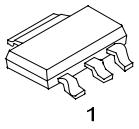
PZT5551

NPN SILICON TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR



SOT-223

*Pb-free plating product number:PZT5551L

■ FEATURES

* High Collector-Emitter Voltage:
  V_{CEO}=160V
*High current gain

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
PZT5551-x-AA3-F-R	PZT5551L-x-AA3-F-R	SOT-223	B	C	E	Tape Reel

PZT5551L-x-AA3-F-R

(1)Packing Type
(2)Pin Assignment
(3)Package Type
(4)Rank
(5)Lead Plating

(1) R: Tape Reel
(2) refer to Pin Assignment
(3) AA3: SOT-223
(4) x: refer to Classification of h_{FE}
(5) L: Lead Free Plating, Blank: Pb/Sn

■ ABSOLUATE MAXIUM RATINGS (Ta = 25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
DC Collector Current	I_C	600	mA
Power Dissipation	P_C	2	W
Operating Junction Temperature	T_J	+150	℃
Storage Temperature	T_{STG}	-65 ~ +150	℃

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance	θ_{JA}	62.5	℃/W

■ ELECTRICAL CHARACTERISTICS (Ta= 25℃, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, I_E=0	180			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	160			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	6			V
Collector Cut-off Current	I_{CBO}	V_{CB}=120V, I_E=0			50	nA
Emitter Cut-off Current	I_{EBO}	V_{BE}=4V, Ic=0			50	nA
DC Current Gain(note)	h_{FE}	V_{CE}=5V, Ic=1mA V_{CE}=5V, Ic=10mA V_{CE}=5V, Ic=50mA	80 80 80	160	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=10mA, I_B=1mA			0.15	V
		I_C=50mA, I_B=5mA			0.2	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=10mA, I_B=1mA I_C=50mA, I_B=5mA			1 1	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, Ic=10mA, f=100MHz	100		300	MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz			6.0	pF
Noise Figure	NF	I_C=0.25mA, V_{CE}=5V R_S=1kΩ, f=10Hz ~ 15.7kHz			8	dB

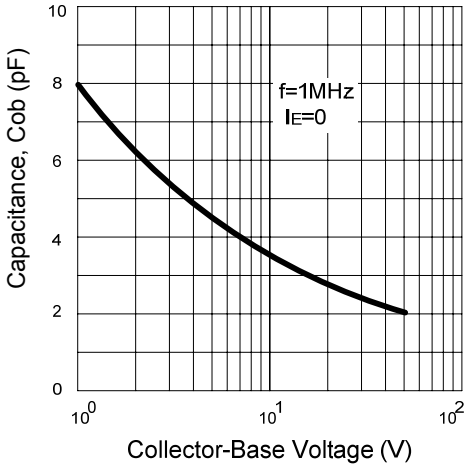
Note: Pulse test: PW<300μs, Duty Cycle<2%

■ CLASSIFICATION OF h_{FE}

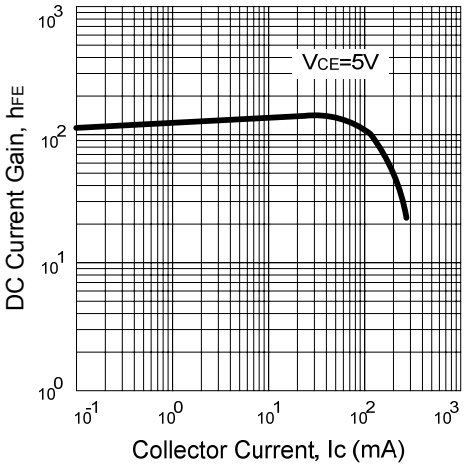
RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERICS

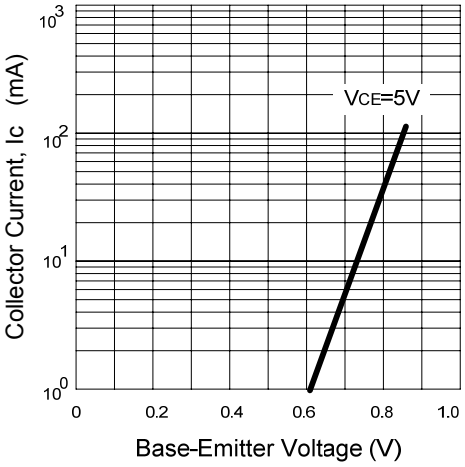
Capacitance vs. Collector-Base Voltage



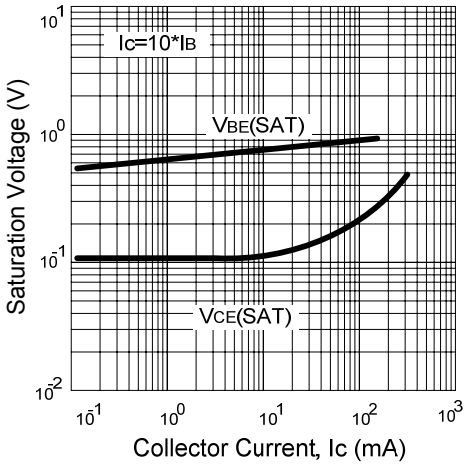
DC Current Gain vs. Collector Current



Collector Current vs. Base-Emitter Voltage



Saturation Voltage vs. Collector Current



Current Gain-Bandwidth product vs. Collector Current