

DESCRIPTION

The 8263/8264 3-Input, 4-Bit Multiplexer is a gating array whose function is analogous to that of a 4-pole, 3-position switch. Four bits of digital data are selected from one of three inputs. A 2-bit channel-selection code determines which input is to be active.

The Data Complement input controls the conditional complement circuit at the Multiplexer output to effect either inverting or non-inverting data flow.

The 8263 employs active output structures to effect minimum delays: the 8264 utilizes bare collector outputs for expansion of input terms.

The 8264 may be expanded by connecting its outputs to the outputs of another 8264. Provision is made for use of a 3-bit code to determine which Multiplexer is selected; thus, eight Multiplexers may be commoned to effect a 4-pole, 24-position switch.

ORDERING CODE (See Section 9 for further Package and Ordering Information)

PACKAGES	PIN CONF.	COMMERCIAL RANGES	MILITARY RANGES
		$V_{CC}=5V \pm 5\%$; $T_A=0^\circ C$ to $+75^\circ C$	$V_{CC}=5V \pm 5\%$; $T_A=-55^\circ C$ to $+125^\circ C$
Plastic DIP	Fig.A	N8263N	
	Fig.B	N8264N	
Ceramic DIP	Fig.A	N8263F	S8263F
	Fig.B	N8264F	S8264F
Flatpak	Fig.A		S8263Q
	Fig.B		S8264Q

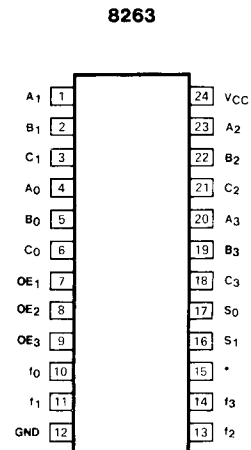
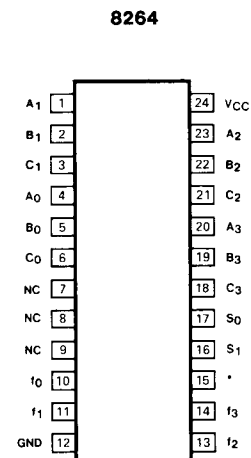
TRUTH TABLE

DATA INPUT			CHANNEL SELECT		DATA COMPLEMENT	OUTPUT ENABLE (8264)	DATA OUTPUTS
A_n	B_n	C_n	S_0	S_1			
A_n	X	X	H	H	L	H	A_n
X	B_n	X	L	H	L	H	B_n
X	X	C_n	H	L	L	H	C_n
X	X	X	L	L	L	H	0
A_n	X	X	H	H	H	H	$\bar{A}_n$
X	B_n	X	L	H	H	H	$\bar{B}_n$
X	X	C_n	H	L	H	H	$\bar{C}_n$
X	X	X	L	L	H	H	H
X	X	X	X	X	X	L	H

