



# **AiP74HC/HCT4066 Quad Bilateral Switches**

## **Product Specification**

**Specification Revision History:**

<b>Version</b>	<b>Date</b>	<b>Description</b>
2019-12-A1	2019-12	New



## 1、 General Description

The AiP74HC/HCT4066 is a quad single pole, single throw analog switch. Each switch features two input/output terminals (nY and nZ) and an active HIGH enable input (nE). When nE is LOW, the analog switch is turned off. Inputs include clamp diodes. This enables the use of current limiting resistors to interface inputs to voltages in excess of  $V_{CC}$ .

### Features:

- Input levels nE inputs:
  - For AiP74HC4066: CMOS level
  - For AiP74HCT4066: TTL level
- Low ON resistance:
  - 50  $\Omega$  (typical) at  $V_{CC} = 4.5\text{ V}$
  - 45  $\Omega$  (typical) at  $V_{CC} = 6.0\text{ V}$
  - 35  $\Omega$  (typical) at  $V_{CC} = 9.0\text{ V}$
- Specified from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Packaging information: DIP14/SOP14/TSSOP14

**Ordering Information:****Tube packing specifications:**

Type number	Packaging form	Marking code	Tube quantity	Boxed tube quantity	Boxed quantity	Packing box number	Packing quantity	Notes
AiP74HC4066DA.TB	DIP14	74HC4066	25 PCS/tube	40 tube/box	1000 PCS/box	10 box/pack	10000 PCS/pack	Dimensions of plastic enclosure: 19.0mm×6.4mm Pin spacing: 2.54mm
AiP74HCT4066DA.TB	DIP14	74HCT4066	25 PCS/tube	40 tube/box	1000 PCS/box	10 box/pack	10000 PCS/pack	Dimensions of plastic enclosure: 19.0mm×6.4mm Pin spacing: 2.54mm
AiP74HC4066SA.TB	SOP14	74HC4066	50 PCS/tube	200 tube/box	10000 PCS/box	5 box/pack	50000 PCS/pack	Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm
AiP74HCT4066SA.TB	SOP14	74HCT4066	50 PCS/tube	200 tube/box	10000 PCS/box	5 box/pack	50000 PCS/pack	Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm
AiP74HC4066TA.TB	TSSOP14	74HC4066	94 PCS/tube	200 tube/box	18800 PCS/box	10 box/pack	188000 PCS/pack	Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm
AiP74HCT4066TA.TB	TSSOP14	74HCT4066	94 PCS/tube	200 tube/box	18800 PCS/box	10 box/pack	188000 PCS/pack	Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm

**Reel packing specifications:**

Type number	Packaging form	Marking code	Reel quantity	Boxed reel quantity	Packing quantity	Notes
AiP74HC4066SA.TR	SOP14	74HC4066	2500 PCS/reel	5000 PCS/box	40000 PCS/pack	Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm
AiP74HCT4066SA.TR	SOP14	74HCT4066	2500 PCS/reel	5000 PCS/box	40000 PCS/pack	Dimensions of plastic enclosure: 8.7mm×3.9mm Pin spacing: 1.27mm
AiP74HC4066TA.TR	TSSOP14	74HC4066	4000 PCS/reel	8000 PCS/box	64000 PCS/pack	Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm
AiP74HCT4066TA.TR	TSSOP14	74HCT4066	4000 PCS/reel	8000 PCS/box	64000 PCS/pack	Dimensions of plastic enclosure: 5.0mm×4.4mm Pin spacing: 0.65mm

Note: If the physical information is inconsistent with the ordering information, please refer to the actual product.



## 2、Block Diagram And Pin Description

### 2.1、Block Diagram

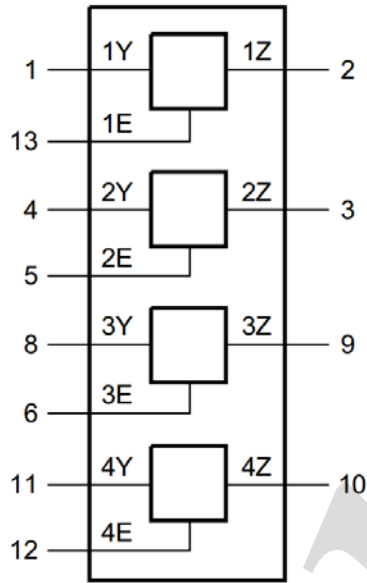


Figure 1. Logic symbol

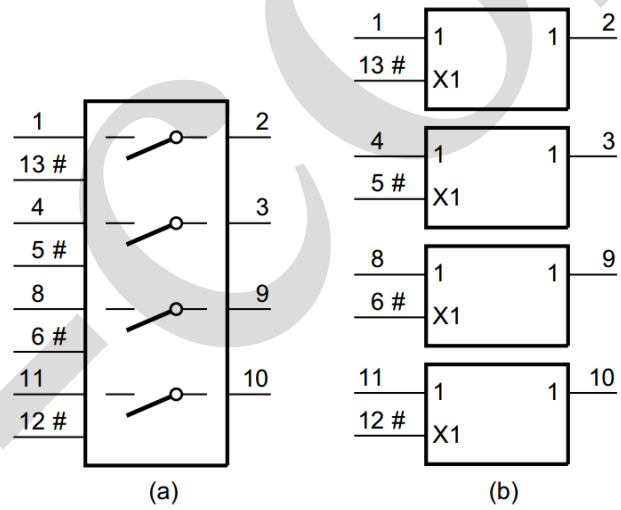


Figure 2. IEC logic symbol

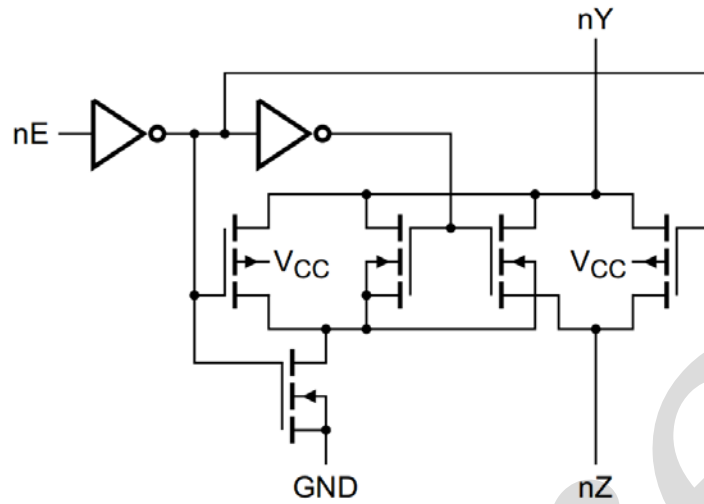


Figure 3. Schematic diagram (one switch)

## 2.2、 Pin Configurations

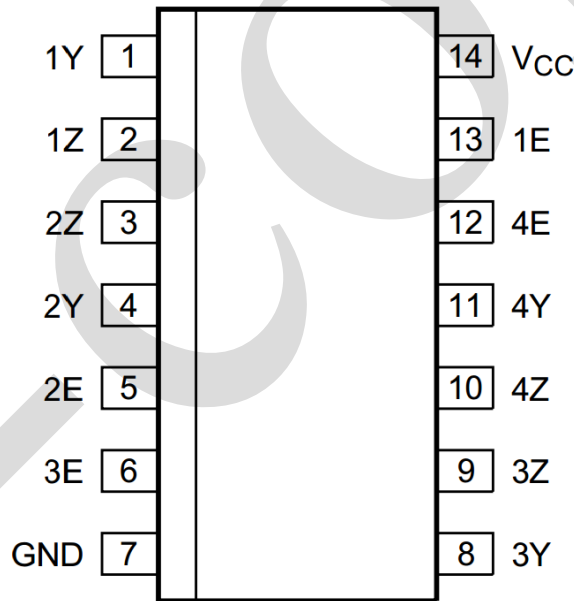


Figure 4. Functional diagram



## 2.3、Pin Description

Pin No.	Pin Name	Description
1	1Y	independent input or output
2	1Z	independent input or output
3	2Z	independent input or output
4	2Y	independent input or output
5	2E	enable input (active HIGH)
6	3E	enable input (active HIGH)
7	GND	ground (0V)
8	3Y	independent input or output
9	3Z	independent input or output
10	4Z	independent input or output
11	4Y	independent input or output
12	4E	enable input (active HIGH)
13	1E	enable input (active HIGH)
14	V <sub>CC</sub>	supply voltage

## 2.4、Function Table

Input	Switch
nE	
H	ON
L	OFF

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

## 3、Electrical Parameter

### 3.1、Absolute Maximum Ratings

(Voltages are referenced to GND (ground=0V), unless otherwise specified.)

