TECH PUBLIC
台舟电子

SN74AHC1G04

SINGLE INVERTER GATE

www.sot23.com.tw

Features

- Operation Voltage Range: 2V ~ 5.5V
- Low power consumption, I_{CC} = 1μA (Max) at 5.5V
- ±8mA output driver at 5V
- ESD Protection Exceeds JESD 22
  - 2000-V Human-Body Model (A114-A)
  - 1000-V Charged-Device Model (C101)
- SOT23-5 Package Available
- SOT353 Package Available

Applications

- Voltage Level Shifting
- General Purpose Logic
- Power Down Signal Isolation
- Wide array of products such as:
  - PCs, Networking, Notebooks, Netbooks, PDAs
  - Tablet Computers, E-readers
  - Computer Peripherals, Hard Drives, CD/DVD ROM
  - TV, DVD, DVR, Set-Top Box
  - Cell Phones, Personal Navigation / GPS
  - MP3 Players, Cameras, Video Recorders

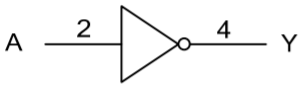
General Descrition

The SN74AHC1G04 is a inverter gate, it provides the Function $Y = \overline{A}$.

Ordering Information

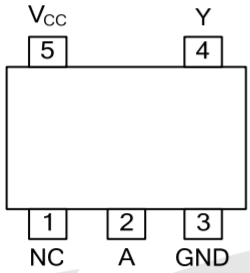
ORDER NUMBER	PACKAGE DESCRIPTION	PACKAGE OPTION
SN74AHC1G04DBVR	SOT23-5	Tape and Reel,3000
SN74AHC1G04DCKR	SOT353	Tape and Reel,3000

Logic Diagram



Logic symbol

Pin Configuration



SOT23-5/ SOT353

Marking

SN74AHC1G04DBVR Marking:A04G

SN74AHC1G04DCKR Marking:AC3

Function Table

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

Note: H: high voltage level; L: low voltage level.

Absolute Maximum Ratings

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.5 ~ 7	V
Input Voltage	V_{IN}	-0.5 ~ 7	V
Output Voltage	V_{OUT}	-0.5 ~ V_{CC} +0.5	V
V_{CC} or GND Current	I_{CC}	±50	mA
Output Current	I_{OUT}	±25	mA
Input Clamp Current	I_{IK}	-20	mA
Output Clamp Current	I_{OK}	±20	mA
Storage Temperature	T_{STG}	-65 ~ +150	°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. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Thermal Data

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Case	SOT-23-5	θ_{JC}	75	°C/W
	SOT-353		145	

Recommended Operating Conditions

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}		2		5.5	V
Input Voltage	V_{IN}		0		5.5	V
Output Voltage	V_{OUT}		0		V_{CC}	V
Input Transition Rise or Fall Rate	$\Delta t/\Delta v$	V_{CC}=5.0+0.5V			20	ns/V
Operating Temperature	T_A		-40		125	°C

Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Supply Voltage	V_{CC}			2		5.5	V
Input Voltage	V_{IN}			0		5.5	V
Output Voltage	V_{OUT}			0		V_{CC}	V
High-Level Input Voltage	V_{IH}	V_{CC}=2.0V		1.5			V
		V_{CC}=3.0V		2.1			
		V_{CC}=5.5V		3.85			
Low-Level Input Voltage	V_{IL}	V_{CC}=2.0V				0.5	V
		V_{CC}=3.0V				0.9	
		V_{CC}=5.5V				1.65	
High-Level Output Voltage	V_{OH}	V_{CC}=2.0V	I_{OH}=-50μA	1.9	2.0		V
		V_{CC}=3.0V		2.9	3.0		
		V_{CC}=4.5V		4.4	4.5		
		V_{CC}=3.0V, I_{OH}=-4mA		2.58			
		V_{CC}=4.5V, I_{OH}=-8mA		3.94			
Low-Level Output Voltage	V_{OL}	V_{CC}=2.0V	I_{OL}=-50μA			0.1	V
		V_{CC}=3.0V				0.1	
		V_{CC}=4.5V				0.1	
		V_{CC}=3.0V, I_{OL}=4mA				0.36	
		V_{CC}=4.5V, I_{OL}=8mA				0.36	
Input Leakage Current	$I_{I(LEAK)}$	V_{CC}=0V~5.5V, V_{IN}=5.5V or GND				±0.1	μA
Quiescent Supply Current	I_Q	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			2	10	pF

