5432/DM5432/DM7432 **Quad 2-Input OR Gates**

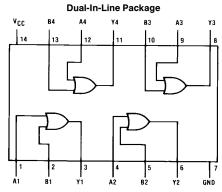
General Description

This device contains four independent gates each of which performs the logic OR function.

Features

Alternate Military/Aerospace device (5432) is available. Contact a National Semiconductor Sales Office/Distributor for specifications.

Connection Diagram



Order Number 5432DMQB, 5432FMQB, DM5432J, DM5432W or DM7432N See NS Package Number J14A, N14A or W14B

Function Table

$$\mathbf{Y} = \mathbf{A} + \mathbf{B}$$

Inp	uts	Output			
Α	В	Y			
L	L	L			
L	Н	Н			
Н	L	Н			
Н	Н	Н			

 $H \,=\, High\; Logic\; Level$

L = Low Logic Level

Absolute Maximum Ratings (Note)

If Military/Aerospace specified devices are required, please contact the National Semiconductor Sales Office/Distributors for availability and specifications.

Supply Voltage 7V
Input Voltage 5.5V
Operating Free Air Temperature Range

Storage Temperature Range $-65^{\circ}\text{C} \text{ to } +150^{\circ}\text{C}$

Note: The "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot 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.

Recommended Operating Conditions

Symbol	Parameter	DM5432			DM7432			Units
	i didilictei	Min	Nom	Max	Min	Nom	Max	Omis
V _{CC}	Supply Voltage	4.5	5	5.5	4.75	5	5.25	٧
V _{IH}	High Level Input Voltage	2			2			V
V _{IL}	Low Level Input Voltage			0.8			0.8	٧
	High Level Output Current			-0.8			-0.8	mA
l _{OL}	Low Level Output Current			16			16	mA
T _A	Free Air Operating Temperature	-55		125	0		70	°C

Electrical Characteristics

over recommended operating free air temperature range (unless otherwise noted)

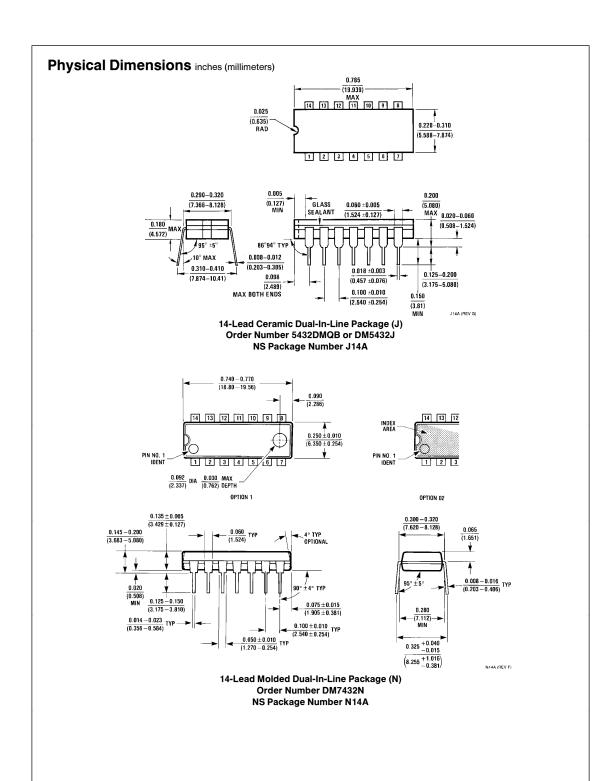
Symbol	Parameter	Conditions		Min	Typ (Note 1)	Max	Units
VI	Input Clamp Voltage	V _{CC} = Min, I _I =	= -12 mA			-1.5	V
V_{OH}	High Level Output Voltage	$V_{CC} = Min, I_{OI}$ $V_{IH} = Min$	_H = Max	2.4	3.4		V
V _{OL}	Low Level Output Voltage	$V_{CC} = Min, I_{OI}$ $V_{IL} = Max$	_L = Max		0.2	0.4	V
II	Input Current @ Max Input Voltage	$V_{CC} = Max, V_1$	_I = 5.5V			1	mA
I _{IH}	High Level Input Current	$V_{CC} = Max, V_I = 2.4V$				40	μΑ
I _{IL}	Low Level Input Current	$V_{CC} = Max, V_I = 0.4V$				-1.6	mA
los	Short Circuit Output Current	V _{CC} = Max (Note 2)	DM54	-20		-55	- mA
			DM74	-18		-55	
I _{CCH}	Supply Current with Outputs High	V _{CC} = Max			15	22	mA
Iccl	Supply Current with Outputs Low	V _{CC} = Max			23	38	mA

Switching Characteristics at $V_{CC} = 5V$ and $T_A = 25^{\circ}C$ (See Section 1 for Test Waveforms and Output Load)

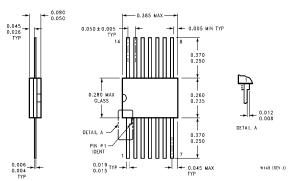
		,,			<u> </u>
Symbol	Parameter	Conditions	Min	Max	Units
t _{PLH}	Propagation Delay Time Low to High Level Output	$C_L = 15 \text{ pF}$ $R_L = 400\Omega$		15	ns
t _{PHL}	Propagation Delay Time High to Low Level Output			22	ns

Note 1: All typicals are at $V_{CC} = 5V$, $T_A = 25^{\circ}C$.

Note 2: Not more than one output should be shorted at a time.



Physical Dimensions inches (millimeters) (Continued)



14-Lead Ceramic Flat Package (W)
Order Number 5432FMQB or DM5432W
NS Package Number W14B

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National Semiconductor Corporation 1111 West Bardin Road Arlington, TX 76017 Tel: 1(800) 272-9959 Fax: 1(800) 737-7018 National Semiconductor Europe

Fax: (+49) 0-180-530 85 86 Email: cnjwgs@tevm2.nsc.com Deutsch Tel: (+49) 0-180-530 85 85 English Tel: (+49) 0-180-532 78 32 Français Tel: (+49) 0-180-532 93 58 Italiano Tel: (+49) 0-180-534 16 80 National Semiconductor Hong Kong Ltd. 13th Floor, Straight Block, Ocean Centre, 5 Canton Rd. Tsimshatsui, Kowloon Hong Kong Tei: (852) 2737-1600 Fax: (852) 2736-9960

National Semiconductor Japan Ltd. Tel: 81-043-299-2309 Fax: 81-043-299-2408