Parameter	Symbol	Conditions	Min.	Max.	Unit
supply voltage	V <sub>CC</sub>	- <sup>[1]</sup>	-0.5	+11.0	V
input clamping current	I <sub>IK</sub>	V <sub>I</sub> < -0.5 V or V <sub>I</sub> > V <sub>CC</sub> + 0.5 V	-	±20	mA
switch clamping current	I <sub>SK</sub>	V <sub>SW</sub> < -0.5 V or V <sub>SW</sub> > V <sub>CC</sub> + 0.5 V	-	±20	mA
switch current	I <sub>SW</sub>	V <sub>SW</sub> = -0.5 V to V <sub>CC</sub> + 0.5 V	-	±25	mA
supply current	I <sub>EE</sub>	-	-	±20	mA
supply current	I <sub>CC</sub>	-	-	50	mA
ground current	I <sub>GND</sub>	-	-	-50	mA
storage temperature	T <sub>stg</sub>	-	-65	+150	°C
total power dissipation	P <sub>tot</sub>	- <sup>[2]</sup>	-	500	mW
power dissipation	P	per switch	-	100	mW
Soldering temperature	T <sub>L</sub>	10s	DIP	245	°C
			SOP	250	°C

Note:

[1] To avoid drawing V<sub>CC</sub> current out of terminal Z, when switch current flows into terminals Y<sub>n</sub>, the



voltage drop across the bidirectional switch must not exceed 0.4V. If the switch current flows into terminal Z, no  $V_{CC}$  current will flow out of terminals  $Y_n$ , and in this case there is no limit for the voltage drop across the switch, but the voltages at  $Y_n$  and Z may not exceed  $V_{CC}$  or GND.

[2] For DIP16 packages: above 70°C the value of  $P_{tot}$  derates linearly with 12mW/K.

For SOP16 packages: above 70°C the value of  $P_{tot}$  derates linearly with 8mW/K.

For (T)SSOP16 packages: above 60°C the value of  $P_{tot}$  derates linearly with 5.5mW/K.

### 3.2、 Recommended Operating Conditions

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>AiP74HC4066</b>						
supply voltage	$V_{CC}$	-	3.0	5.0	9.0	V
input voltage	$V_I$	-	0	-	$V_{CC}$	V
switch voltage	$V_{SW}$	-	0	-	$V_{CC}$	V
ambient temperature	$T_{amb}$	-	-40	-	+85	°C
input transition rise and fall rate	$\Delta t/\Delta V$	$V_{CC} = 4.5\text{ V}$	-	1.67	139	ns/V
		$V_{CC} = 6.0\text{ V}$	-	-	83	ns/V
		$V_{CC} = 9.0\text{ V}$	-	-	35	ns/V
<b>AiP74HCT4066</b>						
supply voltage	$V_{CC}$	-	4.5	5.0	5.5	V
input voltage	$V_I$	-	0	-	$V_{CC}$	V
switch voltage	$V_{SW}$	-	GND	-	$V_{CC}$	V
ambient temperature	$T_{amb}$	-	-40	-	+85	°C
input transition rise and fall rate	$\Delta t/\Delta V$	$V_{CC} = 4.5\text{ V}$	-	1.67	139	ns/V
		$V_{CC} = 6.0\text{ V}$	-	-	-	ns/V
		$V_{CC} = 9.0\text{ V}$	-	-	-	ns/V





### 3.3. Electrical Characteristics

#### 3.3.1. DC Characteristics

( $T_{amb} = -40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ , voltages are reference to GND (ground=0V), unless otherwise specified, unless otherwise specified.)

Parameter	Symbol	Conditions	Min.	Typ. <sup>[1]</sup>	Max.	Unit	
ON resistance (peak)	$R_{ON(peak)}$	$V_{is} = V_{CC}$ to GND; $I_{SW} = 1000 \mu\text{A}$	$V_{CC} = 4.5 \text{ V}$	-	54	142	$\Omega$
			$V_{CC} = 6.0 \text{ V}$	-	42	126	$\Omega$
			$V_{CC} = 9.0 \text{ V}$	-	32	105	$\Omega$
ON resistance (rail)	$R_{ON(rail)}$	$V_{is} = \text{GND};$ $I_{SW} = 1000 \mu\text{A}$	$V_{CC} = 4.5 \text{ V}$	-	35	115	$\Omega$
			$V_{CC} = 6.0 \text{ V}$	-	27	100	$\Omega$
			$V_{CC} = 9.0 \text{ V}$	-	20	85	$\Omega$
		$V_{is} = V_{CC};$ $I_{SW} = 1000 \mu\text{A}$	$V_{CC} = 4.5 \text{ V}$	-	42	128	$\Omega$
			$V_{CC} = 6.0 \text{ V}$	-	35	113	$\Omega$
			$V_{CC} = 9.0 \text{ V}$	-	20	95	$\Omega$
ON resistance mismatch between channels	$\Delta R_{ON}$	$V_{is} = V_{CC}$ to GND	$V_{CC} = 4.5 \text{ V}$	-	5	-	$\Omega$
			$V_{CC} = 6.0 \text{ V}$	-	4	-	$\Omega$
			$V_{CC} = 9.0 \text{ V}$	-	3	-	$\Omega$
<b>AiP74HC4066</b>							
HIGH-level input voltage	$V_{IH}$	$V_{CC} = 4.5 \text{ V}$	3.15	2.4	-	V	
		$V_{CC} = 6.0 \text{ V}$	4.2	3.2	-	V	
		$V_{CC} = 9.0 \text{ V}$	6.3	4.7	-	V	
LOW-level input voltage	$V_{IL}$	$V_{CC} = 4.5 \text{ V}$	-	2.1	1.35	V	
		$V_{CC} = 6.0 \text{ V}$	-	2.8	1.80	V	
		$V_{CC} = 9.0 \text{ V}$	-	4.3	2.70	V	
input leakage current	$I_I$	$V_I = V_{CC}$ or GND	$V_{CC} = 6.0 \text{ V}$	-	-	$\pm 1.0$	$\mu\text{A}$
			$V_{CC} = 9.0 \text{ V}$	-	-	$\pm 2.0$	$\mu\text{A}$
OFF-state leakage current	$I_{S(OFF)}$	$V_{CC} = 9.0 \text{ V};$ $V_I = V_{IH}$ or $V_{IL};$ $ V_{SW}  = V_{CC} - \text{GND};$ see Figure 7	per channel	-	-	$\pm 1.0$	$\mu\text{A}$
ON-state leakage current	$I_{S(ON)}$	$V_{CC} = 9.0 \text{ V}; V_I = V_{IH}$ or $V_{IL};$ $ V_{SW}  = V_{CC} - \text{GND};$ see Figure 8		-	-	$\pm 1.0$	$\mu\text{A}$
supply current	$I_{CC}$	$V_I = V_{CC}$ or GND; $V_{is} = \text{GND}$ or $V_{CC};$ $V_{os} = V_{CC}$ or GND	$V_{CC} = 6.0 \text{ V}$	-	-	20.0	$\mu\text{A}$
			$V_{CC} = 9.0 \text{ V}$	-	-	40.0	$\mu\text{A}$
input capacitance	$C_I$	-	-	3.5	-	pF	
switch capacitance	$C_{SW}$	-	-	8	-	pF	
<b>AiP74HCT4066</b>							



