



AiP74AUP1G08

Low Power Single 2-input And Gate

Product Specification

Specification Revision History:

Version	Date	Description
2020-12-A1	2020-12	New
2021-09-A2	2021-09	Add Packaging Information SOT23-5; Modify ambient temperature to -40°C~+105°C and add electrical characteristics of -40°C~+105°C
2021-10-A3	2021-10	Modify Ordering Information



1、 General Description

The AiP74AUP1G08 provides the single 2-input AND function.

This device ensures a very low static and dynamic power consumption across the entire V_{CC} range from 0.8V to 3.6V.

This device is fully specified for partial Power-down applications using I_{OFF} . The I_{OFF} circuitry disables the output, preventing the damaging backflow current through the device when it is powered down.

Features:

- Wide supply voltage range from 0.8V to 3.6V
- Low static power consumption; $I_{CC}=0.9\mu A$ (maximum)
- Inputs accept voltages up to 3.6V
- I_{OFF} circuitry provides partial Power-down mode operation
- Specified from $-40^{\circ}C$ to $+105^{\circ}C$
- Packaging information: SOT23-5/SOT353

Ordering Information:

Reel packing specifications:

Type number	Packaging form	Marking code	Reel quantity	Boxed reel quantity	Packing quantity	Notes
AiP74AUP1G08GB.TR	SOT23-5	CTXX	3000PCS/reel	30000PCS/box	120000PCS/pack	Dimensions of plastic enclosure: 2.9mm×1.6mm Pin spacing: 0.95mm
AiP74AUP1G08GC.TR	SOT353	CTXX	3000PCS/reel	30000PCS/box	120000PCS/pack	Dimensions of plastic enclosure: 2.1mm×1.3mm Pin spacing: 0.65mm

Note: "XX" refers to variable content, meaning year and month.

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

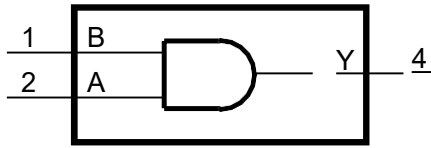


Figure 1. Logic symbol



Figure 2. IEC logic symbol

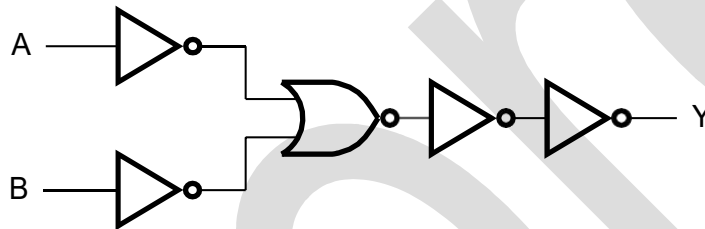
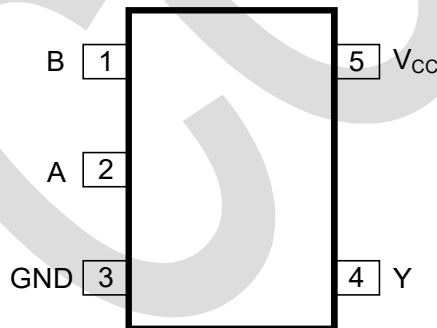


Figure 3. Logic diagram

2.2、Pin Configurations



2.3、Pin Description

Pin No.	Pin Name	Description
1	B	data input
2	A	data input
3	GND	ground(0V)
4	Y	data output
5	V _{cc}	supply voltage



2.4、Function Table

Input		Output
A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

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

3、Electrical Parameter

3.1、Absolute Maximum Ratings

($T_{amb}=25^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified)

Characteristic	Symbol	Conditions	Min.	Max.	Unit
supply voltage	V_{CC}	-	-0.5	+4.6	V
input clamping current	I_{IK}	$V_I < 0\text{V}$	-50	-	mA
input voltage	V_I	- ^[1]	-0.5	+4.6	V
output clamping current	I_{OK}	$V_O < 0\text{V}$	-	± 20	mA
output voltage	V_O	Active mode and Power-down mode ^[1]	-0.5	+4.6	V
output current	I_O	$V_O = 0\text{V to } V_{CC}$	-	± 20	mA
supply current	I_{CC}	-	-	+50	mA
ground current	I_{GND}	-	-50	-	mA
storage temperature	T_{stg}	-	-65	+150	$^{\circ}\text{C}$
total power dissipation	P_{tot}	- ^[2]	-	250	mW
soldering temperature	T_L	-	250		$^{\circ}\text{C}$

Note:

[1] The minimum input and output voltage ratings may be exceeded if the input and output current ratings are observed.

