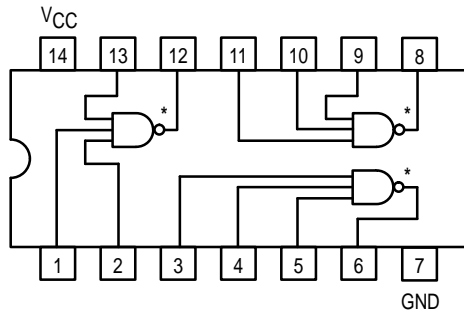




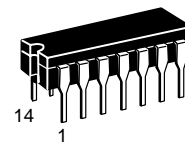
TRIPLE 3-INPUT NAND GATE



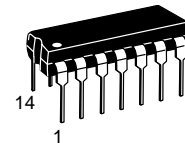
*OPEN COLLECTOR OUTPUTS

SN54/74LS12

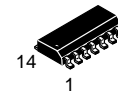
TRIPLE 3-INPUT NAND GATE
LOW POWER SCHOTTKY



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

GUARANTEED OPERATING RANGES

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

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DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter		Limits			Unit	Test Conditions
			Min	Typ	Max		
V _{IH}	Input HIGH Voltage		2.0			V	Guaranteed Input HIGH Voltage for All Inputs
V _{IL}	Input LOW Voltage	54			0.7	V	Guaranteed Input LOW Voltage for All Inputs
		74			0.8		
V _{IK}	Input Clamp Diode Voltage			-0.65	-1.5	V	V _{CC} = MIN, I _{IN} = -18 mA
I _{OH}	Output HIGH Current	54, 74			100	μA	V _{CC} = MIN, V _{OH} = MAX
V _{OL}	Output LOW Voltage	54, 74		0.25	0.4	V	I _{OL} = 4.0 mA
		74		0.35	0.5	V	I _{OL} = 8.0 mA
I _{IH}	Input HIGH Current				20	μA	V _{CC} = MAX, V _{IN} = 2.7 V
					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
I _{CC}	Power Supply Current Total, Output HIGH Total, Output LOW				1.4	mA	V _{CC} = MAX
					3.3		

AC CHARACTERISTICS (T_A = 25°C)

Symbol	Parameter		Limits			Unit	Test Conditions
			Min	Typ	Max		
t _{PLH}	Turn-Off Delay, Input to Output			17	32	ns	V _{CC} = 5.0 V C _L = 15 pF, R _L = 2.0 kΩ
t _{PHL}	Turn-On Delay, Input to Output			15	28	ns	