HIGH-level input voltage	$V_{IH}$	$V_{CC} = 4.5\text{ V to }5.5\text{ V}$	2.0	1.6	-	V
LOW-level input voltage	$V_{IL}$	$V_{CC} = 4.5\text{ V to }5.5\text{ V}$	-	1.2	0.8	V
input leakage current	$I_I$	$V_I = V_{CC}$ or GND; $V_{CC} = 5.5\text{ V}$	-	-	$\pm 1.0$	$\mu\text{A}$
OFF-state leakage current	$I_{S(OFF)}$	$V_{CC} = 5.5\text{ V};$ $V_I = V_{IH}$ or $V_{IL};$ $ V_{SW}  = V_{CC} - \text{GND};$ see Figure 7	-	-	$\pm 1.0$	$\mu\text{A}$
ON-state leakage current	$I_{S(ON)}$	$V_{CC} = 5.5\text{ V}; V_I = V_{IH}$ or $V_{IL};$ $ V_{SW}  = V_{CC} - \text{GND};$ see Figure 8	-	-	$\pm 1.0$	$\mu\text{A}$
supply current	$I_{CC}$	$V_I = V_{CC}$ or GND; $V_{is} = \text{GND}$ or $V_{CC};$ $V_{os} = V_{CC}$ or GND; $V_{CC} = 4.5\text{ V to }5.5\text{ V}$	-	-	20.0	$\mu\text{A}$
additional supply current	$\Delta I_{CC}$	per input; $V_I = V_{CC} - 2.1\text{ V};$ other inputs at $V_{CC}$ or GND; $V_{CC} = 4.5\text{ V to }5.5\text{ V}$	-	100	450	$\mu\text{A}$
input capacitance	$C_I$	-	-	3.5	-	pF
switch capacitance	$C_{SW}$	-	-	8	-	pF

Note:

[1] All typical values are measured at  $T_{amb} = 25^\circ\text{C}$ .

[2]  $V_I = V_{IH}$  or  $V_{IL}$ ; for test circuit see Figure 5.

[3]  $V_{is}$  is the input voltage at a Yn or Z terminal, whichever is assigned as an input.

[4]  $V_{os}$  is the output voltage at a Yn or Z terminal, whichever is assigned as an output.

### 3.3.2、 AC Characteristics 1

( $T_{amb} = -40^\circ\text{C} \sim +85^\circ\text{C}$ ; GND = 0 V;  $t_r = t_f = 6\text{ ns}$ ;  $C_L = 50\text{ pF}$ ; unless otherwise specified.)

Parameter	Symbol	Conditions	Min.	Typ. <sup>[1]</sup>	Max.	Unit	
<b>AiP74HC4066</b>							
propagation delay	$t_{pd}$	nY to nZ or nZ to nY; $R_L = \infty\ \Omega;$ see Figure 9 <sup>[2]</sup>	$V_{CC} = 4.5\text{ V}$	-	3	15	ns
			$V_{CC} = 6.0\text{ V}$	-	2	13	ns
			$V_{CC} = 9.0\text{ V}$	-	2	10	ns
turn-on time	$t_{on}$	nE to nY or nZ; see Figure 10 <sup>[3]</sup>	$V_{CC} = 4.5\text{ V}$	-	13	25	ns
			$V_{CC} = 5.0\text{ V};$ $C_L = 15\text{ pF}$	-	11	-	ns
			$V_{CC} = 6.0\text{ V}$	-	10	21	ns
			$V_{CC} = 9.0\text{ V}$	-	8	16	ns
turn-off time	$t_{off}$	nE to nY or nZ;	$V_{CC} = 4.5\text{ V}$	-	16	38	ns



		see Figure 10 <sup>[4]</sup>	V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15pF	-	13	-	ns
			V <sub>CC</sub> = 6.0 V	-	13	33	ns
			V <sub>CC</sub> = 9.0 V	-	16	26	ns
power dissipation capacitance	C <sub>PD</sub>	per switch; V <sub>I</sub> = GND to V <sub>CC</sub> <sup>[5]</sup>		-	11	-	pF
<b>AiP74HCT4066</b>							
propagation delay	t <sub>pd</sub>	nY to nZ or nZ to nY; R <sub>L</sub> = ∞ Ω; see Figure 9 <sup>[2]</sup>	V <sub>CC</sub> = 4.5 V	-	3	15	ns
turn-on time	t <sub>on</sub>	nE to nY or nZ; see Figure 10 <sup>[3]</sup>	V <sub>CC</sub> = 4.5 V	-	12	30	ns
			V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15pF	-	12	-	ns
turn-off time	t <sub>off</sub>	nE to nY or nZ; see Figure 10 <sup>[4]</sup>	V <sub>CC</sub> = 4.5 V	-	20	44	ns
			V <sub>CC</sub> = 5.0 V; C <sub>L</sub> = 15pF	-	16	-	ns
power dissipation capacitance	C <sub>PD</sub>	per switch; V <sub>I</sub> = GND to V <sub>CC</sub> -1.5V <sup>[5]</sup>		-	12	-	pF

Note:

[1] All typical values are measured at T<sub>amb</sub> = 25°C.

[2] t<sub>pd</sub> is the same as t<sub>PHL</sub> and t<sub>PLH</sub>.

[3] t<sub>on</sub> is the same as t<sub>PZH</sub> and t<sub>PZL</sub>.

[4] t<sub>off</sub> is the same as t<sub>PHZ</sub> and t<sub>PLZ</sub>.

[5] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> in uW).

$$P_D = C_{PD} \times V_{CC}^2 \times f_i \times N + \sum \{(C_L + C_{SW}) \times V_{CC}^2 \times f_o\} \text{ where:}$$

f<sub>i</sub> = input frequency in MHz;

f<sub>o</sub> = output frequency in MHz;

N = number of inputs switching;

$\sum \{(C_L + C_{SW}) \times V_{CC}^2 \times f_o\}$  = sum of outputs;

C<sub>L</sub> = output load capacitance in pF;

C<sub>SW</sub> = switch capacitance in pF;

V<sub>CC</sub> = supply voltage in V.

[6] For test circuit see Figure 11.

[7] V<sub>is</sub> is the input voltage at a Yn or Z terminal, whichever is assigned as an input.

[8] V<sub>os</sub> is the output voltage at a Yn or Z terminal, whichever is assigned as an output.



### 3.3.3、 AC Characteristics 3

( $T_{amb}= 25^{\circ}\text{C}$ ;  $\text{GND} = 0\text{V}$ ;  $C_L=50\text{pF}$ ; recommended conditions and typical values.)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
total harmonic distortion	THD	$f_i = 1 \text{ kHz}$ ; $R_L = 10\text{k}\Omega$ ; $C_L = 50\text{pF}$ ; see Figure 12	$V_{CC} = 4.5 \text{ V}$ ; $V_I = 4.0 \text{ V}$ (p-p)	-	0.04	-	%
			$V_{CC} = 9.0 \text{ V}$ ; $V_I = 8.0 \text{ V}$ (p-p)	-	0.02	-	%
		$f_i = 1 \text{ kHz}$ ; $R_L = 10\text{k}\Omega$ ; $C_L = 50\text{pF}$ ; see Figure 12	$V_{CC} = 4.5 \text{ V}$ ; $V_I = 4.0 \text{ V}$ (p-p)	-	0.12	-	%
			$V_{CC} = 9.0 \text{ V}$ ; $V_I = 8.0 \text{ V}$ (p-p)	-	0.06	-	%
isolation (OFF-state)	$\alpha_{iso}$	$R_L = 600 \Omega$ ; $C_L = 50\text{pF}$ ; $f_i = 1 \text{ MHz}$ ; see Figure 13 <sup>[1]</sup>	$V_{CC} = 4.5 \text{ V}$	-	-50	-	dB
			$V_{CC} = 9.0 \text{ V}$	-	-50	-	dB
-3 dB frequency response	$f_{(-3\text{dB})}$	$R_L = 50\Omega$ ; $C_L = 10\text{pF}$ ; see Figure 14 <sup>[2]</sup>	$V_{CC} = 4.5 \text{ V}$	-	180	-	dB
			$V_{CC} = 9.0 \text{ V}$	-	200	-	dB
crosstalk voltage	$V_{ct}$	between digital input and switch (peak to peak value); $R_L = 600\Omega$ ; $C_L = 50\text{pF}$ ; $f_i = 1\text{MHz}$ ; see Figure 15	$V_{CC} = 4.5 \text{ V}$	-	110	-	mV
			$V_{CC} = 9.0 \text{ V}$	-	220	-	mV
crosstalk	Xtalk	between switches; $R_L = 600\Omega$ ; $C_L = 50\text{pF}$ ; $f_i = 1 \text{ MHz}$ ; see Figure 16 <sup>[1]</sup>	$V_{CC} = 4.5 \text{ V}$	-	-60	-	dB
			$V_{CC} = 9.0 \text{ V}$	-	-60	-	dB

Note:

[1] Adjust input voltage  $V_{is}$  to 0 dBm level (0 dBm = 1 mW into 600  $\Omega$ ).

