SN74LS10

 V_{CC}

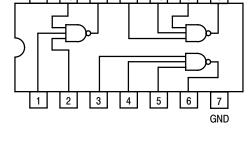
TRIPLE 3-INPUT NAND GATE



ON Semiconductor®

http://onsemi.com

TRIPLE 3-INPUT NAND GATE LOW POWER SCHOTTKY





J SUFFIX CERAMIC CASE 632-08



N SUFFIX PLASTIC CASE 646-06



D SUFFIX SOIC CASE 751A-02

ORDERING INFORMATION

SN54LSXXJ Ceramic SN74LSXXN Plastic SN74LSXXD SOIC

Symbol	Parameter		Min	Тур	Max	Unit
V _{CC}	Supply Voltage	54 74	4.5 4.75	5.0 5.0	5.5 5.25	V
T _A	Operating Ambient Temperature Range	54 74	-55 0	25 25	125 70	°C
I _{OH}	Output Current — High	54, 74			-0.4	mA
I _{OL}	Output Current — Low	54 74			4.0 8.0	mA

SN74LS10

DC CHARACTERISTICS OVER OPERATING

TEMPERATURE RANGE (unless otherwise specified)

			Limits					
Symbol	Parameter		Min	Тур	Max	Unit	Test Conditions	
V _{IH}	Input HIGH Voltage		2.0			V	Guaranteed Input HIGH Voltage for All Inputs	
V	Input LOW Voltage	54			0.7	V	Guaranteed Input LOW Voltage for All Inputs	
V_{IL}		74			0.8			
V _{IK}	Input Clamp Diode Voltage			-0.65	-1.5	V	V _{CC} = MIN, I _{IN} = -18 mA	
V	Output HIGH Voltage —	54	2.5	3.5		V	V _{CC} = MIN, I _{OH} = MAX, V _{IN} = V _{IH}	
V _{OH}		74	2.7	3.5		٧	or V _{IL} per Truth Ta	able
V	Output LOW Voltage	54, 74		0.25	0.4	V	I _{OL} = 4.0 mA	V _{CC} = V _{CC} MIN,
V _{OL}		74		0.35	0.5	٧	I _{OL} = 8.0 mA	$V_{IN} = V_{IL}$ or V_{IH} per Truth Table
Luc	Input HIGH Current				20	μΑ	V_{CC} = MAX, V_{IN} = 2.7 V	
I _{IH}					0.1	mA	V _{CC} = MAX, V _{IN} =	7.0 V
I _{IL}	Input LOW Current				-0.4	mA	$V_{CC} = MAX$, $V_{IN} = 0.4 V$	
Ios	Short Circuit Current (Note 1)		-20		-100	mA	V _{CC} = MAX	
I _{CC}	Power Supply Current Total, Output HIGH				1.2	mA	V _{CC} = MAX	<u> </u>
	Total, Output LOW				3.3	X .C	7.7.	

Note 1: Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS (T_A = 25°C)

			Limits) C	VC	
Symbol	Parameter	Min	Тур	Max	Unit	Test Conditions
t _{PLH}	Turn-Off Delay, Input to Output	4.	9.0	15	ns	V _{CC} = 5.0 V
t _{PHL}	Turn-On Delay, Input to Output	C	10	15	ns	C _L = 15 pF
	O RIFIASE CONFISE OF THE PRESE	MA				

ON Semiconductor and a registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor P.O. Box 5163, Denver, Colorado 80217 USA Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada Email: orderlit@onsemi.com N. American Technical Support: 800-282-9855 Toll Free USA/Canada

Europe, Middle East and Africa Technical Support: Phone: 421 33 790 2910 Japan Customer Focus Center Phone: 81-3-5773-3850 ON Semiconductor Website: www.onsemi.com

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative