

Features

- Operate from 2V to 5.5V
- CMOS low power dissipation
- High noise immunity
- ESD Protection Exceeds JESD 22
 - 2000-V Human-Body Model (A114-A)
 - 200-V Machine Model (A115-A)
 - 1000-V Charged-Device Model (C101)

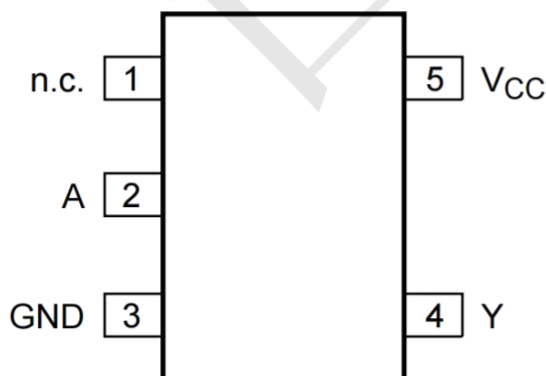
General Description

The TP74AHC1G17 is a single Schmitt-trigger buffer, it provides the function $Y=A$. The device have different input threshold levels for positive going (VT+) and negative-going (VT-) signals because of the Schmitt-trigger action in the input.

Ordering Information

ORDER NUMBER	PACKAGE DESCRIPTION	PACKAGE OPTION
TP74AHC1G17S5	SOT23-5	Tape and Reel,3000
TP74AHC1G17C5	SOT353	Tape and Reel,3000

Pin Configuratio

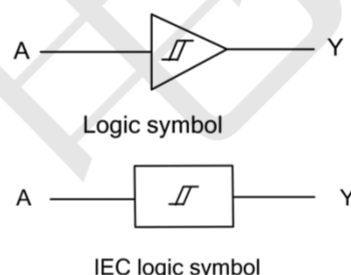


SOT23-5 / SOT353

Applications

- AV Receiver
- Audio Dock:Portable
- Blu-ray Player and Home Theater
- Embedded PC
- Personal Digital Assistant(PDA)
- Power:Telecom/Server AC/DC Supply:Single Controller:Analog and Digital
- Solid State Drive(SSD):Client and Enterprise
- Wireless Headset,Keyboard,and Mouse

Logic Diagram



Function Table

INPUT(A)	OUTPUT(Y)
L	L
H	H

Note:H: HIGH voltage level;L: LOW voltage level.

Absolute Maximum Ratings

PARAMETER	SYMBOL	CONDITIONS	RATINGS	UNIT
Supply Voltage	VCC		-0.5 ~ +7	V
Input Voltage	VIN		-0.5 ~ +7	V
Output Voltage	VOUT		-0.5 ~ +7	V
VCC or GND Current	ICC	Output in the Power-off state	±50	mA
Continuous Output Current	IOUT	VOUT=0~VCC	±25	mA
Input Clamp Current	IIK	VIN<0	-20	mA
Output Clamp Current	IOK	VOUT<0	±20	mA
Storage Temperature Range	TSTG		-65 ~ +150	°C
Junction to Ambient	θ_{JA}	SOT23-5	230	°C/W
		SOT353	280	°C/W

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.

Recommended Operating Conditions

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	VCC		2	--	5.5	V
Input Voltage	VIN		0	--	5.5	V
Output Voltage	VOUT	High or low state	0	--	VCC	V
Operating Temperature	TA		-40	--	125	°C