[2] Adjust input voltage  $V_{is}$  to 0 dBm level at  $V_{os}$  for 1 MHz (0 dBm = 1 mW into 50  $\Omega$ ). After set-up,  $f_i$  is increased to obtain a reading of -3dB at  $V_{os}$ .

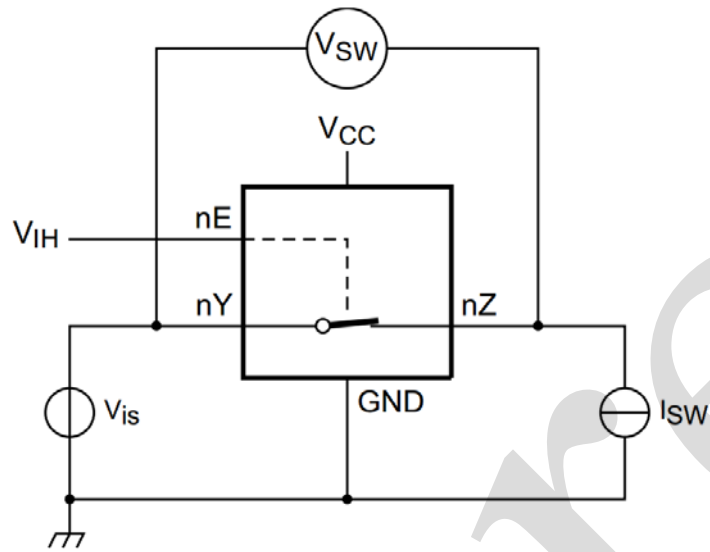
[3]  $V_{is}$  is the input voltage at a Yn or Z terminal, whichever is assigned as an input.

[4]  $V_{os}$  is the output voltage at a Yn or Z terminal, whichever is assigned as an output.



#### 4、 Testing Circuit

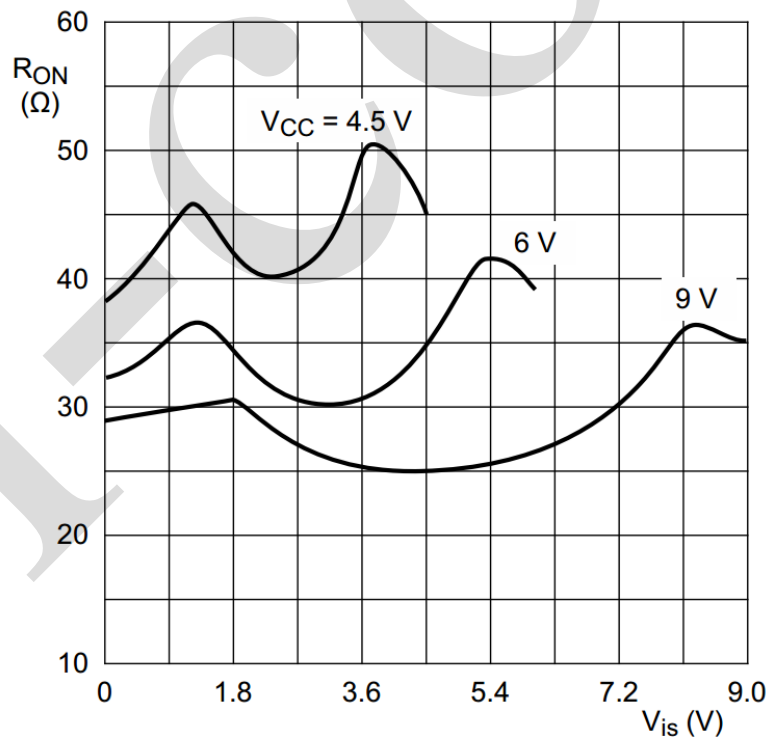
##### 4.1、 DC Testing Circuit 1



$$V_{is} = 0V \text{ to } V_{CC}$$

$$R_{ON} = V_{sw}/I_{sw}$$

Figure 5. Test circuit for measuring  $R_{ON}$

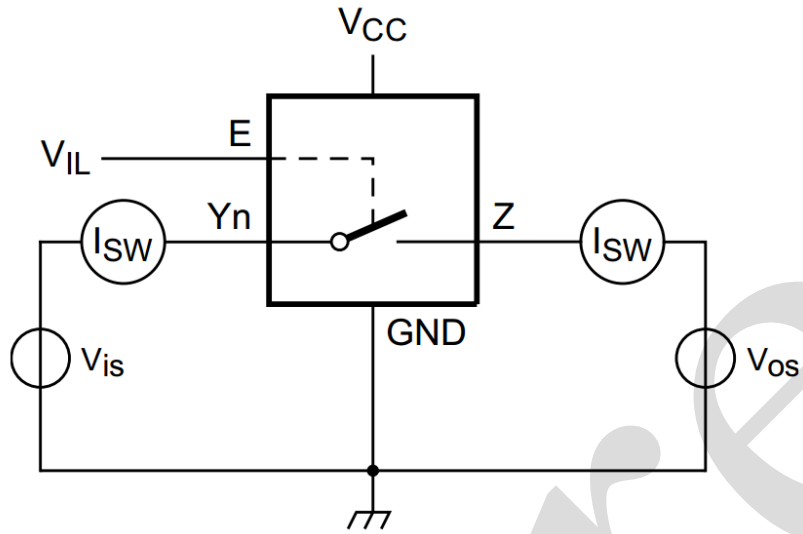


$$V_{is} = 0V \text{ to } V_{CC}$$

Figure 6. Typical  $R_{ON}$  as a function of input voltage  $V_{is}$



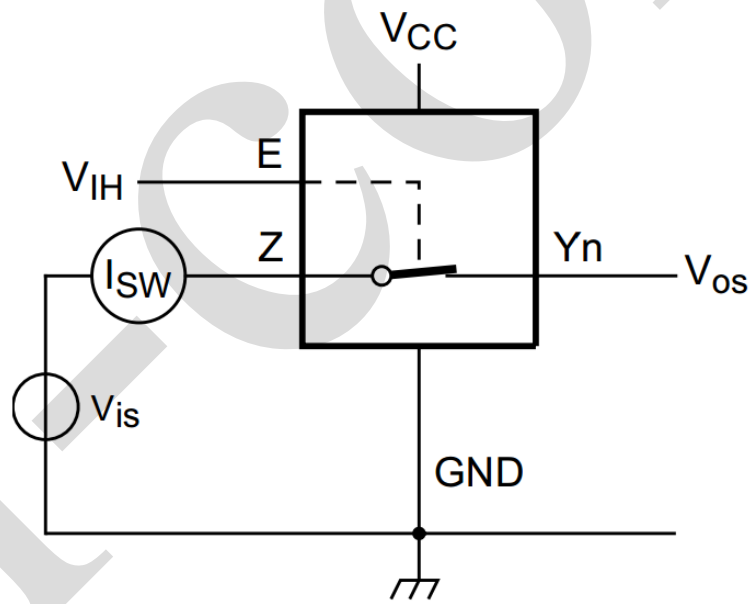
4.2、DC Testing Circuit 2



$V_{is} = V_{CC}$  and  $V_{os} = GND$ .

$V_{is} = GND$  and  $V_{os} = V_{CC}$ .

