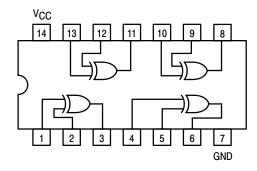
Quad 2-Input Exclusive OR Gate



TRUTH TABLE

II	OUT	
Α	В	Z
L	L	L
L	Н	Н
Н	L	Н
Н	Н	L

GUARANTEED OPERATING RANGES

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



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LOW POWER SCHOTTKY



PLASTIC N SUFFIX CASE 646



SOIC D SUFFIX CASE 751A



SOEIAJ M SUFFIX CASE 965

ORDERING INFORMATION

Device	Package	Shipping
SN74LS86N	14 Pin DIP	2000 Units/Box
SN74LS86D	SOIC-14	55 Units/Rail
SN74LS86DR2	SOIC-14	2500/Tape & Reel
SN74LS86M	SOEIAJ-14	See Note 1
SN74LS86MEL	SOEIAJ-14	See Note 1

 For ordering information on the EIAJ version of the SOIC package, please contact your local ON Semiconductor representative.

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

		Limits		Limits			
Symbol	Parameter	Min	Тур	Max	Unit	Test Co	onditions
VIH	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage for All Inputs	
VIL	Input LOW Voltage			0.8	V	Guaranteed Input LOW Voltage for All Inputs	
VIK	Input Clamp Diode Voltage		-0.65	-1.5	V	$V_{CC} = MIN, I_{IN} = -18 \text{ mA}$	
Vон	Output HIGH Voltage	2.7	3.5		V	V_{CC} = MIN, I_{OH} = MAX, V_{IN} = V_{IH} or V_{IL} per Truth Table	
V	Outract I OW Valle are		0.25	0.4	V	I _{OL} = 4.0 mA	V _{CC} = V _{CC} MIN,
VOL	Output LOW Voltage		0.35	0.5	V	I _{OL} = 8.0 mA	$V_{IN} = V_{IL}$ or V_{IH} per Truth Table
Luci	January IIICI I Commant			40	μΑ	V _{CC} = MAX, V _{IN} = 2.7 V	
lН	Input HIGH Current			0.2	mA	V _{CC} = MAX, V _{IN} = 7.0 V	
I _{IL}	Input LOW Current			-0.8	mA	V _{CC} = MAX, V _{IN} = 0.4 V	
los	Short Circuit Current (Note 2)	-20		-100	mA	V _{CC} = MAX	
Icc	Power Supply Current			10	mA	VCC = MAX	

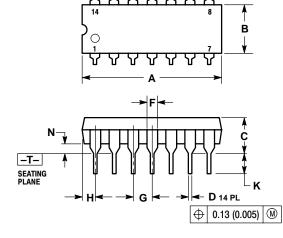
^{2.} Not more than one output should be shorted at a time, nor for more than 1 second.

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

			Limits			
Symbol	Parameter	Min	Тур	Max	Unit	Test Conditions
tPLH tPHL	Propagation Delay, Other Input LOW		12 10	23 17	ns	V _{CC} = 5.0 V
tPLH tPHL	Propagation Delay, Other Input HIGH		20 13	30 22	ns	C _L = 15 pF

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.

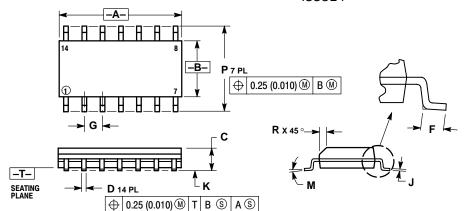
 4. DIMENSION B DOES NOT INCLUDE MOLD FLASH.

 5. ROUNDED CORNERS OPTIONAL.

	INC	HES	MILLIN	IETERS	
DIM	MIN	MAX	MIN	MAX	
Α	0.715	0.770	18.16	18.80	
В	0.240	0.260	6.10	6.60	
С	0.145	0.185	3.69	4.69	
D	0.015	0.021	0.38	0.53	
F	0.040	0.070	1.02	1.78	
G	0.100	BSC	2.54 BSC		
Н	0.052	0.095	1.32	2.41	
J	0.008	0.015	0.20	0.38	
K	0.115	0.135	2.92	3.43	
L	0.290	0.310	7.37	7.87	
M		10°		10°	
N	0.015	0.039	0.38	1.01	

D SUFFIX

PLASTIC SOIC PACKAGE CASE 751A-03 ISSUE F



NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. 2. CONTROLLING DIMENSION: MILLIMETER.
- DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
- MOLD PROTRUSION.

 4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.

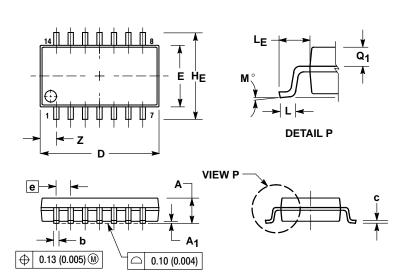
 5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS		INC	HES
DIM	MIN	MAX	MIN	MAX
Α	8.55	8.75	0.337	0.344
В	3.80	4.00	0.150	0.157
С	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27	BSC	0.050 BSC	
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
M	0 °	7°	0 °	7°
P	5.80	6.20	0.228	0.244
R	0.25	0.50	0.010	0.019

PACKAGE DIMENSIONS

M SUFFIX

SOEIAJ PACKAGE CASE 965-01 **ISSUE O**



- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. CONTROLLING DIMENSION: MILLIMETER.
- 3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS AND ARE MEASURED AT THE PARTING LINE. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED 0.15 (0.006) PER SIDE.
- TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY. THE LEAD WIDTH DIMENSION (b) DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 (0.003)
 TOTAL IN EXCESS OF THE LEAD WIDTH DIMENSION AT MAXIMUM MATERIAL CONDITION.
 DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN PROTRUSIONS AND ADJACENT LEAD TO BE 0.46 (0.018).

	MILLIMETERS		INCHES		
DIM	MIN	MAX	MIN	MAX	
Α		2.05		0.081	
Α ₁	0.05	0.20	0.002	0.008	
b	0.35	0.50	0.014	0.020	
С	0.18	0.27	0.007	0.011	
D	9.90	10.50	0.390	0.413	
Е	5.10	5.45	0.201	0.215	
е	1.27	BSC	0.050 BSC		
ΗE	7.40	8.20	0.291	0.323	
0.50	0.50	0.85	0.020	0.033	
LE	1.10	1.50	0.043	0.059	
M	0 °	10°	0 °	10 °	
Q_1	0.70	0.90	0.028	0.035	
Z		1.42		0.056	

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