

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

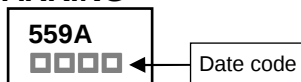
DESCRIPTION

The PZT559A-C is designed for general purpose switching and amplifier applications.

FEATURES

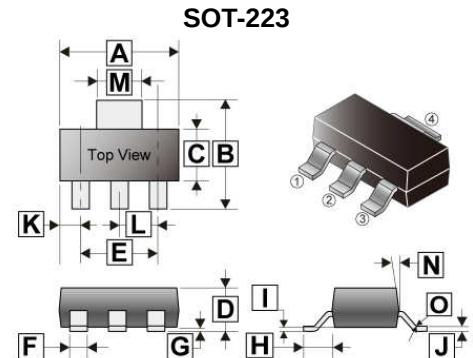
- 4 Amps Continuous Current, Up to 10 Amps Peak Current
- Excellent Gain Characteristic Specified Up to 3Amps
- Very Low Saturation Voltages

MARKING



PACKAGE INFORMATION

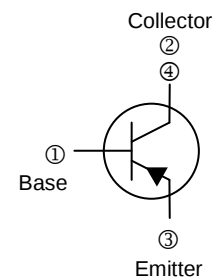
Package	MPQ	Leader Size
SOT-223	2.5K	13 inch



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.90	6.70	G	-	0.18
B	6.70	7.30	H	2.00	REF.
C	3.30	3.80	J	0.20	0.40
D	1.42	1.90	K	1.10	REF.
E	4.45	4.75	L	2.30	REF.
F	0.60	0.85	M	2.80	3.20

ORDER INFORMATION

Part Number	Type
PZT559A-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V _{CBO}	-180	V
Collector-Emitter Voltage	V _{CEO}	-140	V
Emitter-Base Voltage	V _{EBO}	-7	V
Collector Current (DC)	I _C	-4	A
Collector Current (Pulse)	I _{CM}	-10	A
Total Power Dissipation ¹	P _D	3	W
Total Power Dissipation ²		1.6	W
Junction, Storage Temperature	T _J , T _{STG}	150, -55~150	°C

Notes:

1. Surface mounted on 52mm x 52mm x 1.6mm copper pad of FR4 board.
2. Surface mounted on 25mm x 25mm x 1.6mm copper pad of FR4 board.