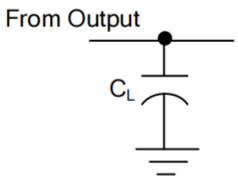
Dynamic Characteristics (Input: t_R, t_F≤3ns; P_{RR}≤1MHz)

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Propagation Delay Time Input(A) to Output(Y)	t_{PLH}	V_{CC}=3.3V±0.3V	C_L=15pF		5	7.1	ns
		V_{CC}=5V±0.5V			3.8	5.5	ns
	t_{PHL}	V_{CC}=3.3V±0.3V			5	7.1	ns
		V_{CC}=5V±0.5V			3.8	5.5	ns
	t_{PLH}	V_{CC}=3.3V±0.3V	C_L=50pF		7.5	10.6	ns
		V_{CC}=5V±0.5V			5.3	7.5	ns
	t_{PHL}	V_{CC}=3.3V±0.3V			7.5	10.6	ns
		V_{CC}=5V±0.5V			5.3	7.5	ns

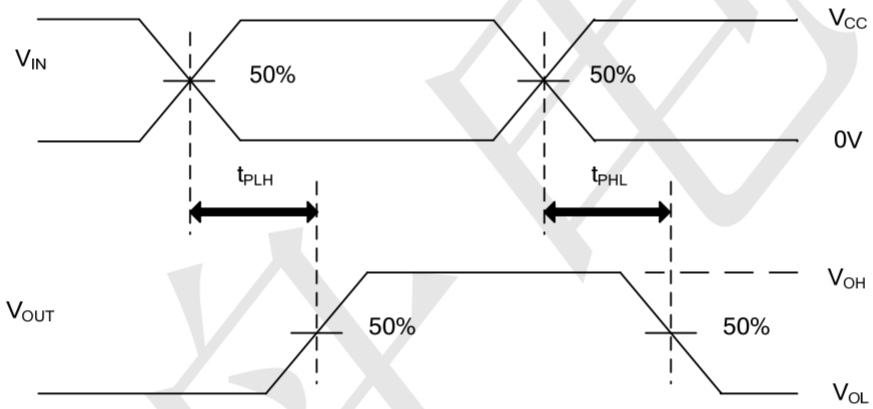
Operating Characteristics

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Power Dissipation Capacitance	C_{PD}	V_{CC}=5V, f=1MHz, No load		12		pF

Test Circuit And Waveforms



TEST CIRCUIT

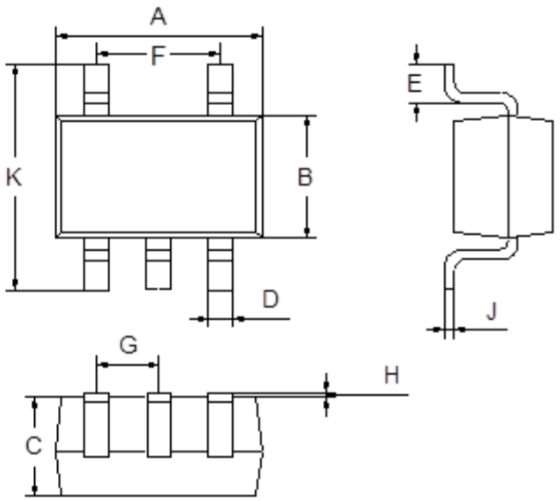


PROPAGATION DELAY TIMES

Notes: 1. C_L includes probe and jig capacitance.
2. P_{RR} ≤ 1MHz, Z_O = 50Ω, t_R ≤ 3ns, t_F ≤ 3ns.