[2] For SOT353 packages: above 87.5°C the value of P_{tot} derates linearly with 4.0mW/K .

3.2、Recommended Operating Conditions

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
supply voltage	V_{CC}	-	0.8	-	3.6	V
input voltage	V_I	-	0	-	3.6	V
output voltage	V_O	Active mode	0	-	V_{CC}	V
		Power-down mode; $V_{CC}=0\text{V}$	0	-	3.6	V
ambient temperature	T_{amb}	-	-40	-	+105	$^{\circ}\text{C}$
input transition rise and fall rate	$\Delta t/\Delta V$	$V_{CC}=0.8\text{V to } 3.6\text{V}$	0	-	200	ns/V



3.3 、Electrical Characteristics

3.3.1 、DC Characteristics 1

($T_{amb}=25^{\circ}C$, voltages are referenced to GND (ground=0V), unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
HIGH-level input voltage	V_{IH}	$V_{CC}=0.8V$	$0.70 \times V_{CC}$	-	-	V	
		$V_{CC}=0.9V$ to $1.95V$	$0.65 \times V_{CC}$	-	-	V	
		$V_{CC}=2.3V$ to $2.7V$	1.6	-	-	V	
		$V_{CC}=3.0V$ to $3.6V$	2.0	-	-	V	
LOW-level input voltage	V_{IL}	$V_{CC}=0.8V$	-	-	$0.30 \times V_{CC}$	V	
		$V_{CC}=0.9V$ to $1.95V$	-	-	$0.35 \times V_{CC}$	V	
		$V_{CC}=2.3V$ to $2.7V$	-	-	0.7	V	
		$V_{CC}=3.0V$ to $3.6V$	-	-	0.9	V	
HIGH-level output voltage	V_{OH}	$V_I=V_{IH}$ or V_{IL}	$I_O=-20\mu A$; $V_{CC}=0.8V$ to $3.6V$	$V_{CC}-0.1$	-	-	V
			$I_O=-1.1mA$; $V_{CC}=1.1V$	$0.75 \times V_{CC}$	-	-	V
			$I_O=-1.7mA$; $V_{CC}=1.4V$	1.11	-	-	V
			$I_O=-1.9mA$; $V_{CC}=1.65V$	1.32	-	-	V
			$I_O=-2.3mA$; $V_{CC}=2.3V$	2.05	-	-	V
			$I_O=-3.1mA$; $V_{CC}=2.3V$	1.9	-	-	V
			$I_O=-2.7mA$; $V_{CC}=3.0V$	2.72	-	-	V
			$I_O=-4.0mA$; $V_{CC}=3.0V$	2.6	-	-	V
LOW-level output voltage	V_{OL}	$V_I=V_{IH}$ or V_{IL}	$I_O=20\mu A$; $V_{CC}=0.8V$ to $3.6V$	-	-	0.1	V
			$I_O=1.1mA$; $V_{CC}=1.1V$	-	-	$0.3 \times V_{CC}$	V
			$I_O=1.7mA$; $V_{CC}=1.4V$	-	-	0.31	V
			$I_O=1.9mA$; $V_{CC}=1.65V$	-	-	0.31	V
			$I_O=2.3mA$; $V_{CC}=2.3V$	-	-	0.31	V
			$I_O=3.1mA$; $V_{CC}=2.3V$	-	-	0.44	V
			$I_O=2.7mA$; $V_{CC}=3.0V$	-	-	0.31	V
			$I_O=4.0mA$; $V_{CC}=3.0V$	-	-	0.44	V
input leakage current	I_I	$V_I=GND$ to $3.6V$; $V_{CC}=0V$ to $3.6V$	-	-	± 0.1	μA	
power-off leakage current	I_{OFF}	V_I or $V_O=0V$ to $3.6V$; $V_{CC}=0V$	-	-	± 0.2	μA	
additional power-off leakage current	ΔI_{OFF}	V_I or $V_O=0V$ to $3.6V$; $V_{CC}=0V$ to $0.2V$	-	-	± 0.2	μA	
supply current	I_{CC}	$V_I=GND$ or V_{CC} ; $I_O=0A$; $V_{CC}=0.8V$ to $3.6V$	-	-	0.5	μA	
additional supply current	ΔI_{CC}	$V_I=V_{CC}-0.6V$; $I_O=0A$; $V_{CC}=3.3V^{[1]}$	-	-	40	μA	
input capacitance	C_I	$V_{CC}=0V$ to $3.6V$; $V_I=GND$ or V_{CC}	-	0.8	-	pF	
output capacitance	C_O	$V_O=GND$; $V_{CC}=0V$	-	1.7	-	pF	