Figure 7. Test circuit for measuring OFF-state leakage current



$V_{is} = V_{CC}$  and  $V_{os} = open$

$V_{is} = GND$  and  $V_{os} = open$

Figure 8. Test circuit for measuring ON-state leakage current



4.3、 AC Testing Waveforms

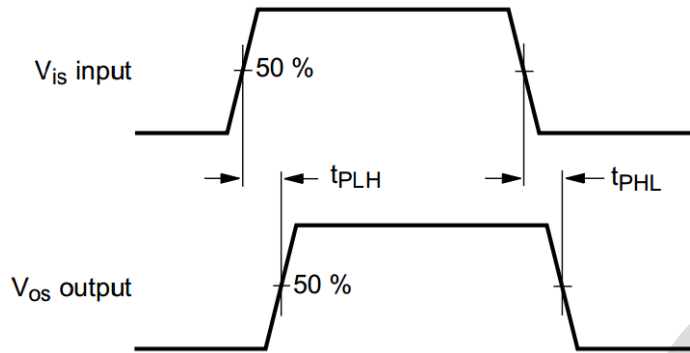


Figure 9. Input ( $V_{is}$ ) to output ( $V_{os}$ ) propagation delays

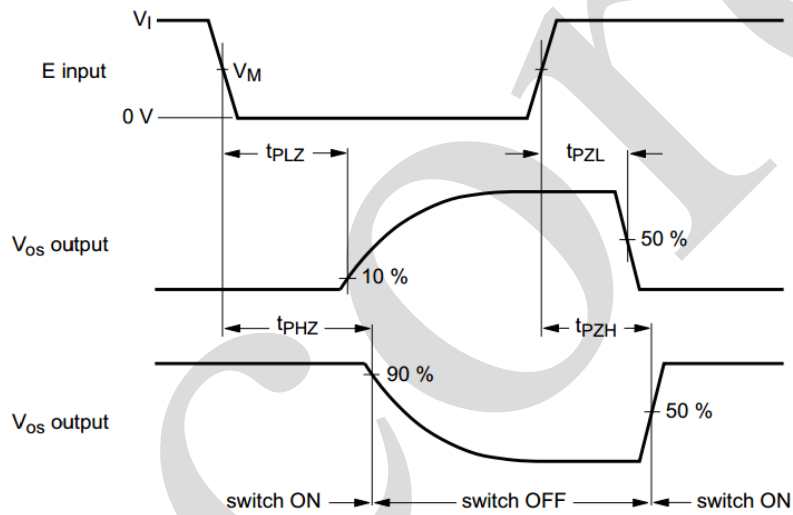


Figure 10. Turn-on and turn-off times

4.4、 Measurement Points

Type	$V_I$	$V_M$
AiP74HC4066	$V_{CC}$	$0.5V_{CC}$
AiP74HCT4066	3.0V	1.3V



## 4.5、 AC Testing Circuit 1

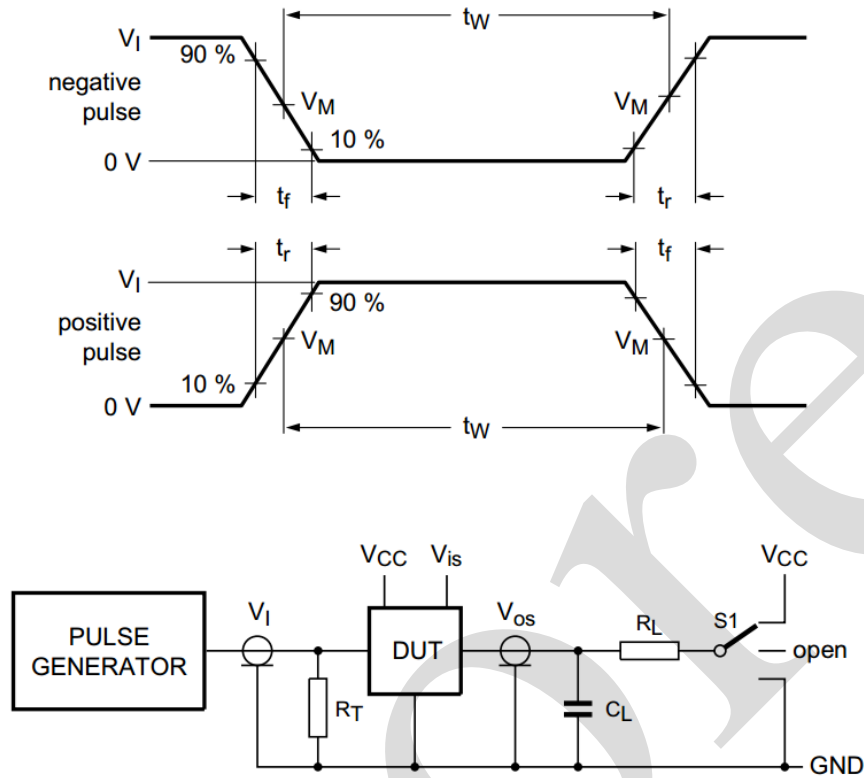


Figure 11. Test circuit for measuring switching times

Definitions for test circuit:

$R_T$  = termination resistance should be equal to the output impedance  $Z_O$  of the pulse generator.

$C_L$  = load capacitance including jig and probe capacitance.

$R_L$  = load resistance.

S1 = Test selection switch.

## 4.6、 Test Data

Test	Input			Output		S1 position
	Control E	Switch Yn (Z)	$t_r, t_f$	Switch Z (Yn)		
	$V_I^{[1]}$	$V_{is}$		$C_L$	$R_L$	
$t_{PHL}, t_{PLH}$	GND	GND to $V_{CC}$	6ns	50pF	-	open
$t_{PZH}, t_{PHZ}$	GND to $V_{CC}$	$V_{CC}$	6ns	50pF, 15pF	1k $\Omega$	GND
$t_{PZL}, t_{PLZ}$	GND to $V_{CC}$	GND	6ns	50pF, 15pF	1k $\Omega$	$V_{CC}$

Note:

[1] For AiP74HCT4066: maximum input voltage  $V_I = 3.0V$ .