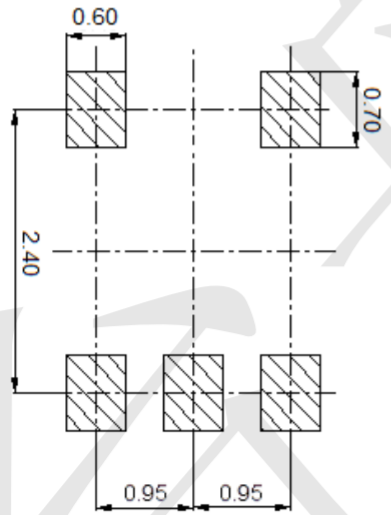
Package Outline Dimensions (Unit: mm)

SOT23-5



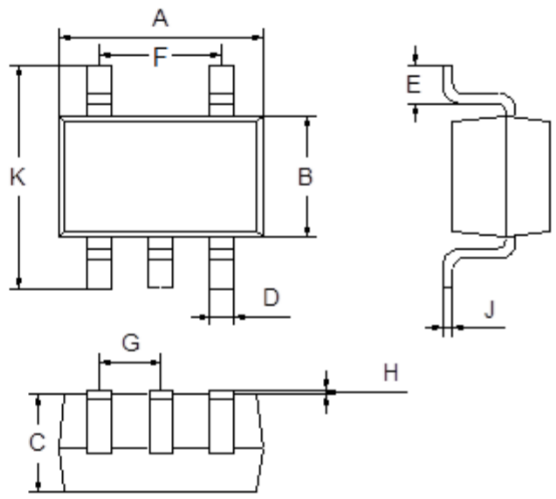
Dimension	Min.	Max.
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
F	1.80	2.00
G	0.90	1.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)



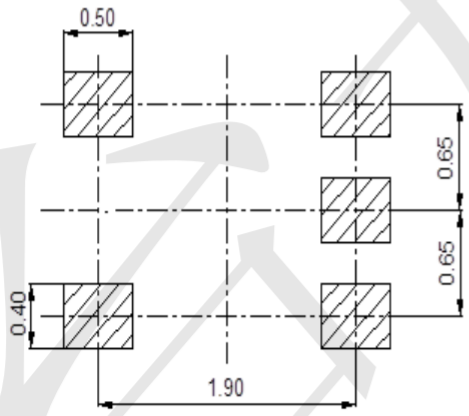
Package Outline Dimensions (Unit: mm)

SOT353



Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
F	1.20	1.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Logic Gates ***category:***

Click to view products by TECH PUBLIC ***manufacturer:***

Other Similar products are found below :

NL17SG32DFT2G CD4068BE NL17SG86DFT2G NLX1G11AMUTCG NLX1G97MUTCG 74LS38 74LVC1G08Z-7 CD4025BE NLV17SZ00DFT2G NLV17SZ126DFT2G NLV27WZ17DFT2G NLV74HC02ADR2G 74HC32S14-13 74LS133 74LVC1G32Z-7 74LVC1G86Z-7 NLV74HC14ADR2G NLV74HC20ADR2G NLVVHC1G09DFT1G NLX2G86MUTCG 74LVC2G32RA3-7 74LVC2G00HD4-7 NL17SG02P5T5G 74LVC2G86HK3-7 NLVVHC1G14DFT2G NLX1G99DMUTWG NLVVHC1G00DFT2G NLV7SZ57DFT2G NLV74VHC04DTR2G NLV27WZ00USG NLU1G86CMUTCG NLU1G08CMUTCG NL17SZ32P5T5G NL17SZ00P5T5G NL17SH02P5T5G 74AUP2G00RA3-7 NLVVHC1GT00DFT2G NLV74HC02ADTR2G NLX1G332CMUTCG NLVHCT132ADTR2G NL17SG86P5T5G NL17SZ05P5T5G NLV74VHC00DTR2G NLVVHC1G02DFT1G NLV74HC86ADR2G 74LVC2G86RA3-7 NL17SZ38DBVT1G NLV18SZ00DFT2G NLVVHC1G07DFT1G NLVVHC1G02DFT2G