Note:

[1] One input at $V_{CC}-0.6V$, other input at V_{CC} or GND.

3.3.2 、 DC Characteristics 2

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
HIGH-level input voltage	V_{IH}	$V_{CC}=0.8V$	$0.70 \times V_{CC}$	-	-	V	
		$V_{CC}=0.9V$ to $1.95V$	$0.65 \times V_{CC}$	-	-	V	
		$V_{CC}=2.3V$ to $2.7V$	1.6	-	-	V	
		$V_{CC}=3.0V$ to $3.6V$	2.0	-	-	V	
LOW-level input voltage	V_{IL}	$V_{CC}=0.8V$	-	-	$0.30 \times V_{CC}$	V	
		$V_{CC}=0.9V$ to $1.95V$	-	-	$0.35 \times V_{CC}$	V	
		$V_{CC}=2.3V$ to $2.7V$	-	-	0.7	V	
		$V_{CC}=3.0V$ to $3.6V$	-	-	0.9	V	
HIGH-level output voltage	V_{OH}	$V_I=V_{IH}$ or V_{IL}	$I_O=-20\mu A$; $V_{CC}=0.8V$ to $3.6V$	$V_{CC}-0.1$	-	-	V
			$I_O=-1.1mA$; $V_{CC}=1.1V$	$0.7 \times V_{CC}$	-	-	V
			$I_O=-1.7mA$; $V_{CC}=1.4V$	1.03	-	-	V
			$I_O=-1.9mA$; $V_{CC}=1.65V$	1.30	-	-	V
			$I_O=-2.3mA$; $V_{CC}=2.3V$	1.97	-	-	V
			$I_O=-3.1mA$; $V_{CC}=2.3V$	1.85	-	-	V
			$I_O=-2.7mA$; $V_{CC}=3.0V$	2.67	-	-	V
			$I_O=-4.0mA$; $V_{CC}=3.0V$	2.55	-	-	V
LOW-level output voltage	V_{OL}	$V_I=V_{IH}$ or V_{IL}	$I_O=20\mu A$; $V_{CC}=0.8V$ to $3.6V$	-	-	0.1	V
			$I_O=1.1mA$; $V_{CC}=1.1V$	-	-	$0.3 \times V_{CC}$	V
			$I_O=1.7mA$; $V_{CC}=1.4V$	-	-	0.37	V
			$I_O=1.9mA$; $V_{CC}=1.65V$	-	-	0.35	V
			$I_O=2.3mA$; $V_{CC}=2.3V$	-	-	0.33	V
			$I_O=3.1mA$; $V_{CC}=2.3V$	-	-	0.45	V
			$I_O=2.7mA$; $V_{CC}=3.0V$	-	-	0.33	V
			$I_O=4.0mA$; $V_{CC}=3.0V$	-	-	0.45	V
input leakage current	I_I	$V_I=GND$ to $3.6V$; $V_{CC}=0V$ to $3.6V$	-	-	± 0.5	μA	
power-off leakage current	I_{OFF}	V_I or $V_O=0V$ to $3.6V$; $V_{CC}=0V$	-	-	± 0.5	μA	
additional power-off leakage current	ΔI_{OFF}	V_I or $V_O=0V$ to $3.6V$; $V_{CC}=0V$ to $0.2V$	-	-	± 0.6	μA	
supply current	I_{CC}	$V_I=GND$ or V_{CC} ; $I_O=0A$; $V_{CC}=0.8V$ to $3.6V$	-	-	0.9	μA	
additional supply current	ΔI_{CC}	$V_I=V_{CC}-0.6V$; $I_O=0A$; $V_{CC}=3.3V^{[1]}$	-	-	50	μA	

