	I _C	0.6	A
Peak Collector Current (t _p ≤ 1ms)	I _{CM}	1.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (Collector) *1	P _D	1.15	W
Thermal Resistance Junction-to-Air *1	R _{θJA}	108	°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	45	°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	20	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	180	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}$, $I_C = 0$	6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 120\text{V}$, $I_E = 0$	-	-	50	nA
Base Cut-off Current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$	-	-	50	nA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	80	-	-	-
		$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	100	-	300	-
		$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$	30	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$	-	-	0.15	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	-	0.20	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$	-	-	1	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	-	1	V
Output Capacitance	C_{OBO}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	-	6	pF
Transition Frequency	f_T	$I_C = 10\text{mA}$, $V_{CE} = 10\text{V}$ $f = 100\text{MHz}$	100	-	300	MHZ

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

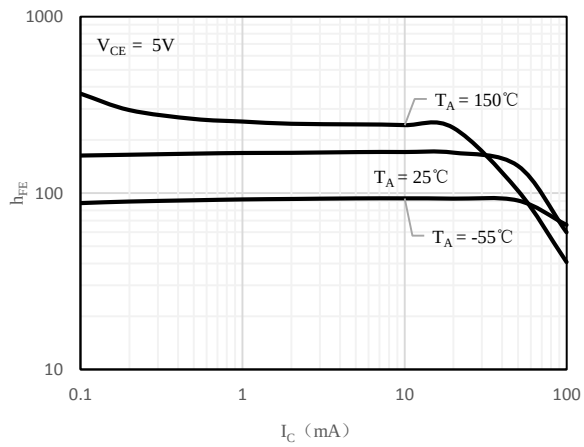


Fig 1 h_{FE} vs. I_C

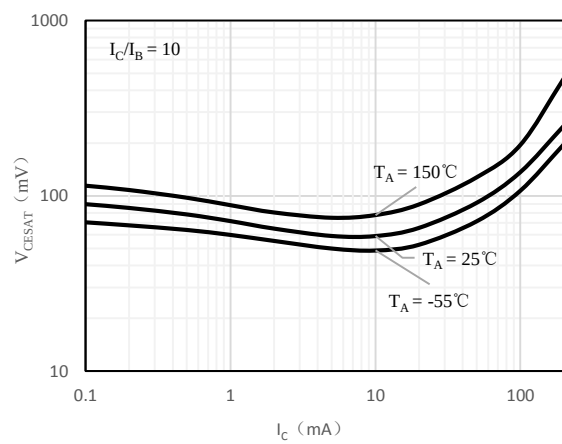


Fig 2 $V_{CE(sat)}$ vs. I_C

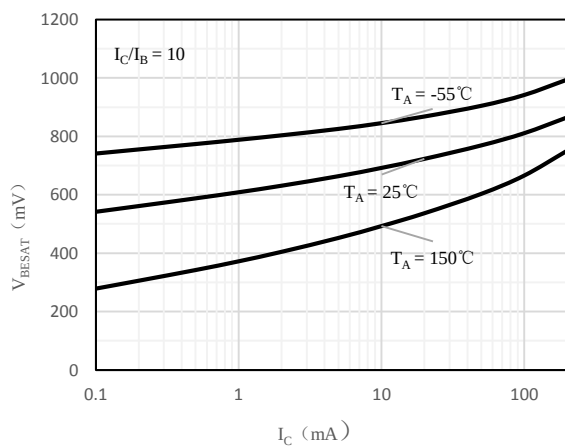


Fig 3 $V_{BE(sat)}$ vs. I_C

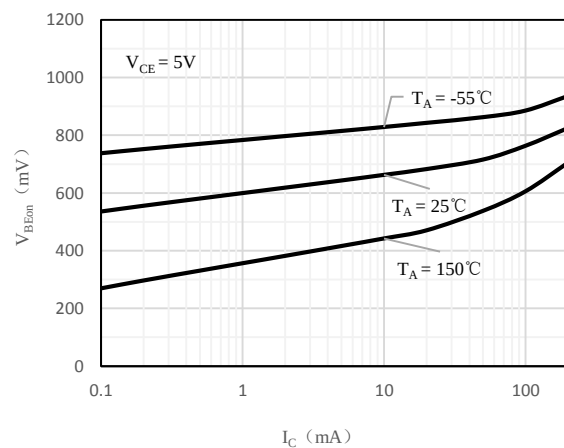
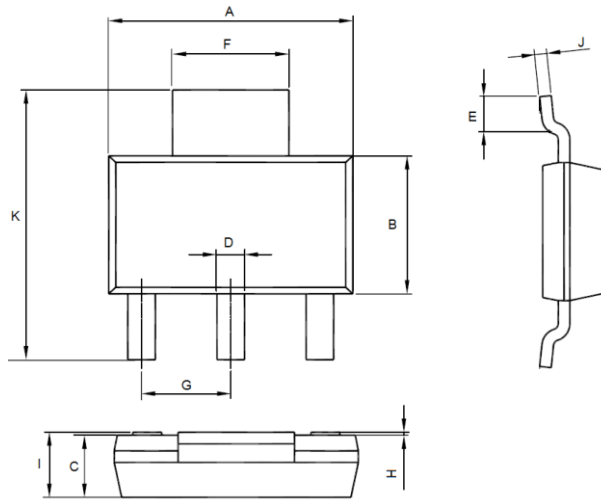


Fig 4 $V_{BE(on)}$ vs. I_C

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)

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