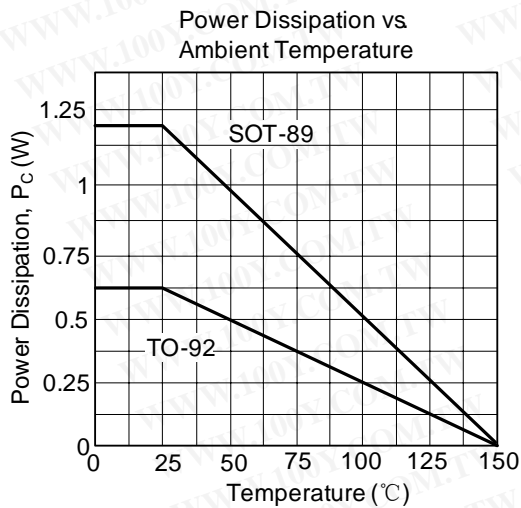
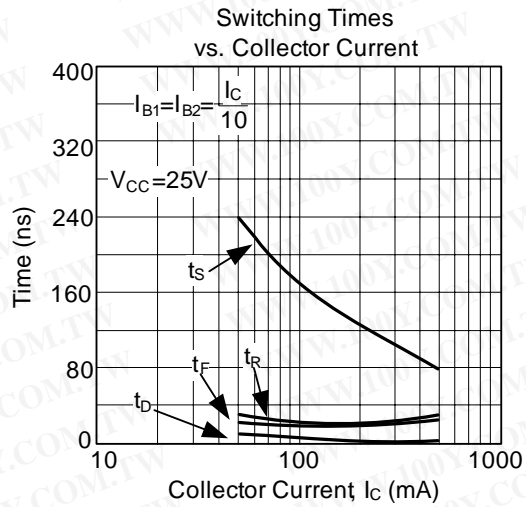
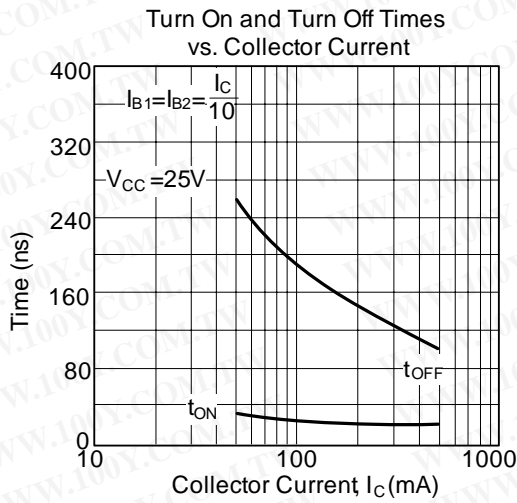


PN2222A

NPN SILICON TRANSISTOR

TYPICAL CHARACTERISTICS(Cont.)