Note:

[1] One input at $V_{CC}-0.6V$, other input at V_{CC} or GND.



3.3.3、DC Characteristics 3

($T_{amb} = -40^{\circ}\text{C}$ to $+105^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
HIGH-level input voltage	V_{IH}	$V_{CC}=0.8\text{V}$	$0.75 \times V_{CC}$	-	-	V	
		$V_{CC}=0.9\text{V}$ to 1.95V	$0.70 \times V_{CC}$	-	-	V	
		$V_{CC}=2.3\text{V}$ to 2.7V	1.6	-	-	V	
		$V_{CC}=3.0\text{V}$ to 3.6V	2.0	-	-	V	
LOW-level input voltage	V_{IL}	$V_{CC}=0.8\text{V}$	-	-	$0.25 \times V_{CC}$	V	
		$V_{CC}=0.9\text{V}$ to 1.95V	-	-	$0.30 \times V_{CC}$	V	
		$V_{CC}=2.3\text{V}$ to 2.7V	-	-	0.7	V	
		$V_{CC}=3.0\text{V}$ to 3.6V	-	-	0.9	V	
HIGH-level output voltage	V_{OH}	$V_I = V_{IH}$ or V_{IL}	$I_O = -20\mu\text{A}$; $V_{CC} = 0.8\text{V}$ to 3.6V	$V_{CC} - 0.11$	-	-	V
			$I_O = -1.1\text{mA}$; $V_{CC} = 1.1\text{V}$	$0.6 \times V_{CC}$	-	-	V
			$I_O = -1.7\text{mA}$; $V_{CC} = 1.4\text{V}$	0.93	-	-	V
			$I_O = -1.9\text{mA}$; $V_{CC} = 1.65\text{V}$	1.17	-	-	V
			$I_O = -2.3\text{mA}$; $V_{CC} = 2.3\text{V}$	1.77	-	-	V
			$I_O = -3.1\text{mA}$; $V_{CC} = 2.3\text{V}$	1.67	-	-	V
			$I_O = -2.7\text{mA}$; $V_{CC} = 3.0\text{V}$	2.40	-	-	V
			$I_O = -4.0\text{mA}$; $V_{CC} = 3.0\text{V}$	2.30	-	-	V
LOW-level output voltage	V_{OL}	$V_I = V_{IH}$ or V_{IL}	$I_O = 20\mu\text{A}$; $V_{CC} = 0.8\text{V}$ to 3.6V	-	-	0.11	V
			$I_O = 1.1\text{mA}$; $V_{CC} = 1.1\text{V}$	-	-	$0.33 \times V_{CC}$	V
			$I_O = 1.7\text{mA}$; $V_{CC} = 1.4\text{V}$	-	-	0.41	V
			$I_O = 1.9\text{mA}$; $V_{CC} = 1.65\text{V}$	-	-	0.39	V
			$I_O = 2.3\text{mA}$; $V_{CC} = 2.3\text{V}$	-	-	0.36	V
			$I_O = 3.1\text{mA}$; $V_{CC} = 2.3\text{V}$	-	-	0.50	V
			$I_O = 2.7\text{mA}$; $V_{CC} = 3.0\text{V}$	-	-	0.36	V
			$I_O = 4.0\text{mA}$; $V_{CC} = 3.0\text{V}$	-	-	0.50	V
input leakage current	I_I	$V_I = \text{GND}$ to 3.6V ; $V_{CC} = 0\text{V}$ to 3.6V	-	-	± 0.75	μA	
power-off leakage current	I_{OFF}	V_I or $V_O = 0\text{V}$ to 3.6V ; $V_{CC} = 0\text{V}$	-	-	± 0.75	μA	
additional power-off leakage current	ΔI_{OFF}	V_I or $V_O = 0\text{V}$ to 3.6V ; $V_{CC} = 0\text{V}$ to 0.2V	-	-	± 0.75	μA	
supply current	I_{CC}	$V_I = \text{GND}$ or V_{CC} ; $I_O = 0\text{A}$; $V_{CC} = 0.8\text{V}$ to 3.6V	-	-	1.4	μA	
additional supply current	ΔI_{CC}	$V_I = V_{CC} - 0.6\text{V}$; $I_O = 0\text{A}$; $V_{CC} = 3.3\text{V}^{[1]}$	-	-	75	μA	

