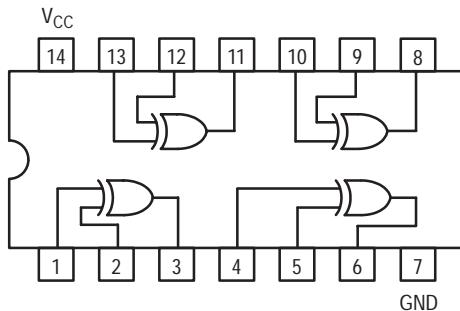


SN74LS86

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

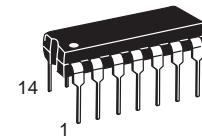


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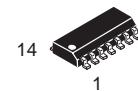
Formerly a Division of Motorola

<http://onsemi.com>

LOW
POWER
SCHOTTKY



PLASTIC
N SUFFIX
CASE 646



SOIC
D SUFFIX
CASE 751A

GUARANTEED OPERATING RANGES

Symbol	Parameter	Min	Typ	Max	Unit
V _{CC}	Supply Voltage	4.75	5.0	5.25	V
T _A	Operating Ambient Temperature Range	0	25	70	°C
I _{OH}	Output Current – High			-0.4	mA
I _{OL}	Output Current – Low			8.0	mA

ORDERING INFORMATION

Device	Package	Shipping
SN74LS86N	14 Pin DIP	2000 Units/Box
SN74LS86D	14 Pin	2500/Tape & Reel

SN74LS86

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			0.8	V	Guaranteed Input LOW Voltage for All Inputs
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	2.7	3.5		V	$V_{CC} = \text{MIN}$, $I_{OH} = \text{MAX}$, $V_{IN} = V_{IH}$ or V_{IL} per Truth Table
V_{OL}	Output LOW Voltage		0.25	0.4	V	$I_{OL} = 4.0 \text{ mA}$
			0.35	0.5	V	$I_{OL} = 8.0 \text{ mA}$
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.

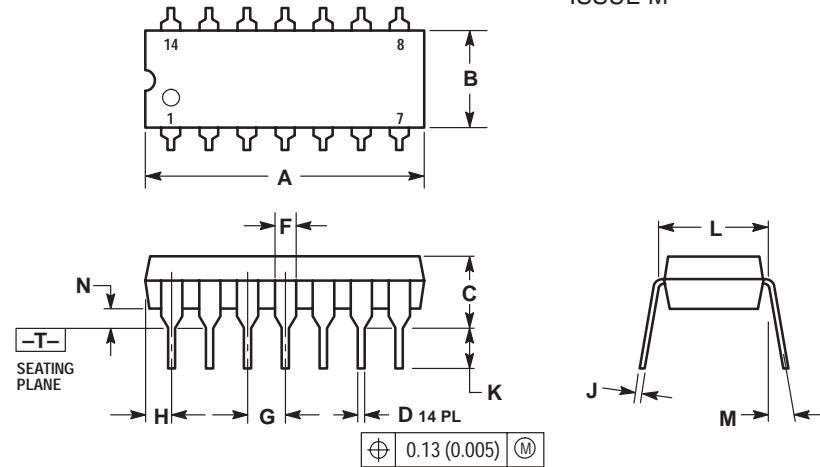
AC CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

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

SN74LS86

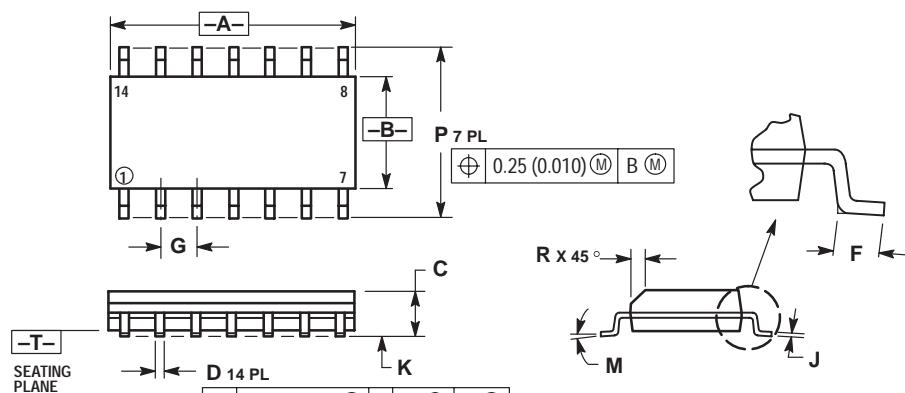
PACKAGE DIMENSIONS

N SUFFIX
PLASTIC PACKAGE
CASE 646-06
ISSUE M



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION L TO CENTER OF LEADS WHEN FORMED PARALLEL.
 4. DIMENSION B DOES NOT INCLUDE MOLD FLASH.
 5. ROUNDED CORNERS OPTIONAL.

D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751A-03
ISSUE F



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.
 3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
 4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
 5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

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