



PZTA44/45

NPN SILICON TRANSISTOR

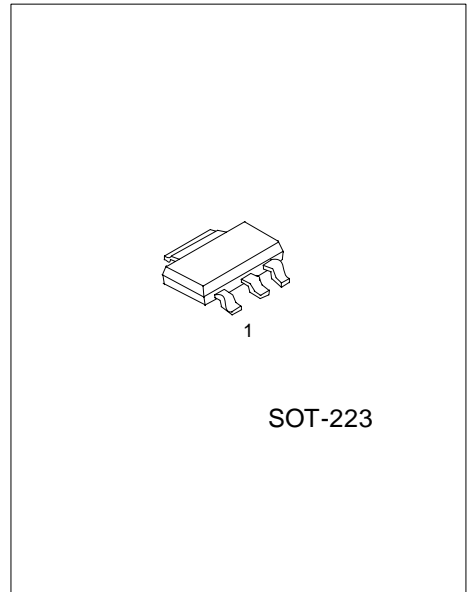
NPN HIGH VOLTAGE TRANSISTOR

■ FEATURES

- * Collector-emitter voltage:
 $V_{CE0}=400V$ (PZTA44)
 $V_{CE0}=350V$ (PZTA45)
- * Collector current up to 300mA
- * Complement to PZTA94/93

■ APPLICATION

- * Telephone switching
- * High voltage switch



*Pb-free plating product number:
PZTA44L/PZTA45L

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
PZTA44-AA3-R	PZTA44L-AA3-R	SOT-223	B	C	E	Tape Reel
PZTA44-AA3-T	PZTA44L-AA3-T	SOT-223	B	C	E	Tube
PZTA45-AA3-R	PZTA45L-AA3-R	SOT-223	B	C	E	Tape Reel
PZTA45-AA3-T	PZTA45L-AA3-T	SOT-223	B	C	E	Tube

<p>PZTA44L-AA3-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube (2) AA3: SOT-223 (3) L: Lead Free Plating, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	PZTA44	500	V
	PZTA45	400	V
Collector-Emitter Voltage	PZTA44	400	V
	PZTA45	350	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	300	mA
Collector Dissipation	P _C	1.2	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

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.

■ ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	PZTA44	I _C =100μA, I _B =0	500			V
	PZTA45					
Collector-Emitter Breakdown Voltage	PZTA44	I _C =1mA, I _B =0	400			V
	PZTA45					
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =100μA, I _C =0	6			V
Collector Cut-OFF Current	PZTA44	I _{CBO}	V _{CB} =400V, I _E =0		0.1	μA
	PZTA45					
Collector Cut-OFF Current	PZTA44	I _{CES}	V _{CE} =400V, I _B =0		0.5	μA
	PZTA45					
Emitter Cut-OFF Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
DC Current Gain (Note)	h _{FE}	V _{CE} =10V, I _C =1mA	40			
		V _{CE} =10V, I _C =10mA	50		240	
		V _{CE} =10V, I _C =50mA	45			
		V _{CE} =10V, I _C =100mA	40			
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =1mA, I _B =0.1mA			0.4	V
		I _C =10mA, I _B =1mA			0.5	V
		I _C =50mA, I _B =5mA			0.75	V
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =10mA, I _B =1mA			0.75	V
Current Gain Bandwidth Product	f _T	V _{CE} =20V, I _C =10mA, f=100MHz	50			MHz
Output Capacitance	C _{ob}	V _{CB} =20V, I _E =0, f=1MHz			7	pF