Note:

[1] One input at $V_{CC} - 0.6\text{V}$, other input at V_{CC} or GND.



3.3.4 、 AC Characteristics 1

(T_{amb}=25°C, voltages are referenced to GND (ground=0V), unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ. ^[1]	Max.	Unit	
propagation delay	t _{pd}	A, B to Y; see Figure 5 ^[2]	C _L =5pF				
			V _{CC} =0.8V	-	17.0	-	ns
			V _{CC} =1.1V to 1.3V	2.6	5.1	10.8	ns
			V _{CC} =1.4V to 1.6V	1.6	3.7	6.5	ns
			V _{CC} =1.65V to 1.95V	1.3	3.0	5.2	ns
			V _{CC} =2.3V to 2.7V	1.1	2.4	4.0	ns
			V _{CC} =3.0V to 3.6V	1.0	2.2	3.5	ns
			C _L =10pF				
			V _{CC} =0.8V	-	20.6	-	ns
			V _{CC} =1.1V to 1.3V	2.4	6.0	12.5	ns
			V _{CC} =1.4V to 1.6V	2.0	4.3	7.6	ns
			V _{CC} =1.65V to 1.95V	1.7	3.6	6.1	ns
			V _{CC} =2.3V to 2.7V	1.4	2.9	4.8	ns
			V _{CC} =3.0V to 3.6V	1.3	2.7	4.2	ns
			C _L =15pF				
			V _{CC} =0.8V	-	24.1	-	ns
			V _{CC} =1.1V to 1.3V	3.4	6.8	14.2	ns
			V _{CC} =1.4V to 1.6V	2.3	4.9	8.6	ns
			V _{CC} =1.65V to 1.95V	1.9	4.0	6.9	ns
			V _{CC} =2.3V to 2.7V	1.7	3.4	5.5	ns
			V _{CC} =3.0V to 3.6V	1.5	3.1	4.8	ns
C _L =30pF							
V _{CC} =0.8V	-	34.4	-	ns			
V _{CC} =1.1V to 1.3V	4.6	9.1	19.4	ns			
V _{CC} =1.4V to 1.6V	3.4	6.4	11.5	ns			
V _{CC} =1.65V to 1.95V	2.6	5.3	9.1	ns			
V _{CC} =2.3V to 2.7V	2.3	4.5	7.2	ns			
V _{CC} =3.0V to 3.6V	2.2	4.2	6.2	ns			
power dissipation capacitance	C _{PD}	f=1MHz; V _I =GND to V _{CC} ^[3]	V _{CC} =0.8V	-	2.5	-	pF
			V _{CC} =1.1V to 1.3V	-	2.7	-	pF
			V _{CC} =1.4V to 1.6V	-	2.8	-	pF
			V _{CC} =1.65V to 1.95V	-	2.9	-	pF
			V _{CC} =2.3V to 2.7V	-	3.5	-	pF
			V _{CC} =3.0V to 3.6V	-	4.0	-	pF

Note:

- [1] All typical values are measured at nominal V_{CC}.
- [2] t_{pd} is the same as t_{PLH} and t_{PHL}.
- [3] C_{PD} is used to determine the dynamic power dissipation (P_D in uW).