Electrical Characteristics (unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
positive-going threshold voltage	VT+	V _{CC} =3.0V	--	--	2.2	V
		V _{CC} =4.5V	--	--	3.15	V
		V _{CC} =5.5V	--	--	3.85	V
negative going threshold voltage	VT-	V _{CC} =3.0V	0.9	--	--	V
		V _{CC} =4.5V	1.35	--	--	V
		V _{CC} =5.5V	1.65	--	--	V
Hysteresis voltage	VH	V _{CC} =3.0V	0.3	--	1.2	V
		V _{CC} =4.5V	0.4	--	1.4	V
		V _{CC} =5.5V	0.5	--	1.6	V
High-Level Output Voltage	VOH	V _{CC} =2.0V, I _{OH} =-50μA	1.9	2.0	--	V
		V _{CC} =3.0V, I _{OH} =-50μA	2.9	3.0	--	V
		V _{CC} =4.5V, I _{OH} =-50μA	4.4	4.5	--	V
		V _{CC} =3.0V, I _{OH} =-4mA	2.58	--	--	V
		V _{CC} =4.5V, I _{OH} =-8mA	3.94	--	--	V
Low-Level Output Voltage	VOL	V _{CC} =2.0V, I _{OL} =50μA	--	--	0.1	V
		V _{CC} =3.0V, I _{OL} =50μA	--	--	0.1	V
		V _{CC} =4.5V, I _{OL} =50μA	--	--	0.1	V
		V _{CC} =3.0V, I _{OL} =4mA	--	--	0.36	V
		V _{CC} =4.5V, I _{OL} =8mA	--	--	0.36	V
Input Leakage Current	I _{I(LEAK)}	V _{CC} =0~5.5V, V _{IN} =5.5V or GND	--	--	±0.1	μA
Supply Current	I _{CC}	V _{CC} =5.5V, V _{IN} =V _{CC} or GND, I _{OUT} =0A	--	--	1	μA
Input Capacitance	C _I	V _{CC} =5.0V, V _{IN} =V _{CC} or GND	--	1.5	10	pF

OPERATING CHARACTERISTICS

(TA = 25°C, unless otherwise specified)

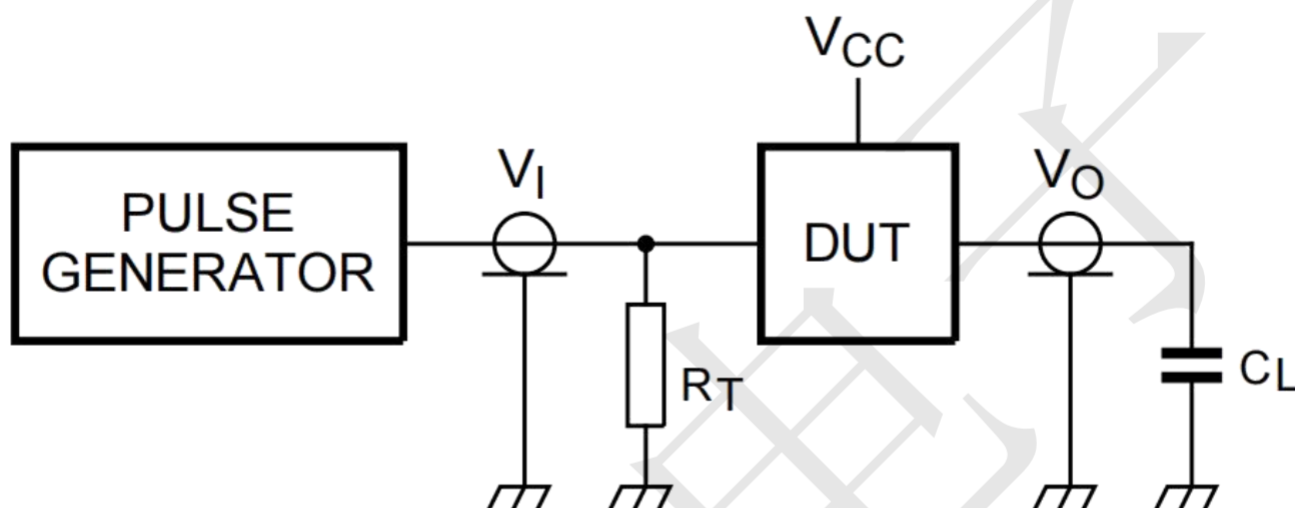
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	CPD	per buffer; CL = 50 pF; f = 1 MHz; VI = GND to VCC	--	12	--	pF

