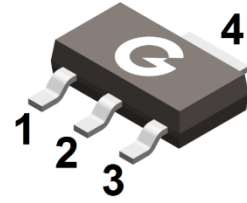
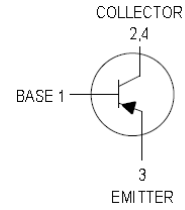


Features

- Epitaxial planar die construction
- Ideal for low power amplification and switching
- Complementary NPN type available TPZT2222A
- 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
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TPZT2907A	SOT-223	4000 pcs / Tape & Reel	2F

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	-60	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-60	V
Emitter-Base Breakdown Voltage	V _{EBO}	-5	V
Collector Current (Continuous)	I _C	-0.6	A

Thermal Characteristics

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

Note1: Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm²

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$	-	-	-10	nA
		$V_{CB} = -50\text{V}, I_E = 0, T_A = 125^\circ\text{C}$	-	-	-10	μA
Collector Cut-off Current	I_{CEX}	$V_{CE} = -30\text{V}, V_{EB(OFF)} = -0.5\text{V}$	-	-	-50	nA
Base Cut-off Current	I_{BL}	$V_{CE} = -30\text{V}, V_{EB(OFF)} = -0.5\text{V}$	-	-	-50	nA
DC Current Gain	h_{FE}	$V_{CE} = -10\text{V}, I_C = -0.1\text{mA}$	75	-	-	-
		$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	100	-	-	-
		$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	100	-	-	-
		$V_{CE} = -10\text{V}, I_C = -150\text{mA}$	100	-	300	-
		$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	50	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$	-	-	-0.4	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-1.6	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$	-	-	-1.3	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-2.6	V
Output Capacitance	C_{OBO}	$V_{CB} = -10\text{V}, I_E = 0, f = 100\text{MHz}$	-	-	8	pF
Input Capacitance	C_{IBO}	$I_C = 0, V_{EB} = -2\text{V}, f = 100\text{MHz}$	-	-	30	pF
Transition Frequency	f_T	$I_C = -50\text{mA}, V_{CE} = -20\text{V}$ $f = 100\text{MHz}$	200	-	-	MHZ
Delay Time	t_d	$V_{CC} = -30\text{V}$	-	-	10	ns
Rise Time	t_r	$I_C = -150\text{mA}, I_{B1} = -15\text{mA}$	-	-	40	ns
Storage Time	t_s	$V_{CC} = -6\text{V}, I_C = -150\text{mA}$	-	-	225	ns
Fall Time	t_f	$I_{B1} = I_{B2} = -15\text{mA}$	-	-	60	ns

