



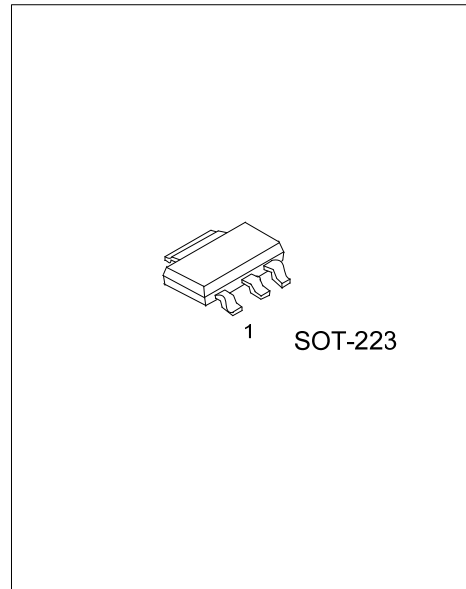
## PZT2907A

## 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.



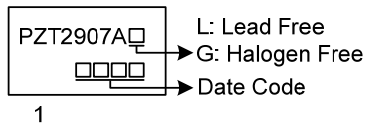
#### ORDERING INFORMATION

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

Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>PZT2907AG-AA3-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AA3: SOT-223</li> <li>(3) G: Halogen Free and Lead Free, L: Lead Free</li> </ul>
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#### MARKING



■ ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$  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	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^{\circ}\text{C}$

Notes: 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	$\theta_{JA}$	90	$^{\circ}\text{C}/\text{W}$

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

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

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

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

### ■ TEST CIRCUITS

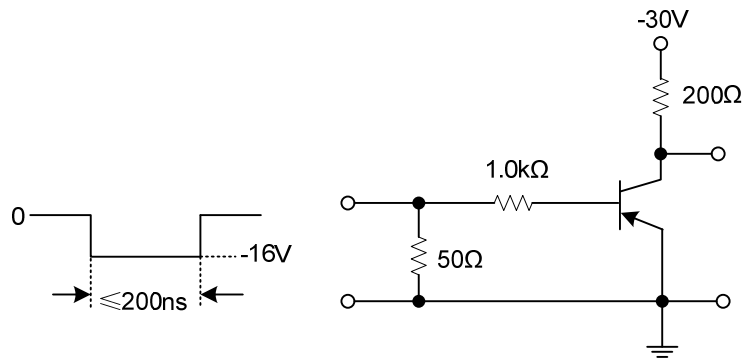


Fig 1. Saturated Turn-On Switching Time Test Circuit

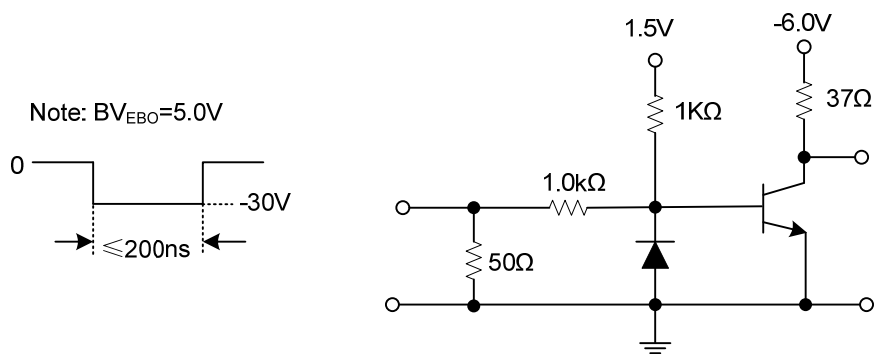


Fig 2. Saturated Turn-Off Switching Time Test Circuit

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