SWITCHING CHARACTERISTICS

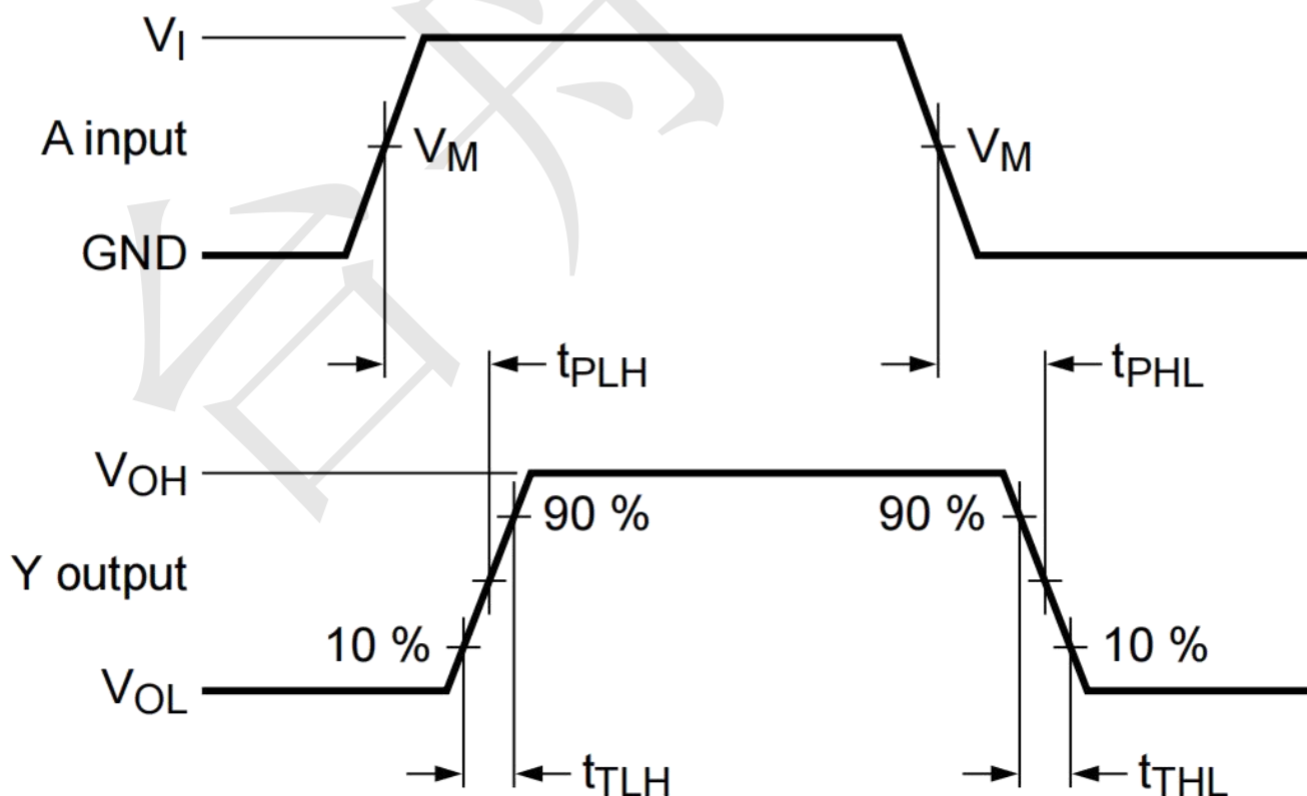
(TA = 25°C, Input: tr, tf ≤ 3ns; PRR ≤ 1MHz)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
propagation delay	tpd	A to Y				ns
		VCC = 3.0 V to 3.6 V				
		CL = 15 pF	--	4.2	12.8	
		CL = 50 pF	--	6.0	16.3	
		VCC = 4.5 V to 5.5 V				
		CL = 15 pF	--	3.2	8.6	
		CL = 50 pF	--	4.6	10.6	