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

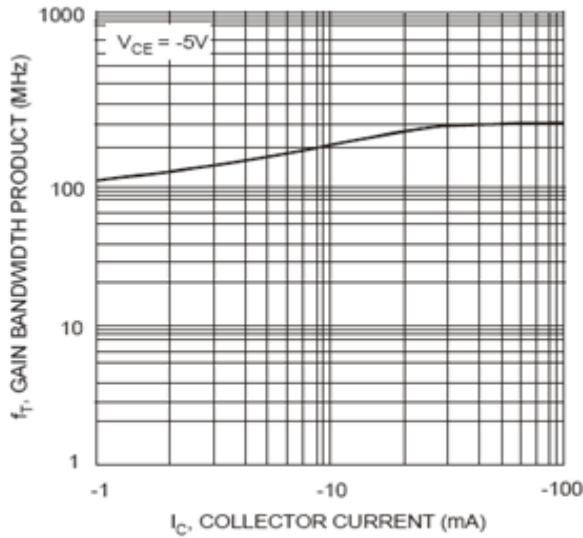


Fig. 1 Gain Bandwidth Product vs. Collector Current

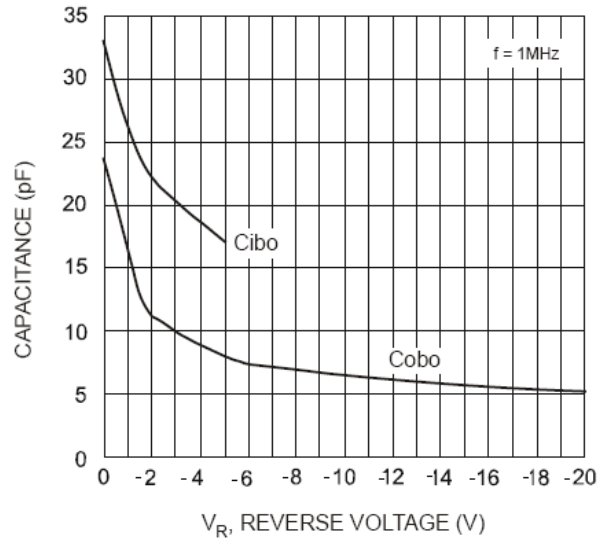


Fig. 2, Typical Capacitance Characteristics

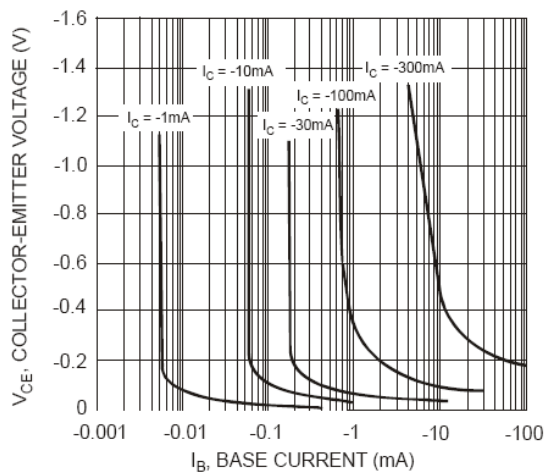


Fig. 3, Typical Collector Saturation Region

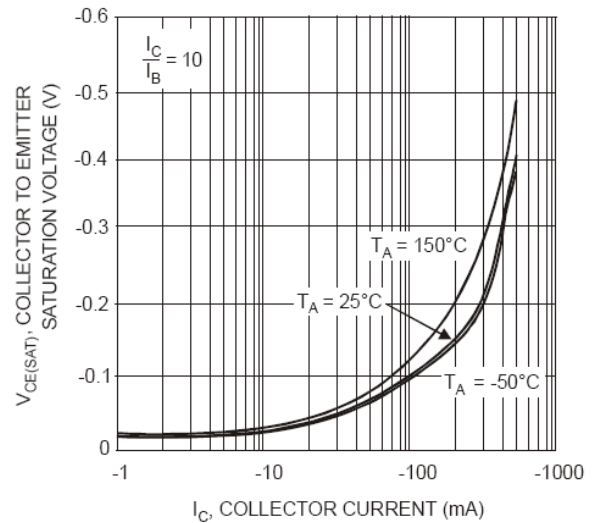