4.7、AC Testing Circuit 2

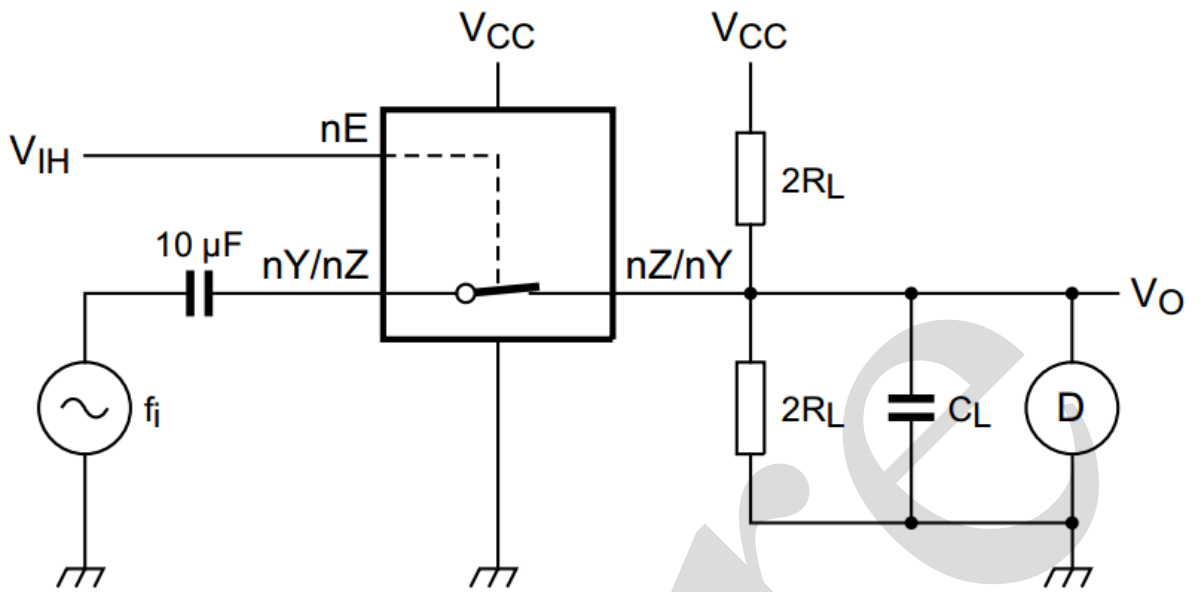
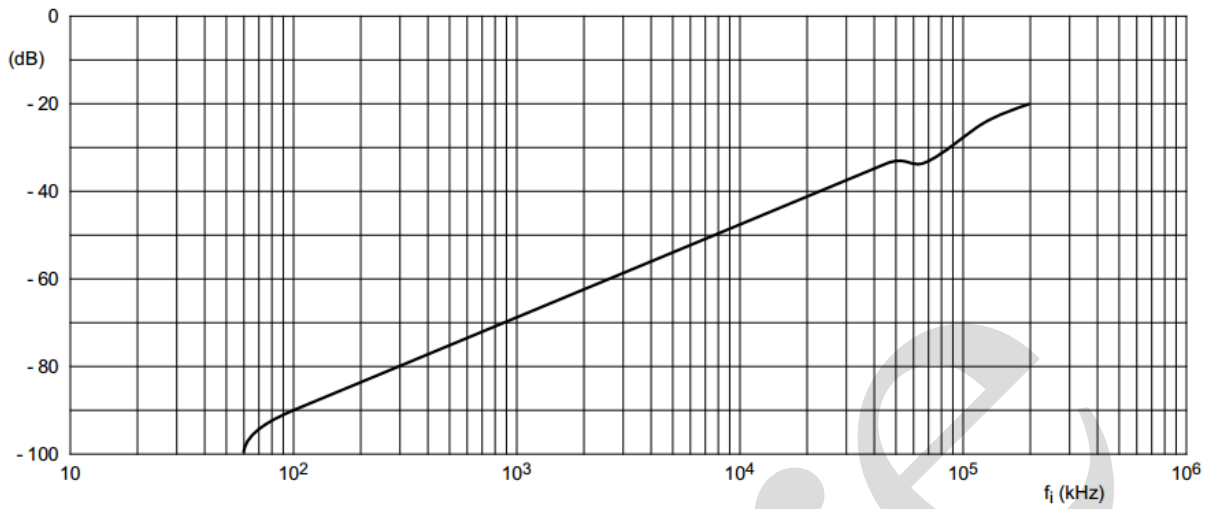
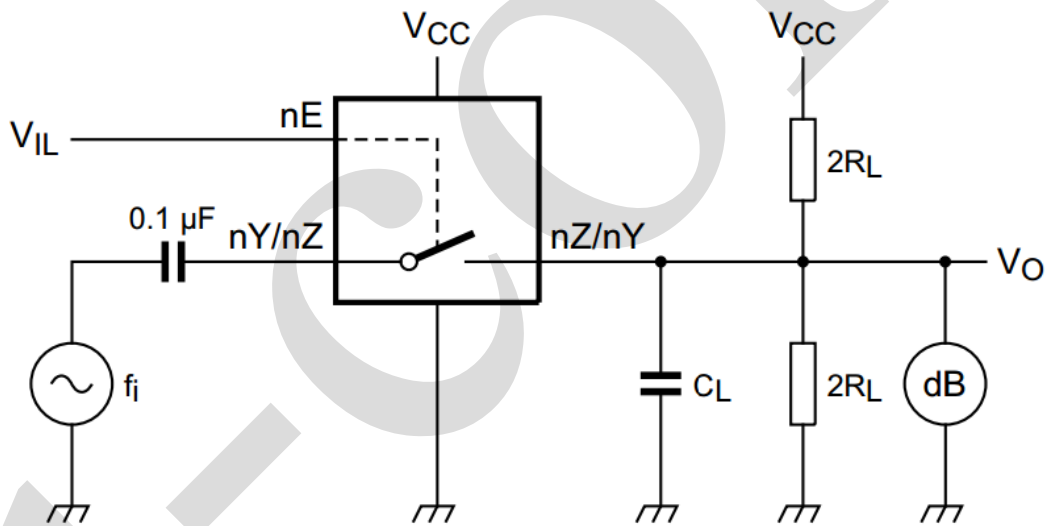


Figure 12. Test circuit for measuring total harmonic distortion.



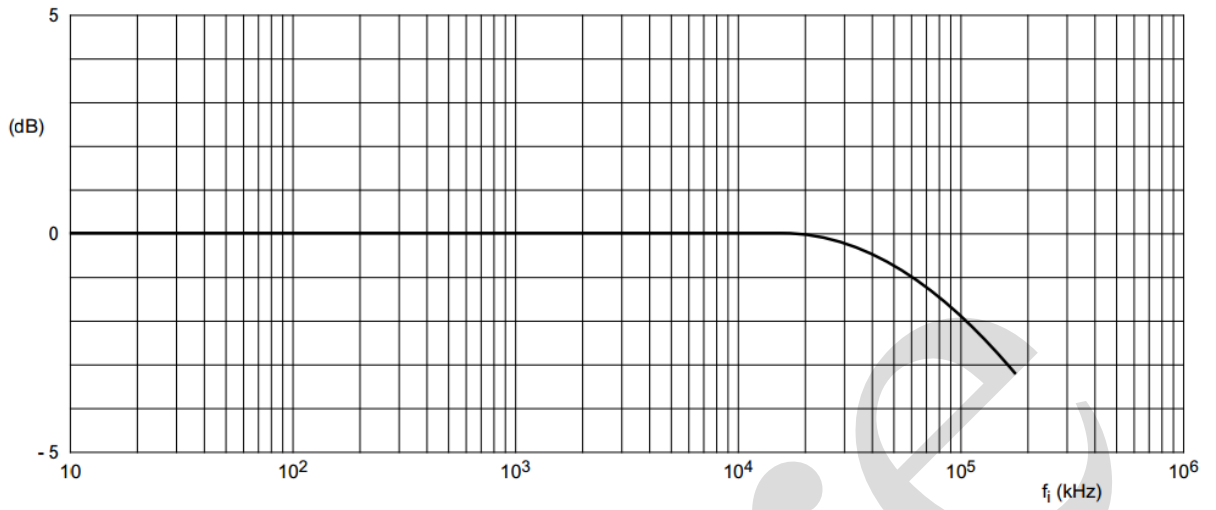
a. Isolation (OFF-state)



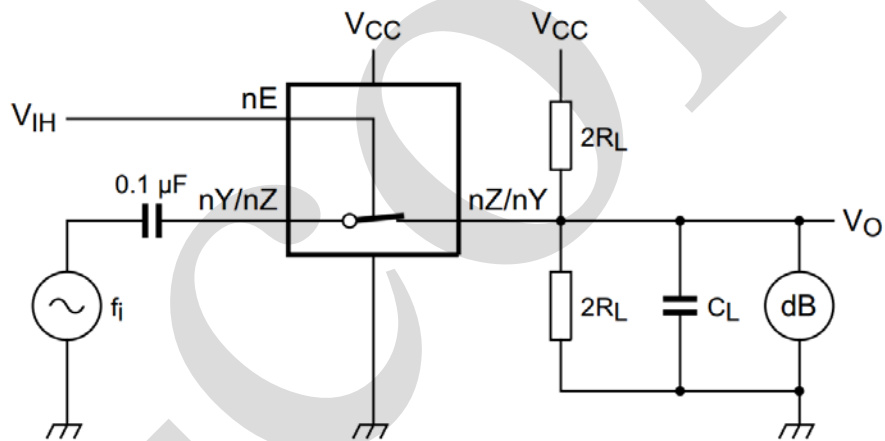
$V_{CC} = 4.5 \text{ V}$ ;  $GND = 0 \text{ V}$ ;  $R_L = 600 \Omega$ ;  $R_{source} = 1 \text{ k}\Omega$ .