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

f_i=input frequency in MHz;

f_o=output frequency in MHz;

C_L=output load capacitance in pF;

V_{CC}=supply voltage in V;



N=number of inputs switching;

$\Sigma(C_L \times V_{CC}^2 \times f_o)$ =sum of the outputs.

3.3.5 、 AC Characteristics 2

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
propagation delay	t_{pd}	A, B to Y; see Figure 5 ^[1]	C _L =5pF				
			V _{CC} =1.1V to 1.3V	2.1	-	11.7	ns
			V _{CC} =1.4V to 1.6V	1.5	-	7.5	ns
			V _{CC} =1.65V to 1.95V	1.3	-	6.1	ns
			V _{CC} =2.3V to 2.7V	1.0	-	4.8	ns
			V _{CC} =3.0V to 3.6V	0.9	-	4.3	ns
			C _L =10pF				
			V _{CC} =1.1V to 1.3V	2.2	-	13.6	ns
			V _{CC} =1.4V to 1.6V	1.8	-	8.9	ns
			V _{CC} =1.65V to 1.95V	1.6	-	7.2	ns
			V _{CC} =2.3V to 2.7V	1.3	-	5.7	ns
			V _{CC} =3.0V to 3.6V	1.2	-	4.7	ns
			C _L =15pF				
			V _{CC} =1.1V to 1.3V	3.1	-	15.7	ns
			V _{CC} =1.4V to 1.6V	2.1	-	10.1	ns
			V _{CC} =1.65V to 1.95V	1.8	-	8.2	ns
			V _{CC} =2.3V to 2.7V	1.6	-	6.5	ns
			V _{CC} =3.0V to 3.6V	1.5	-	5.9	ns
			C _L =30pF				
			V _{CC} =1.1V to 1.3V	4.1	-	21.8	ns
			V _{CC} =1.4V to 1.6V	2.9	-	13.6	ns
			V _{CC} =1.65V to 1.95V	2.4	-	10.9	ns
			V _{CC} =2.3V to 2.7V	2.2	-	8.6	ns
			V _{CC} =3.0V to 3.6V	2.1	-	7.5	ns

Note:

[1] t_{pd} is the same as t_{PLH} and t_{PHL} .



3.3.6、AC Characteristics 3

($T_{amb} = -40^{\circ}\text{C}$ to $+105^{\circ}\text{C}$, voltages are referenced to GND (ground=0V), unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
propagation delay	t_{pd}	A, B to Y; see Figure 5 ^[1]	CL=5pF				
			V _{CC} =1.1V to 1.3V	2.1	-	12.9	ns
			V _{CC} =1.4V to 1.6V	1.5	-	8.3	ns
			V _{CC} =1.65V to 1.95V	1.3	-	6.7	ns
			V _{CC} =2.3V to 2.7V	1.0	-	5.3	ns
			V _{CC} =3.0V to 3.6V	0.9	-	4.8	ns
			CL=10pF				
			V _{CC} =1.1V to 1.3V	2.2	-	15.0	ns
			V _{CC} =1.4V to 1.6V	1.8	-	9.8	ns
			V _{CC} =1.65V to 1.95V	1.6	-	7.9	ns
			V _{CC} =2.3V to 2.7V	1.3	-	6.3	ns
			V _{CC} =3.0V to 3.6V	1.2	-	5.2	ns
			CL=15pF				
			V _{CC} =1.1V to 1.3V	3.1	-	17.3	ns
			V _{CC} =1.4V to 1.6V	2.1	-	11.2	ns
			V _{CC} =1.65V to 1.95V	1.8	-	9.0	ns
			V _{CC} =2.3V to 2.7V	1.6	-	7.2	ns
			V _{CC} =3.0V to 3.6V	1.5	-	6.5	ns
			CL=30pF				
			V _{CC} =1.1V to 1.3V	4.1	-	24.0	ns
			V _{CC} =1.4V to 1.6V	2.9	-	15.0	ns
			V _{CC} =1.65V to 1.95V	2.4	-	12.1	ns
			V _{CC} =2.3V to 2.7V	2.2	-	9.5	ns
			V _{CC} =3.0V to 3.6V	2.1	-	8.3	ns

Note:

[1] t_{pd} is the same as t_{PLH} and t_{PHL} .



