



PZT2907A

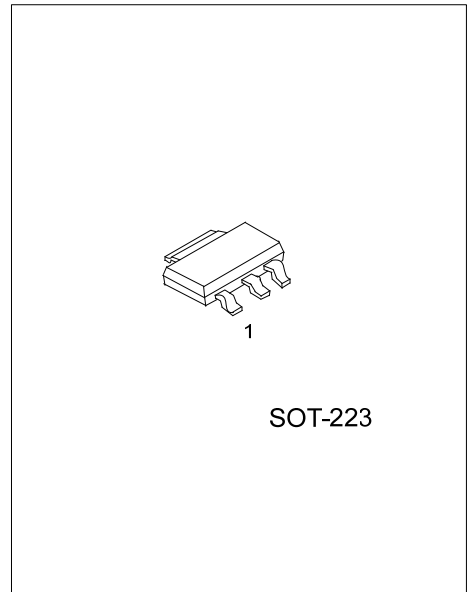
Preliminary

PNP SILICON TRANSISTOR

PNP GENERAL PURPOSE AMPLIFIER

DESCRIPTION

This UTC **PZT2907A** is designed for use as a general purpose amplifier and switch requiring collector currents to 600 mA.



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
PZT2907AL-AA3-R	PZT2907AG-AA3-R	SOT-223	B	C	E	Tape Reel

<p>PZT2907AL-AA3-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) R: Tape Reel (2) AA3: SOT-223 (3) G: Halogen Free, L:Lead Free</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage	V_{CEO}	-60	V
Collector-Base Voltage	V_{CBO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current Continuous	I_C	-600	mA
Power Dissipation	P_D	1.3	W
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. Mounted on PCB with 3mm copper at each terminal

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance	θ_{JA}	90	°C/W

Note: Mounted on PCB with 3mm copper at each terminal

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage (Note)	BV_{CEO}	$I_C=-10mA, I_B=0$	-60			V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=-10\mu A, I_E=0$	-60			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=-10\mu A, I_C=0$	-5			V
Base Cutoff Current	I_B	$V_{CB}=-30V, V_{EB}=-0.5V$			-50	nA
Collector Cutoff Current	I_{CEX}	$V_{CE}=-30V, V_{BE}=-0.5V$			-50	nA
Collector Cutoff Current	I_{CBO}	$V_{CB}=-50V, I_E=0$ $V_{CB}=-50V, I_E=0, T_A=150^\circ C$			-0.02 -20	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$I_C=-0.1mA, V_{CE}=-10V$	75			
		$I_C=-1.0mA, V_{CE}=-10V$	100			
		$I_C=-10mA, V_{CE}=-10V$	100			
		$I_C=-150mA, V_{CE}=-10V$ (Note)	100		300	
		$I_C=-500mA, V_{CE}=-10V$ (Note)	50			
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C=-150mA, I_B=-15mA$			-0.4	V
		$I_C=-500mA, I_B=-50mA$			-1.6	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-150mA, I_B=-15mA$ (Note)			-1.3	V
		$I_C=-500mA, I_B=-50mA$			-2.6	V
SMALL SIGNAL CHARACTERISTICS						
Current Gain – Bandwidth Product	f_T	$I_C=-50mA, V_{CE}=-20V, f=100MHz$	200			MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, I_E=0, f=100kHz$			8	pF
Input Capacitance	C_{ib}	$V_{EB}=-2V, I_C=0, f=100kHz$			30	pF
SWITCHING CHARACTERISTICS						
Turn-on Time	t_{ON}	$V_{CC}=30V, I_C=-150mA,$ $I_{B1}=-15mA$			45	ns
Delay Time	t_{DLY}				10	ns
Rise Time	t_R				40	ns
Turn-off Time	t_{OFF}	$V_{CC}=6V, I_C=-150mA,$ $I_{B1}=I_{B2}=-15mA$			100	ns
Storage Time	t_S				80	ns
Fall Time	t_F				30	ns

Note: Pulse Test: Pulse Width $\leq 300ms$, Duty Cycle $\leq 2.0\%$

■ TEST CIRCUITS

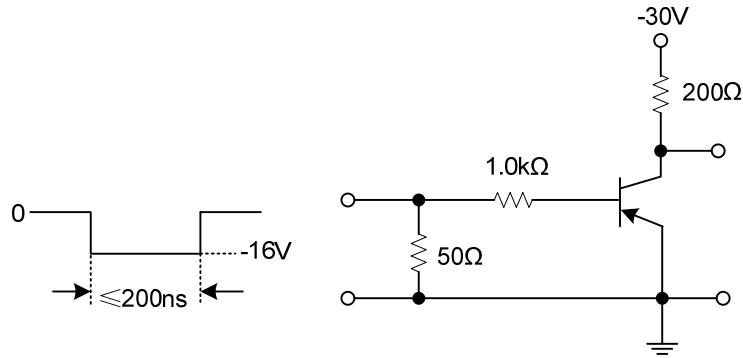


Fig 1. Saturated Turn-On Switching Time Test Circuit

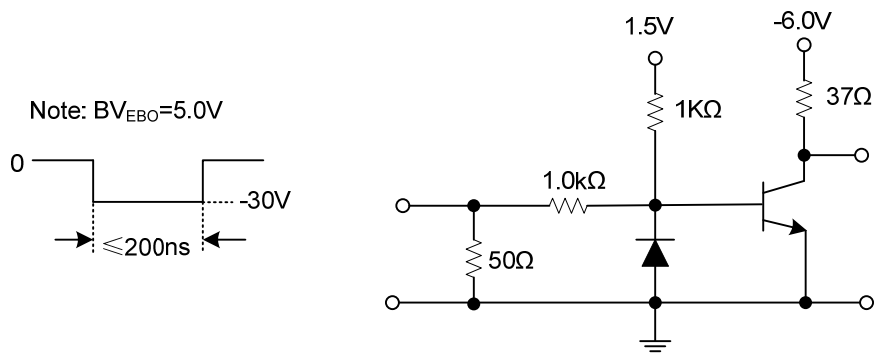


Fig 2. Saturated Turn-Off Switching Time Test Circuit

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