b. Test circuit

Figure 13. Isolation (OFF-state) as a function of frequency



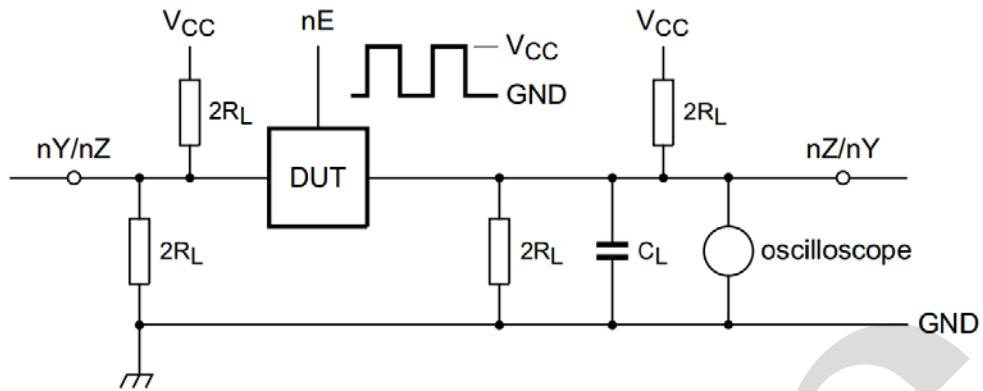
a. Typical -3dB frequency response



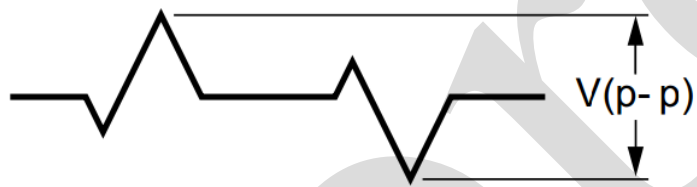
$V_{CC} = 4.5 \text{ V}$ ;  $\text{GND} = 0 \text{ V}$ ;  $R_L = 50 \Omega$ ;  $R_{\text{source}} = 1 \text{ k}\Omega$ .

b. Test circuit

Figure 14. -3 dB frequency response



a. Circuit



b. Crosstalk voltage

Figure 15. Test circuit for measuring crosstalk voltage (between the digital input and the switch)

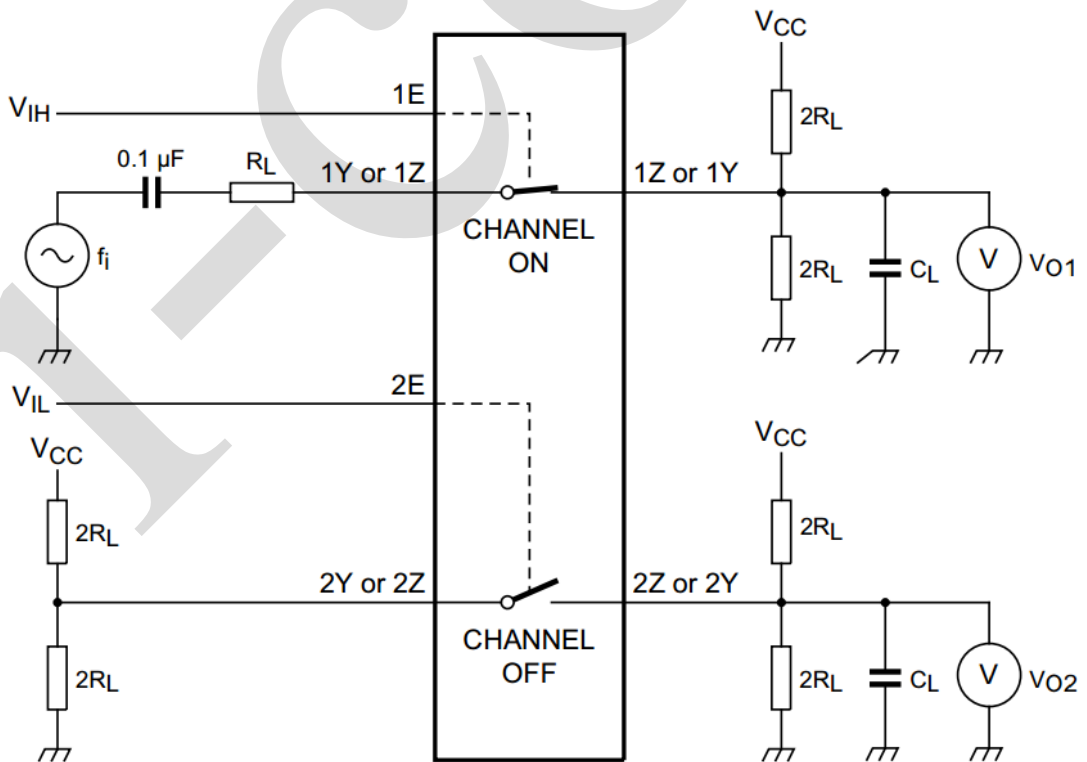
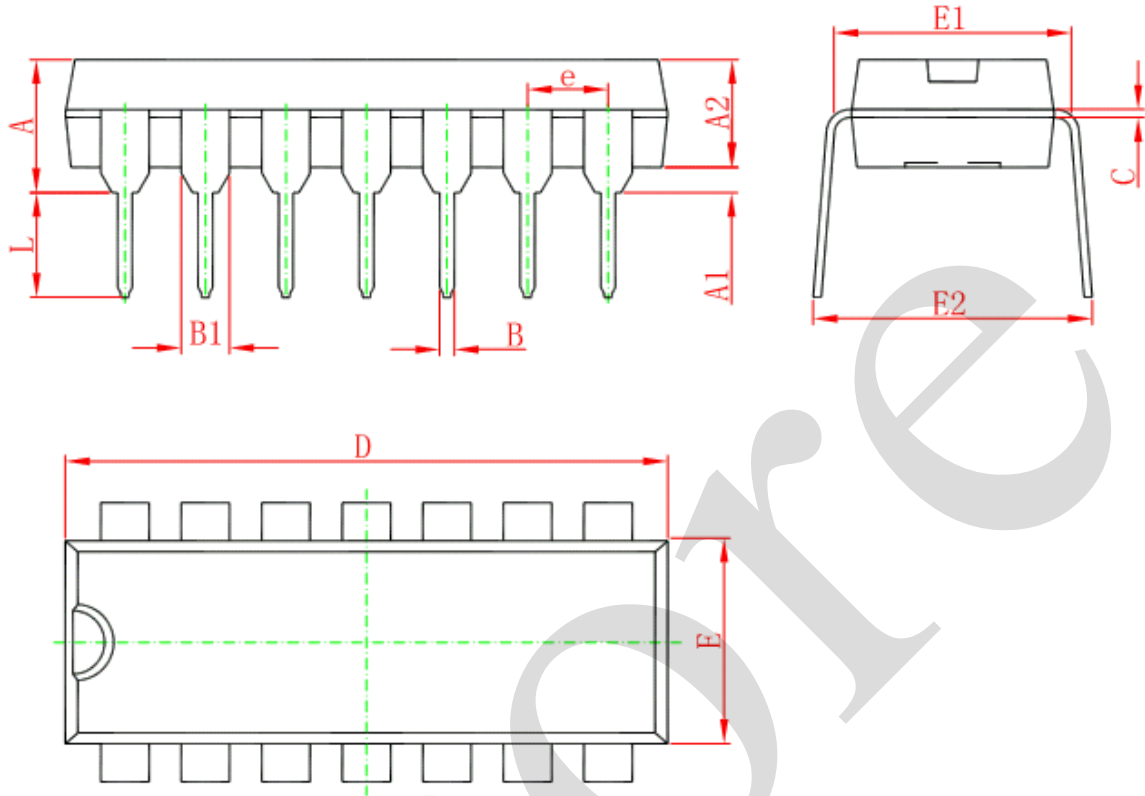


Figure 16. Test circuit for measuring crosstalk (between the switches)