4、 Testing Circuit

4.1、 AC Testing Circuit

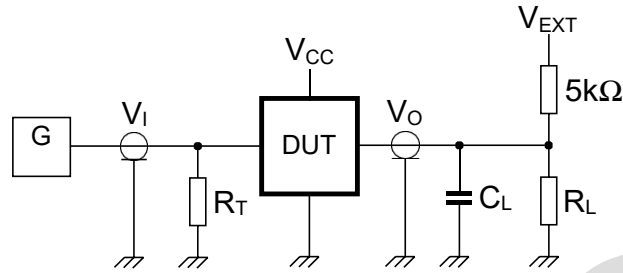


Figure 4. Test circuit for measuring switching times

Definitions for test circuit:

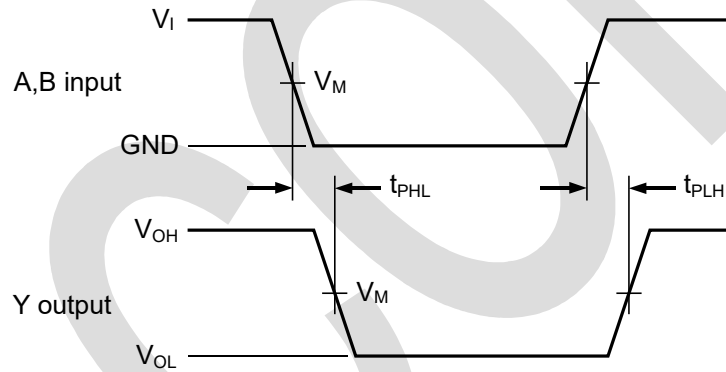
R_L =Load resistance.

C_L =Load capacitance including jig and probe capacitance.

R_T =Termination resistance should be equal to the output impedance Z_o of the pulse generator.

V_{EXT} =External voltage for measuring switching times.

4.2、 AC Testing Waveforms



Logic levels: V_{OL} and V_{OH} are typical output voltage levels that occur with the output load.

Figure 5. The data input (A or B) to output (Y) propagation delays

4.3、 Measurement Points

Supply voltage	Output	Input		
V_{CC}	V_M	V_M	V_I	$t_r=t_f$
0.8V to 3.6V	$0.5 \times V_{CC}$	$0.5 \times V_{CC}$	V_{CC}	$\leq 3.0\text{ns}$

4.4、 Test Data

Supply voltage	Load		V_{EXT}		
V_{CC}	C_L	$R_L^{[1]}$	t_{PLH}, t_{PHL}	t_{PZH}, t_{PHZ}	t_{PZL}, t_{PLZ}
0.8V to 3.6V	5pF, 10pF, 15pF and 30pF	5kΩ or 1MΩ	open	GND	$2 \times V_{CC}$

