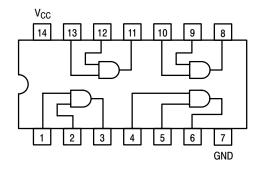
Quad 2-Input AND Gate





Symbol	Parameter	Min	Тур	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



ON Semiconductor™

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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	
SN74LS08N	14 Pin DIP	2000 Units/Box	
SN74LS08D	SOIC-14	55 Units/Rail	
SN74LS08DR2	SOIC-14	2500/Tape & Reel	
SN74LS08M	SOEIAJ-14	See Note 1	
SN74LS08MEL	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					
Symbol	Parameter	Min	Тур	Max	Unit	Test C	onditions
V _{IH}	Input HIGH Voltage	2.0			V	Guaranteed Inp All Inputs	ut HIGH Voltage for
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} = MIN, I _{IN} :	= -18 mA
V _{OH}	Output HIGH Voltage	2.7	3.5		V	V _{CC} = MIN, I _{OH} or V _{IL} per Tru	= MAX, V _{IN} = V _{IH} th Table
V	Outroit I OW/Vallana		0.25	0.4	V	$I_{OL} = 4.0 \text{ mA}$	$V_{CC} = V_{CC} MIN,$
V_{OL}	Output LOW Voltage		0.35	0.5	V	$I_{OL} = 8.0 \text{ mA}$	$V_{IN} = V_{IL}$ or V_{IH} per Truth Table
-	lanut I II CI I Current			20	μΑ	V _{CC} = MAX, V _{IN} = 2.7 V	
l _{IH}	Input HIGH Current			0.1	mA	V _{CC} = MAX, V _{IN}	_V = 7.0 V
I _{IL}	Input LOW Current			-0.4	mA	V _{CC} = MAX, V _{II}	_V = 0.4 V
los	Short Circuit Current (Note 1)	-20		-100	mA	V _{CC} = MAX	
	Power Supply Current						
I _{CC}	Total, Output HIGH			4.8	mA	$V_{CC} = MAX$	
	Total, Output LOW			8.8			

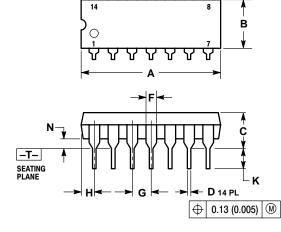
Note 1: Not more than one output should be shorted at a time, nor for more than 1 second.

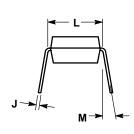
AC CHARACTERISTICS $(T_A = 25^{\circ}C)$

		Limits				
Symbol	Parameter	Min	Тур	Max	Unit	Test Conditions
t _{PLH}	Turn-Off Delay, Input to Output		8.0	15	ns	V _{CC} = 5.0 V
t _{PHL}	Turn-On Delay, Input to Output		10	20	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.

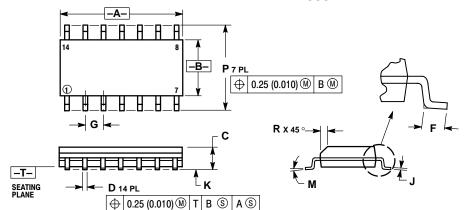
 4. DIMENSION B DOES NOT INCLUDE MOLD FLASH.

 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.

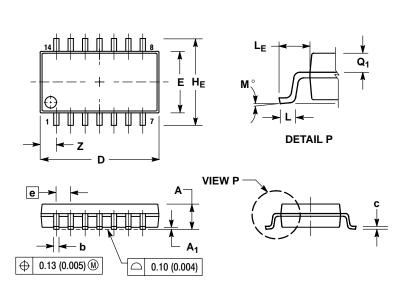
 5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS		INCHES		
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°	
Р	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	
A 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		
HE	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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