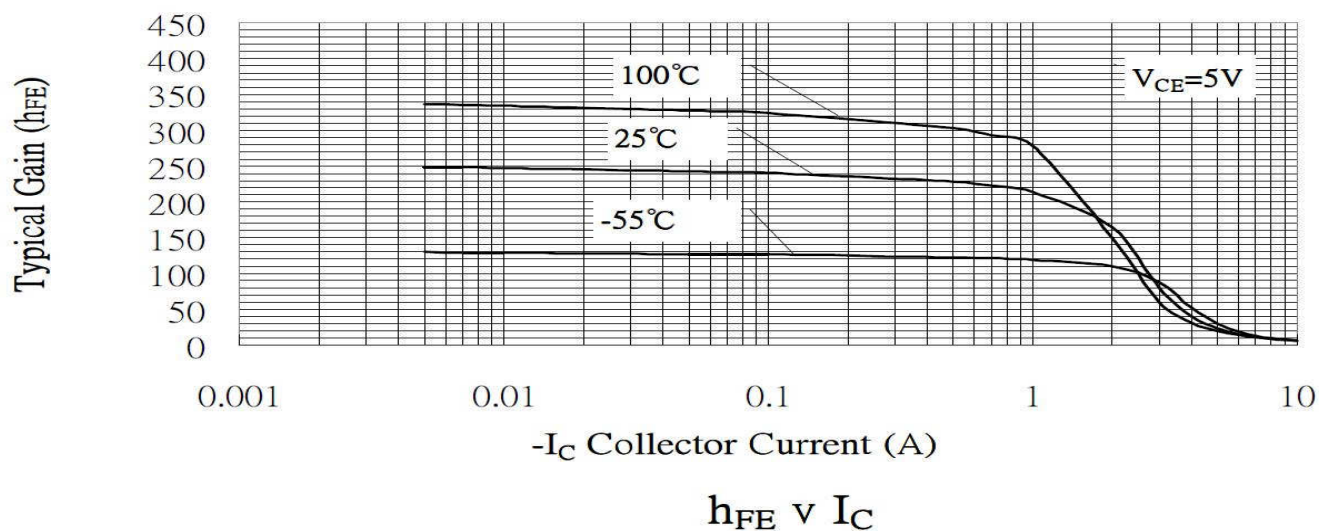
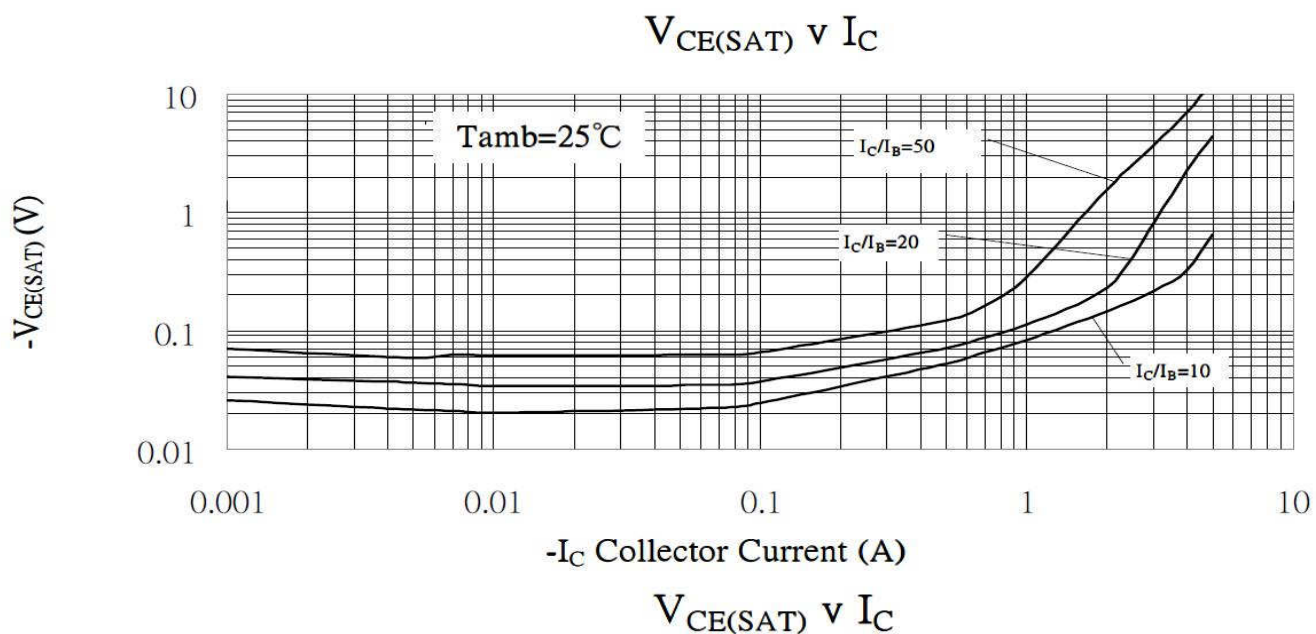
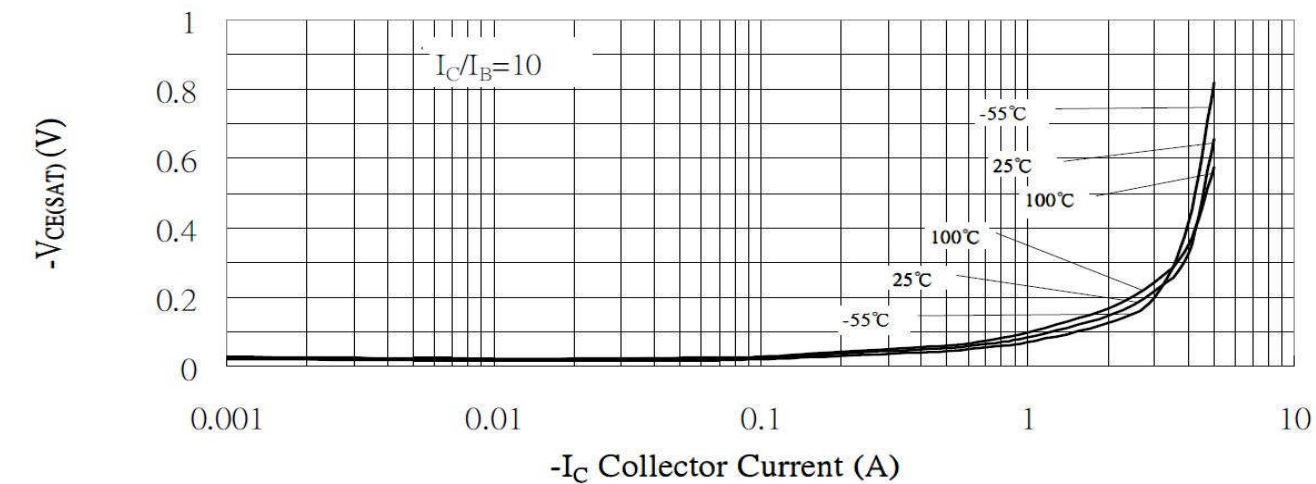
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CBO}	-180	-	-	V	$I_C = -100\mu\text{A}$, $I_E = 0$
Increased Operating Voltage	BV_{CER}	-180	-	-	V	$I_C = -1\mu\text{A}$, $R_B \leq 1\text{K}\Omega$
Collector-Emitter Breakdown Voltage	BV_{CEO}	-140	-	-	V	$I_C = -10\text{mA}$, $I_B = 0$
Emitter-Base Breakdown Voltage	BV_{EBO}	-7	-	-	V	$I_E = -100\mu\text{A}$, $I_C = 0$
Collector Cut-Off Current	I_{CBO}	-	-	-20	nA	$V_{CB} = -150\text{V}$, $I_E = 0$
Collector Cut-Off Current	I_{CER}	-	-	-20	nA	$V_{CB} = -150\text{V}$, $R \leq 1\text{K}\Omega$
Emitter Cut-Off Current	I_{EBO}	-	-	-10	nA	$V_{EB} = -6\text{V}$, $I_C = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)1}$	-	-40	-60	mV	$I_C = -100\text{mA}$, $I_B = -5\text{mA}$
	$V_{CE(sat)2}$	-	-55	-80	mV	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$