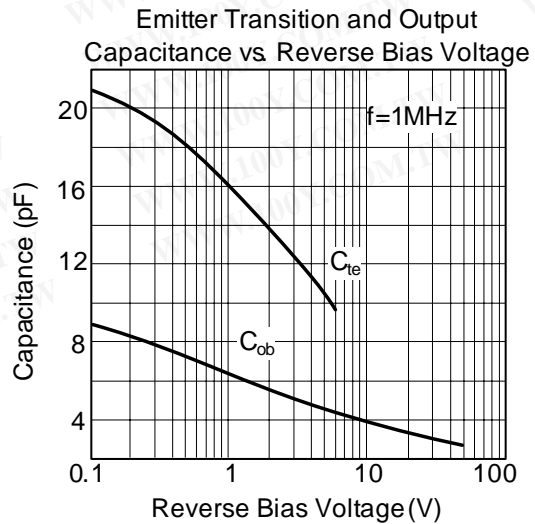
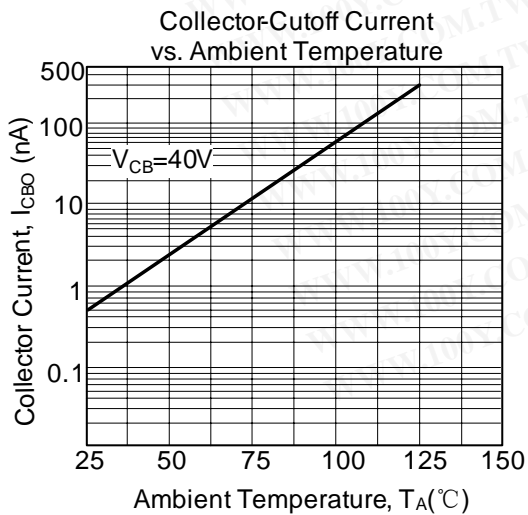
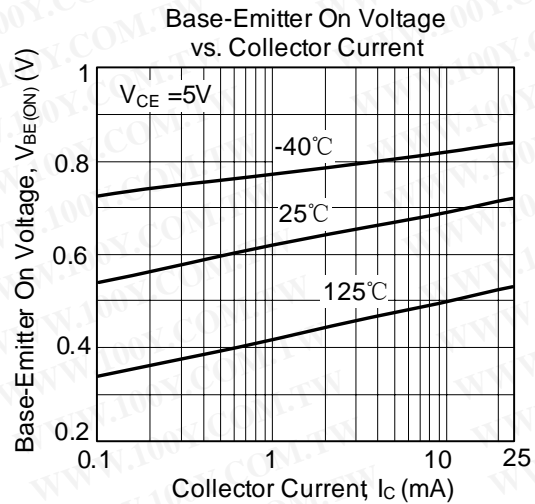
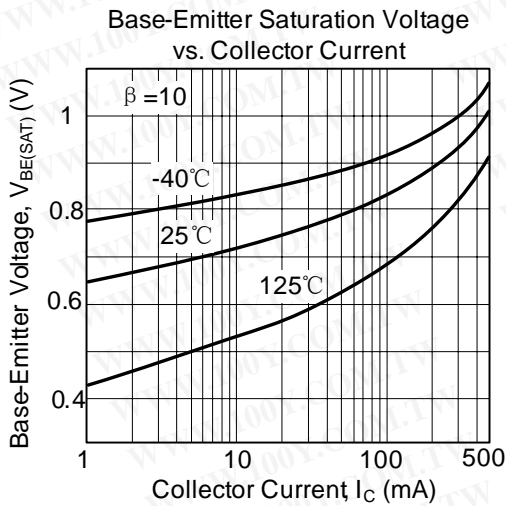
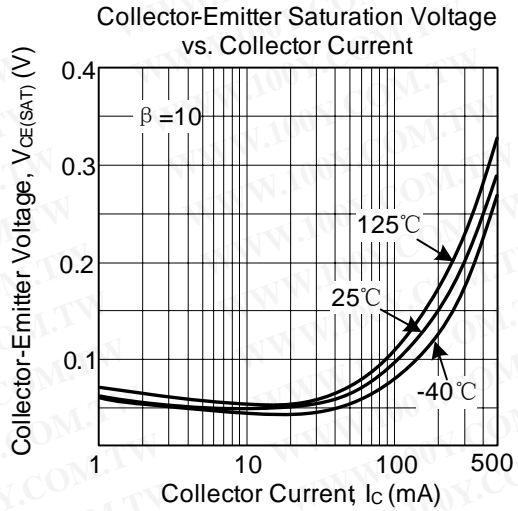
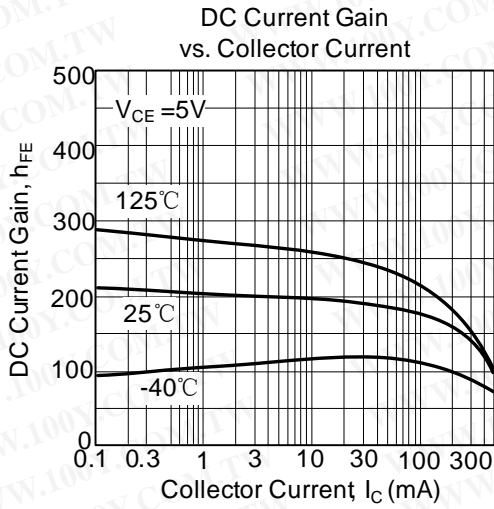


UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.

PN2222A

NPN SILICON TRANSISTOR

TYPICAL CHARACTERISTICS



PN2222A

NPN SILICON TRANSISTOR

■ TEST CIRCUIT

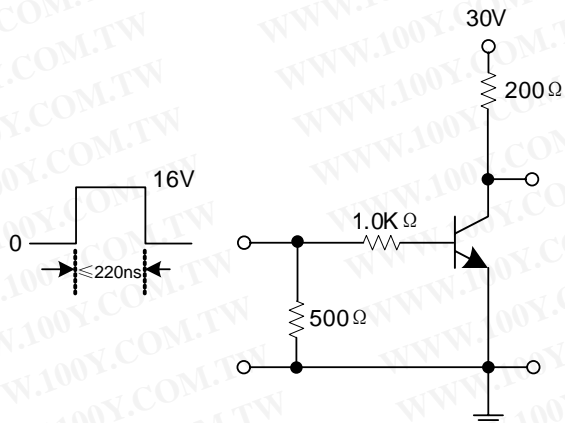


Fig 1. Saturated Turn-On Switching Time

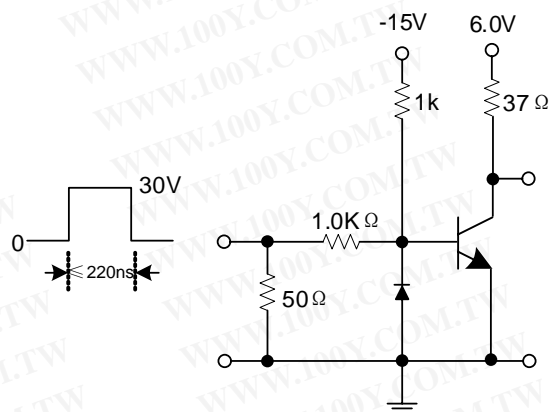


Fig 2. Saturated Turn-Off Switching Time

PN2222A

NPN SILICON TRANSISTOR

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
SWITCHING CHARACTERISTICS						
Delay time	t _D	V _{CC} =30V, V _{BE(OFF)} =0.5V,			10	ns
Rise time	t _R	I _C =150mA, I _{B1} =15mA			25	ns
Storage time	t _S	V _{CC} =30V, I _C =150mA,			225	ns
Fall time	t _F	I _{B1} = I _{B2} =15mA			60	ns

Note 1. *Pulse test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

PN2222A

NPN SILICON TRANSISTOR

■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V _{CBO}	75	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	0.6	A
Total Device Dissipation	SOT-89	1.2	W
	TO-92	625	mW
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note 1. 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.