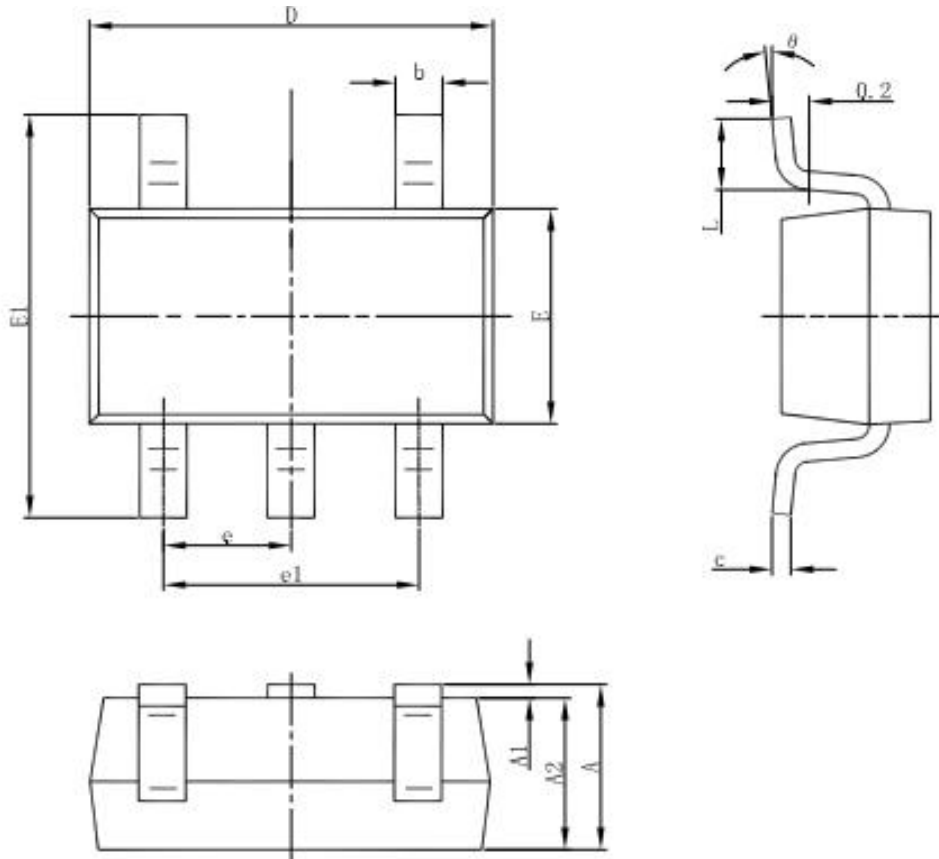
Note:

[1] For measuring enable and disable times $R_L=5\text{k}\Omega$, for measuring propagation delays, setup and hold times and pulse width $R_L=1\text{M}\Omega$.



5、 Package Information

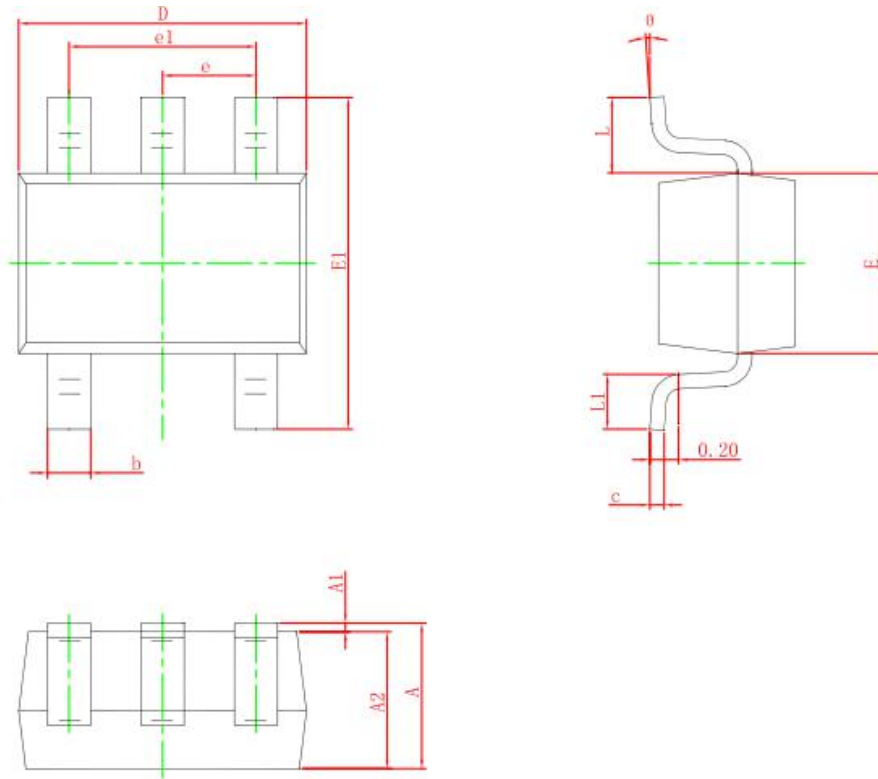
5.1、 SOT23-5



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



5.2、SOT353



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°



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;

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



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