

6501122 NATIONAL SEMICONDUCTOR

61C 51811 D 7-43-15

DM54AS832B/DM74AS832B



DM54AS832B/DM74AS832B Hex 2-Input OR Drivers

General Description

These devices contain six independent drivers, each of which performs the logic OR function. Each driver has increased output drive capability to allow the driving of high capacitive loads.

Features

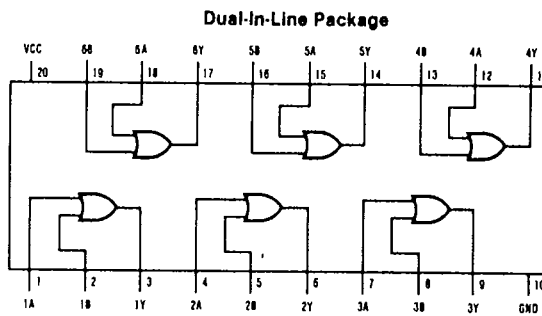
- Switching Specifications at 50 pF.
- Switching Specifications Guaranteed Over Full Temperature and V_{CC} Range.
- Advanced Oxide-Isolated, Ion-Implanted Schottky TTL Process.
- Functionally and Pin for Pin Compatible with Schottky and Low Power Schottky TTL Counterpart.
- Improved AC Performance Over Schottky and Low Power Schottky Counterparts.

Absolute Maximum Ratings (Note 1)

Supply Voltage	7V
Input Voltage	7V
Operating Free Air Temperature Range	
DM54AS	-55°C to 125°C
DM74AS	0°C to 70°C
Storage Temperature Range	-65°C to 150°C

Note 1: The "Absolute Maximum Ratings" are those values beyond which the safety of the device can not be guaranteed. The device should not be operated at these limits. The parametric values defined in the "Electrical Characteristics" table are not guaranteed at the absolute maximum ratings. The "Recommended Operating Conditions" table will define the conditions for actual device operation.

Connection Diagram



TL/F/6329-1

54AS832B (J) 74AS832B (J, N)

Function Table

$$Y = A + B$$

Inputs		Output
A	B	Y
L	L	L
L	H	H
H	L	H
H	H	H

H = High Logic Level
L = Low Logic Level

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Recommended Operating Conditions

Parameter	DM54AS832B			DM74AS832B			Unit
	Min	Nom	Max	Min	Nom	Max	
Supply Voltage, V _{CC}	4.5	5	5.5	4.5	5	5.5	V
High Level Input Voltage, V _{IH}	2			2			V
Low Level Input Voltage, V _{IL}			0.8			0.8	V
High Level Output Current, I _{OH}			-40			-48	mA
Low Level Output Current, I _{OL}			40			48	mA

Electrical Characteristics

over recommended operating free air temperature range.

All typical values are measured at V_{CC} = 5V, T_A = 25°C.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit	
V _{IK}	Input Clamp Voltage	V _{CC} = 4.5V, I _I = -18mA			-1.2	V	
V _{OH}	High Level Output Voltage	I _{OH} = -0.4mA, V _{CC} = 4.5V to 5.5V	V _{CC} - 2			V	
		I _{OH} = -3mA, V _{CC} = 4.5V	2.4				
		I _{OH} = MAX, V _{CC} = 4.5V	2				
V _{OL}	Low Level Output Voltage	V _{CC} = 4.5V, I _{OL} = MAX		0.35	0.5	V	
I _I	Max High Input Current	V _{CC} = 5.5V, V _{IH} = 7V			0.1	mA	
I _{IH}	High Level Input Current	V _{CC} = 5.5V, V _{IH} = 2.7V			20	μA	
I _{IL}	Low Level Input Current	V _{CC} = 5.5V, V _{IL} = 0.4V			-0.5	mA	
I _O	Output Drive Current	V _{CC} = 5.5V, V _O = 2.25V		-135		mA	
I _{CC}	Supply Current	V _{CC} = 5.5V	Outputs High		9	17	mA
			Outputs Low		22	36	mA

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Switching Characteristics

over recommended operating free air temperature range (Note 1).

All typical values are measured at V_{CC} = 5V, T_A = 25°C.

Parameter	Conditions	DM54AS832B			DM74AS832B			Unit
		Min	Typ	Max	Min	Typ	Max	
T _{PLH} , Propagation delay time. Low to high Level Output	V _{CC} = 4.5 to 5.5V R _L = 500 Ω, C _L = 50 pF.	1		7	1		5.5	ns
T _{PHL} , Propagation delay time. High to low Level Output		1		6.5	1		5.5	ns

Note 1: See Section 1 for test waveforms and output load.