Fig. 4, Collector-Emitter Saturation Voltage vs. Collector Current

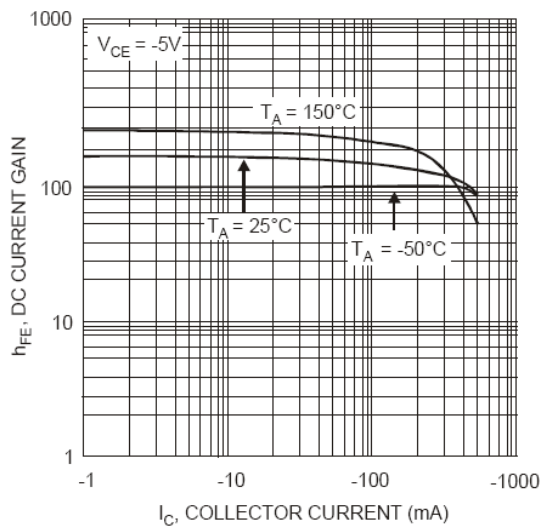


Fig. 5, DC Current Gain vs. Collector Current

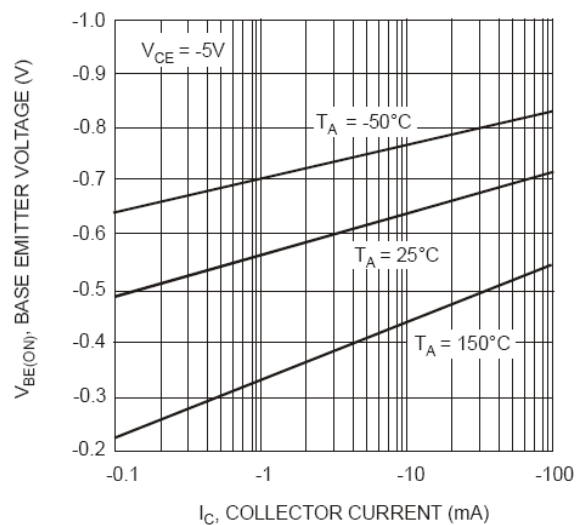
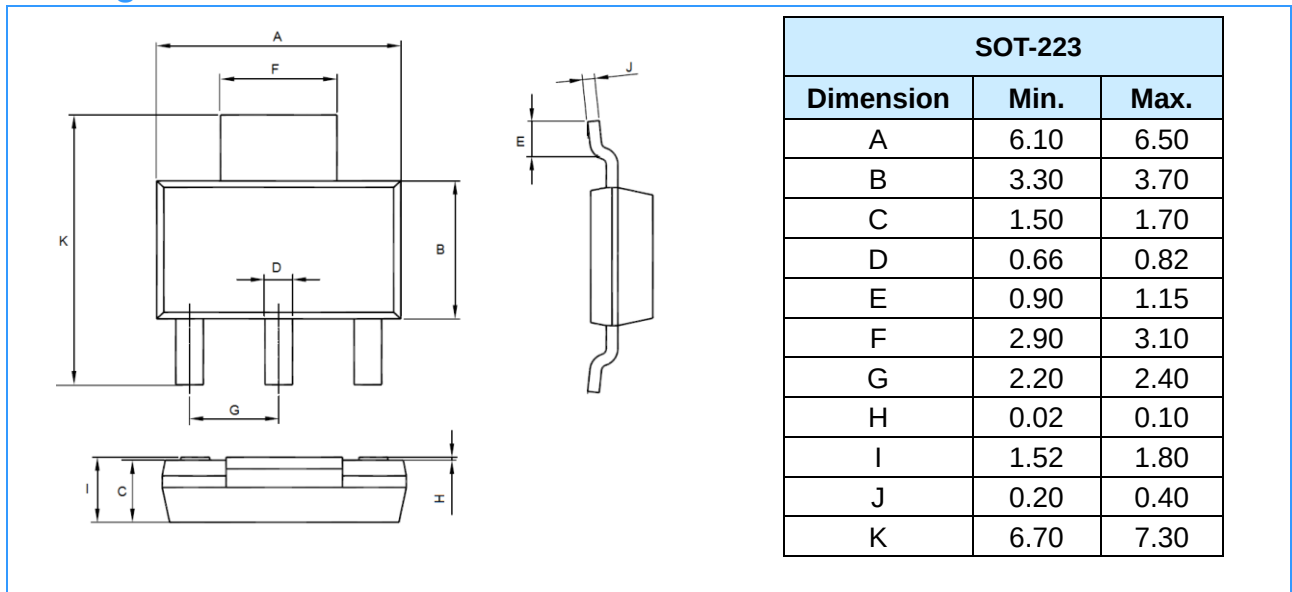


Fig. 6, Base-Emitter Voltage vs. Collector Current

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)