	$V_{CE(sat)3}$	-	-85	-120	mV	$I_C = -1\text{A}$, $I_B = -100\text{mA}$
	$V_{CE(sat)4}$	-	-250	-360	mV	$I_C = -3\text{A}$, $I_B = -300\text{mA}$
Base-Emitter Voltage	$V_{BE(sat)}$	-	-940	-1.04	V	$I_C = -3\text{A}$, $I_B = -300\text{mA}$
	$V_{BE(on)}$	-	-830	-0.93	V	$V_{CE} = -5\text{V}$, $I_C = -3\text{A}$
DC Current Gain	h_{FE1}^1	100	225	-		$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$
	h_{FE2}^1	100	200	300		$V_{CE} = -5\text{V}$, $I_C = -1\text{A}$
	h_{FE3}^1	45	80	-		$V_{CE} = -5\text{V}$, $I_C = -3\text{A}$
	h_{FE4}^1	-	5	-		$V_{CE} = -5\text{V}$, $I_C = -10\text{A}$
Transition Frequency	f_T	-	120	-	MHz	$V_{CE} = -10\text{V}$, $I_C = -100\text{mA}$, $f = 50\text{MHz}$
Collector Output Capacitance	C_{OB}	-	33	-	pF	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$
Switching Time	Turn-on	T_{on}	-	42	nS	$V_{CC} = -50\text{V}$, $I_C = -1\text{A}$, $I_{B1} = -I_{B2} = -100\text{mA}$
	Turn-off	T_{off}	-	636		