## 5、Package Information

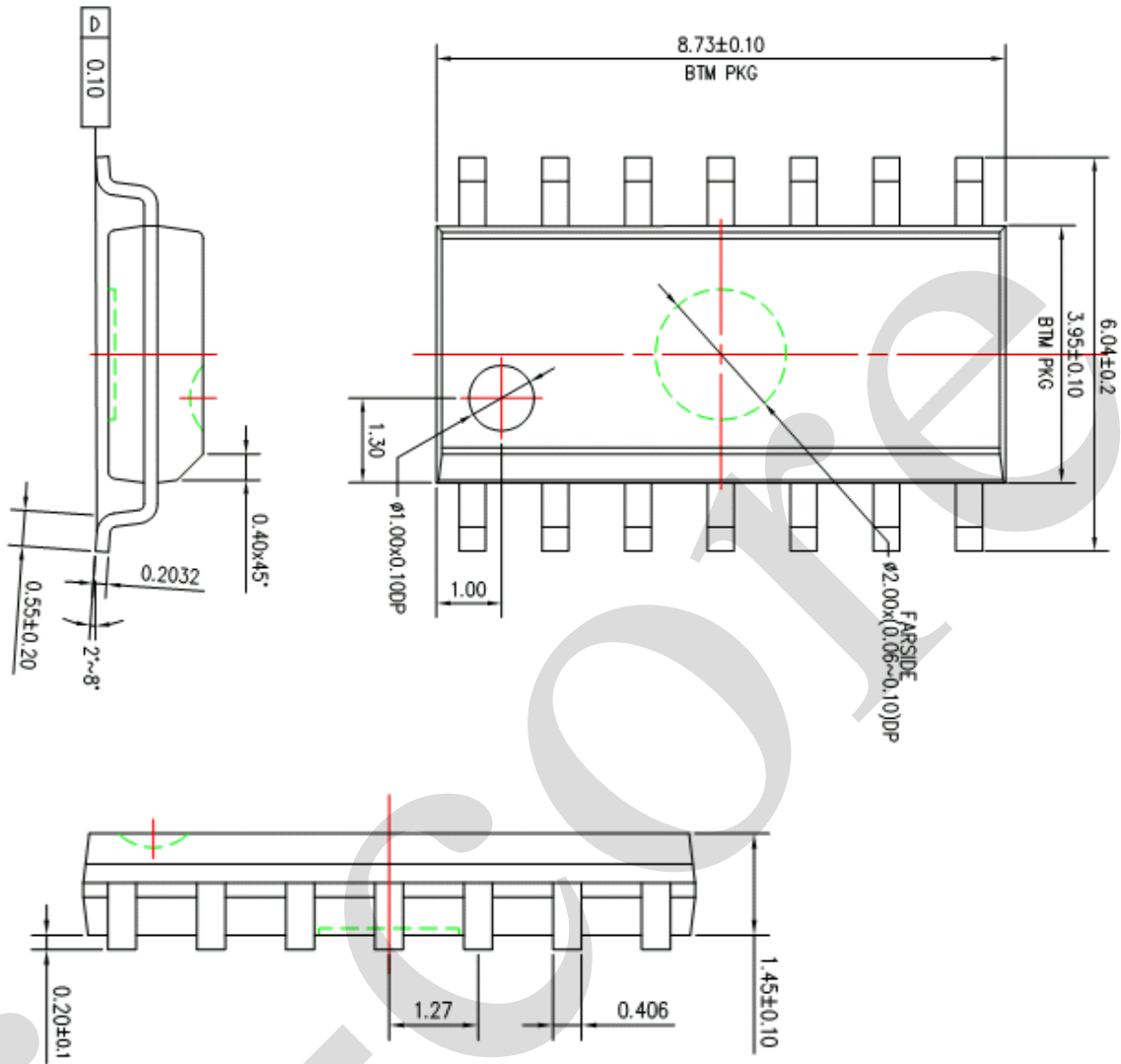
### 5.1、DIP14



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.710	4.310	0.146	0.170
A1	0.510		0.020	
A2	3.200	3.600	0.126	0.142
B	0.380	0.570	0.015	0.022
B1	1.524 (BSC)		0.060 (BSC)	
C	0.204	0.360	0.008	0.014
D	18.800	19.200	0.740	0.756
E	6.200	6.600	0.244	0.260
E1	7.320	7.920	0.288	0.312
e	2.540 (BSC)		0.100 (BSC)	
L	3.000	3.600	0.118	0.142
E2	8.400	9.000	0.331	0.354

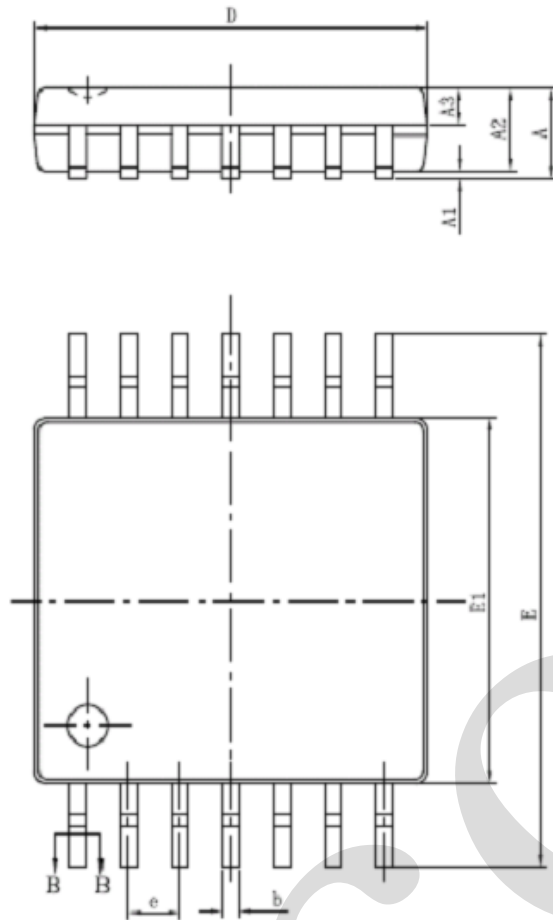


5.2、SOP14

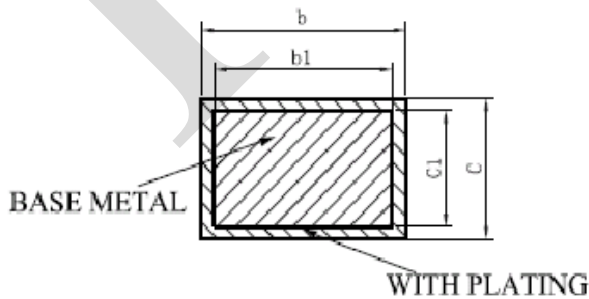
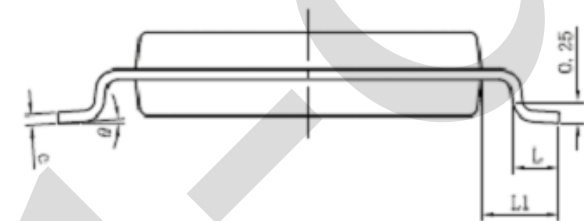




## 5.3、TSSOP14



SYMBOL	MILLIMETER	
	MIN	MAX
A	—	1.20
A1	0.05	0.15
A2	0.90	1.05
A3	0.39	0.49
b	0.20	0.30
b1	0.19	0.25
c	0.13	0.19
c1	0.12	0.14
D	4.86	5.06
E1	4.30	4.50
E	6.20	6.60
e	0.65BSC	
L	0.45	0.75
L1	1.00BSC	
$\theta$	0	8°



SECTION B-B



## 6、 Statements And Notes

### 6.1、 The name and content of Hazardous substances or Elements in the product

Part name	Hazardous substances or Elements									
	Lead and lead compounds	Mercury and mercury compounds	Cadmium and cadmium compounds	Hexavalent chromium compounds	Polybrominated biphenyls	Polybrominated biphenyl ethers	Dibutyl phthalate	Butylbenzyl phthalate	Di-2-ethylhexyl phthalate	Diisobutyl phthalate
Lead frame	○	○	○	○	○	○	○	○	○	○
Plastic resin	○	○	○	○	○	○	○	○	○	○
Chip	○	○	○	○	○	○	○	○	○	○
The lead	○	○	○	○	○	○	○	○	○	○
Plastic sheet installed	○	○	○	○	○	○	○	○	○	○
explanation	○: Indicates that the content of hazardous substances or elements in the detection limit of the following the SJ/T11363-2006 standard. ×: Indicates that the content of hazardous substances or elements exceeding the SJ/T11363-2006 Standard limit requirements.									

### 6.2、 Notion

Recommended carefully reading this information before the use of this product;

The information in this document are subject to change without notice;

This information is using to the reference only, the company is not responsible for any loss;

The company is not responsible for the any infringement of the third party patents or other rights of the responsibility.