TEST CIRCUIT AND WAVEFORMS



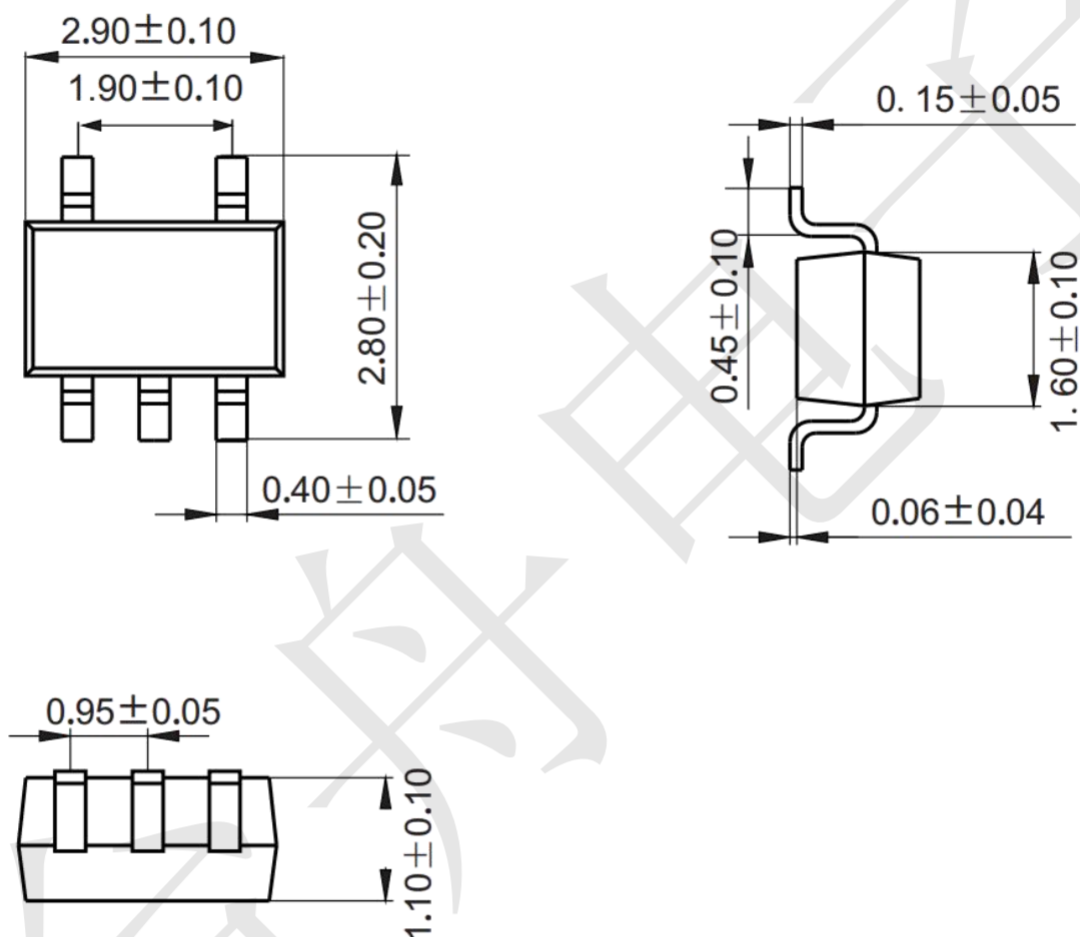
Test circuit for measuring switching times