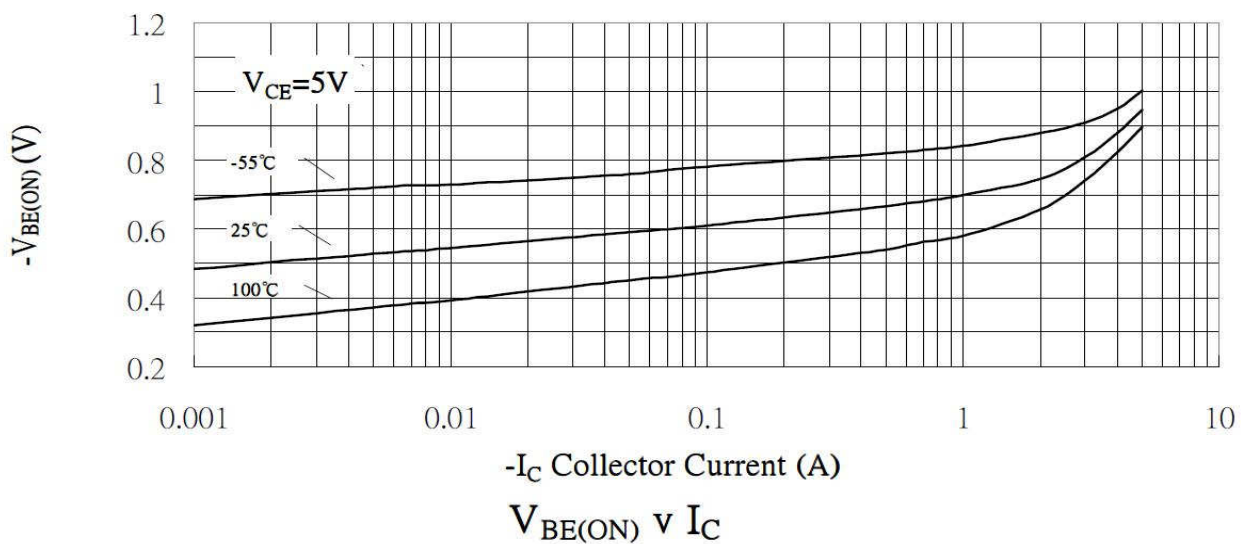
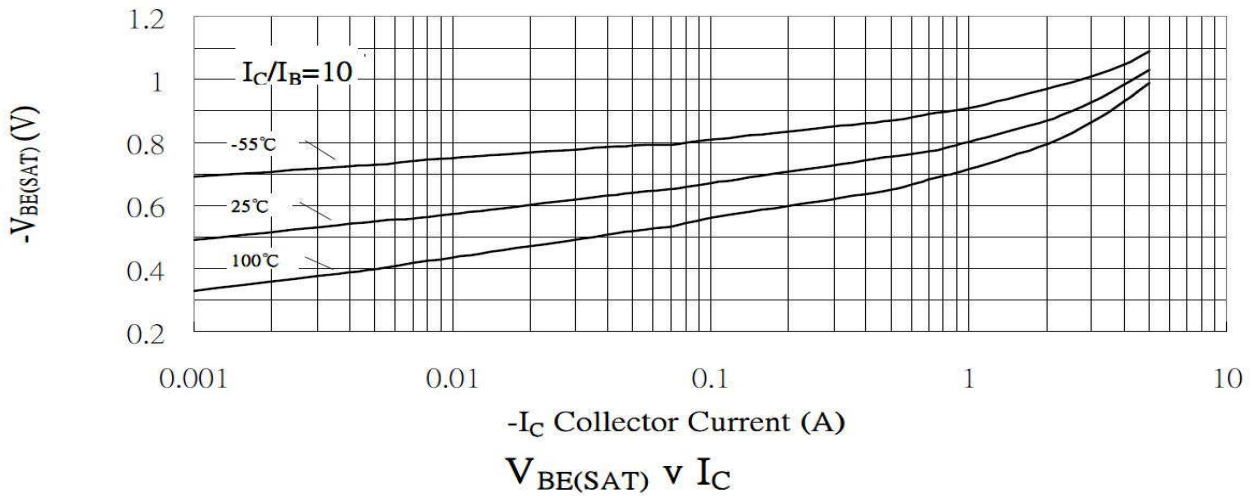
Note:

1. Measured under pulsed condition. Pulse width=300us, Duty cycle $\leq 2\%$.

CHARACTERISTIC CURVES



CHARACTERISTIC CURVES



Safe Operating Area