2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

■ THERMAL DATA (Ta=25°C, unless otherwise noted)

PARAMETER	SYMBOL	RATINGS	UNIT
Thermal resistance, junction to Ambient	SOT-89	104	°C/W
	TO-92	200	°C/W

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CBO}	I _C =10μA, I _E =0	75			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =10mA, I _B =0	40			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =10μA, I _C =0	6			V
Collector Cut-off Current	I _{CEO}	V _{CE} =60V, V _{EB(OFF)} =3.0V			10	nA
Collector Cut-Off Current	I _{CBO}	V _{CB} =60V, I _E =0			0.01	μA
		V _{CB} =60V, I _E =0, Ta=150°C			10	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =3.0V, I _C =0			10	nA
Base Cut-Off Current	I _{BL}	V _{CE} =60V, V _{EB(OFF)} =3.0V			20	nA
ON CHARACTERISTICS						
DC Current Gain	h _{FE}	I _C =0.1mA, V _{CE} =10V	35			
		I _C =1.0mA, V _{CE} =10V	50			
		I _C =10mA, V _{CE} =10V	75			
		I _C =10mA, V _{CE} =10V, Ta=-55°C	35			
		I _C =150mA, V _{CE} =10V*	100		300	
		I _C =150mA, V _{CE} =1.0V*	50			
Collector-Emitter Saturation Voltage*	V _{CE(SAT)}	I _C =150mA, I _B =15mA			0.3	V
		I _C =500mA, I _B =50mA			1.0	V
Base-Emitter Saturation Voltage*	V _{BE(SAT)}	I _C =150mA, I _B =15mA	0.6		1.2	V
		I _C =500mA, I _B =50mA			2.0	V
SMALL SIGNAL CHARACTERISTICS						
Transition Frequency	f _T	I _C =20mA, V _{CE} =20V, f=100MHz	300			MHz
Output Capacitance	C _{obo}	V _{CB} =10V, I _E =0, f=100kHz			8.0	pF
Input Capacitance	C _{ibo}	V _{EB} =0.5V, I _C =0, f=100kHz			25	pF
Collector Base Time Constant	τ _{b'c}	I _C =20mA, V _{CB} =20V, f=31.8MHz			150	pS
Noise Figure	NF	I _C =100μA, V _{CE} =10V, R _S =1.0kΩ, f=1.0kHz			4.0	dB
Real Part of Common-Emitter High Frequency Input Impedance	Re(h _{ie})	I _C =20mA, V _{CB} =20V, f=300MHz			60	Ω



UNISONIC TECHNOLOGIES CO., LTD

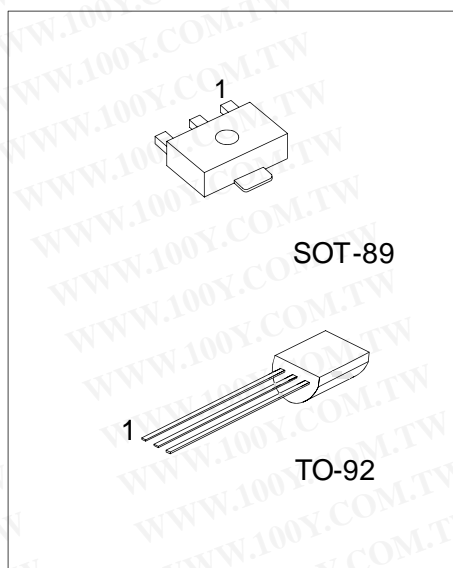
PN2222A

NPN SILICON TRANSISTOR

NPN GENERAL PURPOSE AMPLIFIER

FEATURES

* This device is for use as a medium power amplifier and switch requiring collector currents up to 500mA.



*Pb-free plating product number: PN2222AL

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
PN2222A-AB3-R	PN2222AL-AB3-R	SOT-89	B	C	E	Tape Reel
PN2222A-AB3-T	PN2222AL-AB3-T	SOT-89	B	C	E	Tube
PN2222A-T92-B	PN2222AL-T92-B	TO-92	E	B	C	Tape Box
PN2222A-T92-K	PN2222AL-T92-K	TO-92	E	B	C	Bulk

<p>PN2222AL-AB3-R</p>	<p>(1) Packing Type (2) Package Type (3) Lead Plating</p> <p>(1) B: Tape Box, K: Bulk, R: Tape Reel, T: Tube (2) AB3: SOT-89, T92: TO-92 (3) L: Lead Free Plating, Blank: Pb/Sn</p>
-----------------------	---

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)