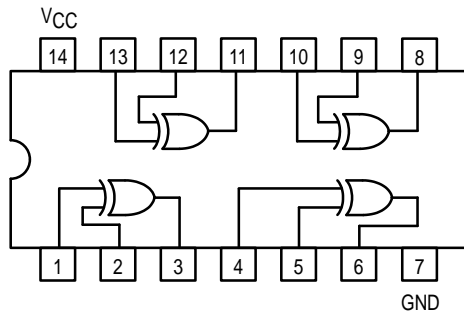




QUAD 2-INPUT EXCLUSIVE OR GATE

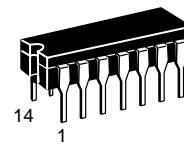


TRUTH TABLE

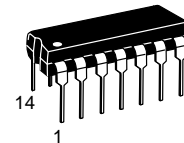
IN		OUT
A	B	Z
L	L	L
L	H	H
H	L	H
H	H	L

SN54/74LS86

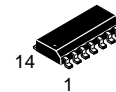
**QUAD 2-INPUT EXCLUSIVE OR GATE
LOW POWER SCHOTTKY**



**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 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

SN54/74LS86

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	$V_{CC} = \text{MIN}$, $I_{IN} = -18 \text{ mA}$	
V_{OH}	Output HIGH Voltage	54	2.5	3.5	V	$V_{CC} = \text{MIN}$, $I_{OH} = \text{MAX}$, $V_{IN} = V_{IH}$ or V_{IL} per Truth Table	
		74	2.7	3.5	V		
V_{OL}	Output LOW Voltage	54, 74		0.25	0.4	V	$I_{OL} = 4.0 \text{ mA}$ $V_{CC} = V_{CC} \text{ MIN}$, $V_{IN} = V_{IL}$ or V_{IH} per Truth Table
		74		0.35	0.5	V	
I_{IH}	Input HIGH Current			40	μA	$V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$	
				0.2	mA	$V_{CC} = \text{MAX}$, $V_{IN} = 7.0 \text{ V}$	
I_{IL}	Input LOW Current			-0.8	mA	$V_{CC} = \text{MAX}$, $V_{IN} = 0.4 \text{ V}$	
I_{OS}	Short Circuit Current (Note 1)	-20		-100	mA	$V_{CC} = \text{MAX}$	
I_{CC}	Power Supply Current			10	mA	$V_{CC} = \text{MAX}$	

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

AC CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Symbol	Parameter	Limits			Unit	Test Conditions
		Min	Typ	Max		
t_{PLH} t_{PHL}	Propagation Delay, Other Input LOW		12 10	23 17	ns	$V_{CC} = 5.0 \text{ V}$ $C_L = 15 \text{ pF}$
t_{PLH} t_{PHL}	Propagation Delay, Other Input HIGH		20 13	30 22	ns	