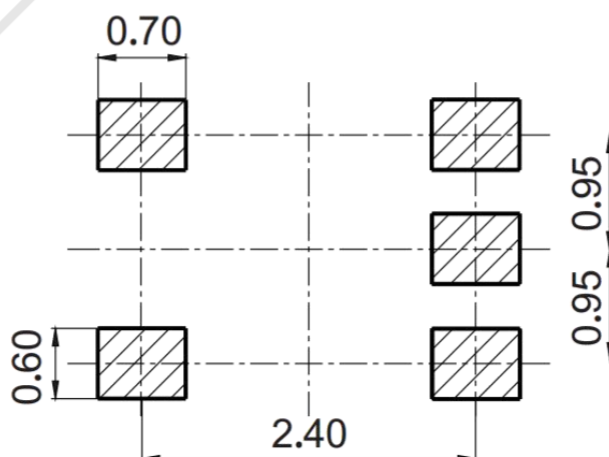
The input (A) to output (Y) propagation delays

Package informantion

SOT23-5 (Unit: mm)

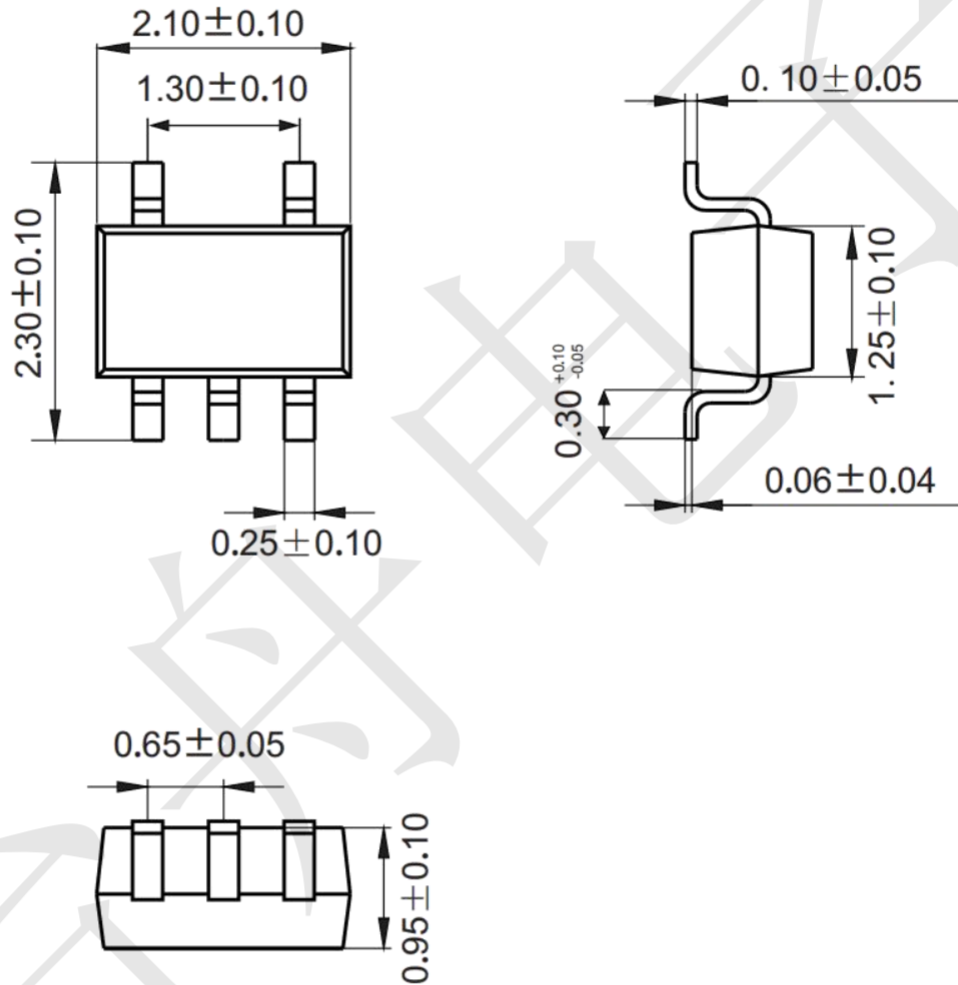


Mounting Pad Layout (unit: mm)



Package information

SOT353 (Unit: mm)



Mounting Pad Layout (unit: mm)

