



MICROCIRCUIT DATA SHEET

MNDM54LS260-X REV 1A0

Original Creation Date: 04/12/98
Last Update Date: 07/08/98
Last Major Revision Date: 04/12/98

QUAD 5-INPUT NOR GATE

General Description

This device contains two individual five input gates, each of which performs the logic NOR function.

Industry Part Number

54LS260

NS Part Numbers

DM54LS260J/883
DM54LS260W/883

Prime Die

L260

Processing

MIL-STD-883, Method 5004

Quality Conformance Inspection

MIL-STD-883, Method 5005

Subgrp	Description	Temp (°C)
1	Static tests at	+25
2	Static tests at	+125
3	Static tests at	-55
4	Dynamic tests at	+25
5	Dynamic tests at	+125
6	Dynamic tests at	-55
7	Functional tests at	+25
8A	Functional tests at	+125
8B	Functional tests at	-55
9	Switching tests at	+25
10	Switching tests at	+125
11	Switching tests at	-55

Features

(Absolute Maximum Ratings)

(Note 1)

Storage Temperature	-65 C to +150 C
Ambient Temperature under Bias	-55 C to +125 C
Input Voltage	-0.5V to +10.0V
VCC Pin Potential to Ground Pin	-0.5V to +7.0V
Junction Temperature under Bias	-55 C to +175 C
Current Applied to Output in LOW state (Max)	twice the rated I _{ol} (ma)

Note 1: Absolute Maximum ratings are those values beyond which the device may be damaged or have its useful life impaired. Functional operation under these conditions is not implied.

Recommended Operating Conditions

Free Air Ambient Temperature	
Military	-55 C to +125 C
Supply Voltage	
Military	+4.5V to +5.5V

Electrical Characteristics

DC PARAMETER

(The following conditions apply to all the following parameters, unless otherwise specified.)
DC: VCC 4.5V to 5.5V, Temp range: -55C to 125C

SYMBOL	PARAMETER	CONDITIONS	NOTES	PIN-NAME	MIN	MAX	UNIT	SUB-GROUPS
I _{IH}	Input High Current	VCC=5.5V, V _M =2.7V, V _{INH} =4.5V	1, 3	INPUTS		20.0	uA	1, 2, 3
I _{BVI}	Input High Current	VCC=5.5V, V _M =10.0V, V _{INH} =4.5V	1, 3	INPUTS		100	uA	1, 2, 3
I _{IL}	Input LOW Current	VCC=5.5V, V _M =0.4V, V _{INH} =4.5V	1, 3	INPUTS	-0.03	-0.4	mA	1, 2, 3
V _{OL}	Output LOW Voltage	VCC=4.5V, V _{IH} =2.0V, I _{OL} =4.0mA, V _{INH} =4.5V, V _{INL} =0.0V	1, 3	OUTPUTS		0.4	V	1, 2, 3
V _{OH}	Output HIGH Voltage	VCC=4.5V, V _{IL} =0.7V, I _{OH} =-0.4mA, V _{INH} =4.5V	1, 3	OUTPUTS	2.5		V	1, 2, 3
I _{OS}	Short-Circuit Current	VCC=5.5V, V _{INL} =0.0V, V _{OUT} =0.0V	1, 3	OUTPUTS	-20	-100	mA	1, 2, 3
V _{CD}	Input Clamp Diode Voltage	VCC=4.5V, I _M =-18mA, V _{INH} =4.5V	1, 3	INPUTS		-1.5	V	1, 2, 3
I _{CCH}	Supply Current	VCC=5.5V, V _{INL} =0.0V	1, 3	VCC		4.0	mA	1, 2, 3
I _{CCL}	Supply Current	VCC=5.5V, V _{INH} =4.5V	1, 3	VCC		5.5	mA	1, 2, 3

AC PARAMETER - 15pF

(The following conditions apply to all the following parameters, unless otherwise specified.)
AC: C_L=15pF, R_L=2k ohms Temp range: +25C

t _{pLH}	Propagation Delay	VCC=5.0V	5	All Paths		10.0	ns	9
t _{pHL}	Propagation Delay	VCC=5.0V	5	All Paths		12.0	ns	9

AC PARAMETER - 50pF

(The following conditions apply to all the following parameters, unless otherwise specified.)
AC: C_L=50pF, R_L=2k ohms Temp range: -55C to +125C

t _{pLH}	Propagation Delay	VCC=5.0V	2, 4	All paths	2.0	15.0	ns	9
			2, 4	All paths	2.0	20.0	ns	10, 11
t _{pHL}	Propagation Delay	VCC=5.0V	2, 4	All Paths	2.0	17.0	ns	9
			2, 4	All Paths	2.0	22.0	ns	10, 11

Note 1: Screen tested 100% on each device at -55C, +25C & +125C temperature, subgroups A1, 2, 3, 7 & 8.

Note 2: Screen tested 100% on each device at +25C temperature only, subgroup A9.

(Continued)

- Note 3: Sample tested (Method 5005, Table 1) on each MFG. lot at +25C, +125C & -55C temperature, subgroups A1, 2, 3, 7 & 8.
- Note 4: Sample tested (Method 5005, Table 1) on each MFG. lot at +25C, subgroup A9. Subgroups 10 & 11 are guaranteed, not tested.
- Note 5: Guaranteed, not tested.

Revision History

Rev	ECN #	Rel Date	Originator	Changes
1A0	M0002131	07/08/98	Linda Collins	Initial MDS release:: MNDM54LS260-X Rev. 1A0. Changed note 5 (guaranteed, not tested) in the AC 50pF notes reference column to note 2 (Screen tested 100% at +25C, subgroup 9) and to note 4 (Sample tested at +25C, subgroup 9. Subgroups 10 & 11 are guaranteed, not tested). Changed note 2 in the AC (15pF) notes reference column to note 5. Reworded the phrase in note 4 from 'and periodically at +125C & -55C, subgroups 10 & 11' to 'Subgroups 10 & 11 are guaranteed, not tested'.