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

TYPICAL CHARACTERISTICS

Fig.1 DC Current Gain

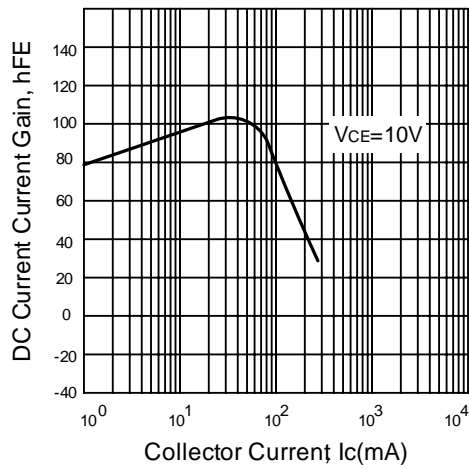


Fig.2 Turn-ON Switching Time

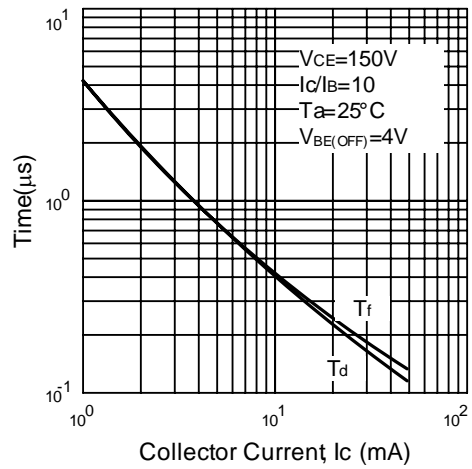


Fig.3 Turn-OFF Switching Time

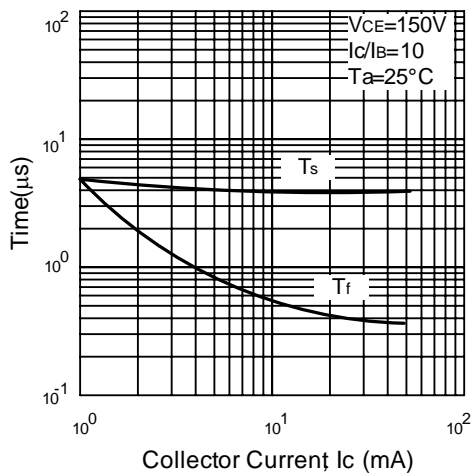


Fig.4 Capacitance

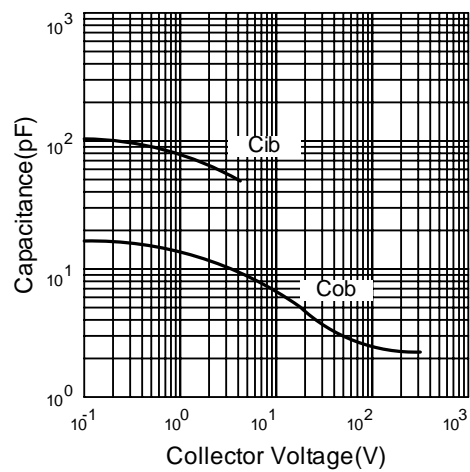


Fig.5 ON Voltage

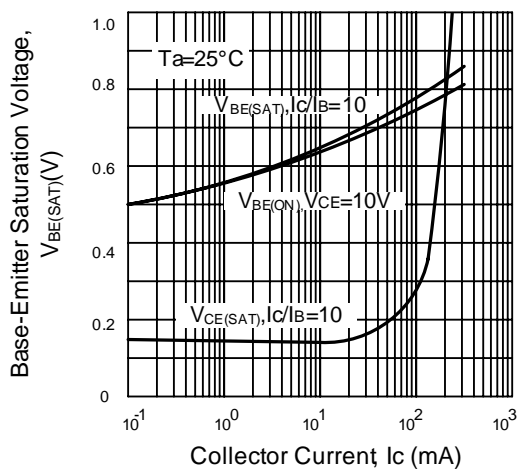
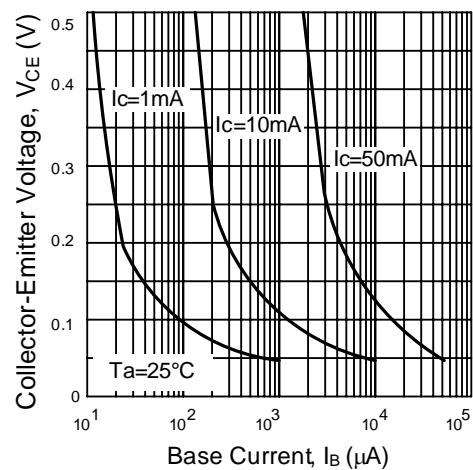


Fig.6 Collector Saturation Region



■ TYPICAL CHARACTERISTICS(Cont.)

Fig.7 High Frequency Current Gain

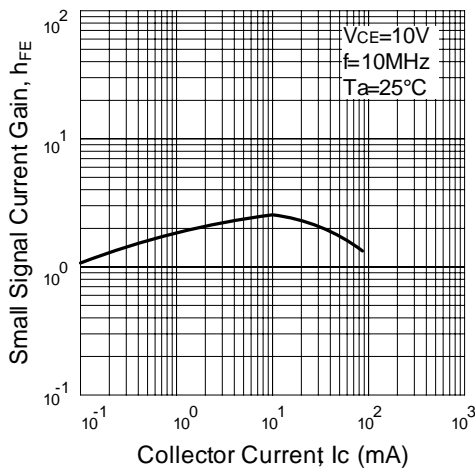
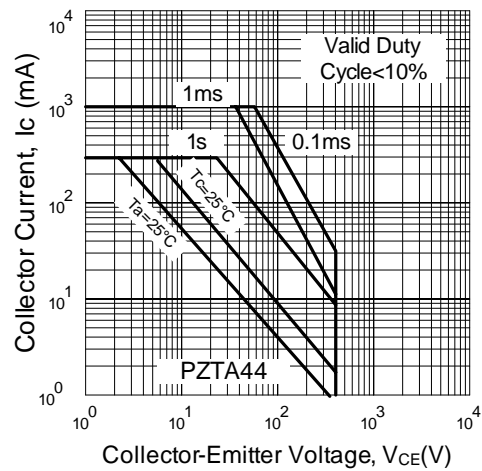


Fig.8 Safe Operating Area



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