H = HIGH

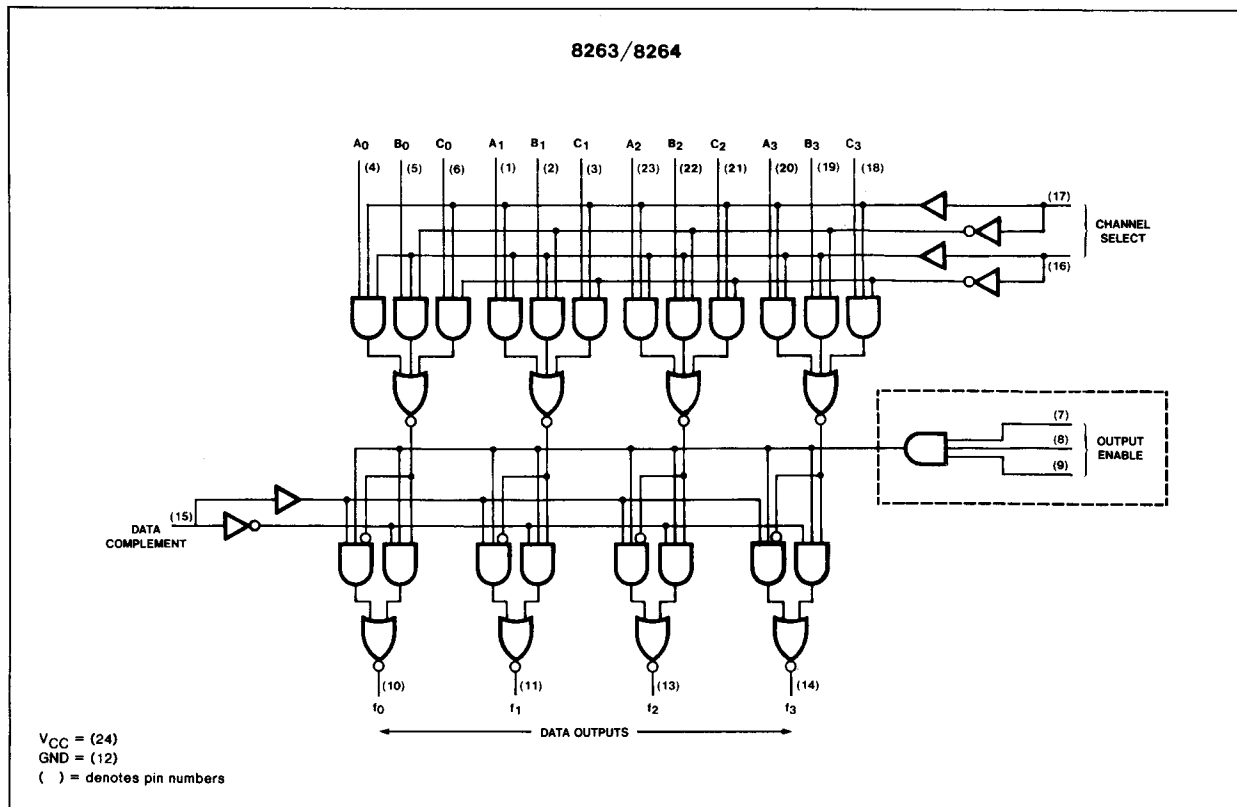
L = LOW

X = Don't care

PIN CONFIGURATIONS**Figure A****Figure B**

*Data complement

LOGIC DIAGRAM



DC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	8263		8264		UNIT
		Min	Max	Min	Max	
V_{OH} Output HIGH voltage	$V_{CC} = 4.75V, I_{OH} = -800\mu A$	2.6				V
I_{OH} Output HIGH current	$V_{CC} = 4.75V, V_{OUT} = 2.0V$				200	μA
V_{OL} Output LOW voltage 8263 8264	$V_{CC} = 4.75V,$ $I_{OL} = 9.6mA$ $I_{OL} = 16mA$		0.4		0.4	V
I_{IL} Input LOW current A_n, B_n, C_n, OE, DC S_0, S_1	$V_{CC} = 5.25V, V_{IN} = 4.5V$		-1.6 -3.2		-1.6 -3.2	mA mA
I_{IH} Input HIGH current A_n, B_n, C_n, OE, DC S_0, S_1	$V_{CC} = 5.25V, V_{IN} = 4.5V$		40 80		40 80	μA μA
I_{OS} Output short circuit current	$V_{CC} = 5V, V_{OUT} = 0V$	-20	-70			mA
I_{CC} Supply current	$V_{CC} = 5.25V$		80		90.4	mA

AC CHARACTERISTICS: $T_A = 25^\circ\text{C}$ (See Section 4 for Waveforms and Conditions)

PARAMETER		TEST CONDITIONS	8263		8264		UNIT
			$C_L = 18\text{pF}$ $R_1 = \infty \Omega$ $R_2 = 150\Omega$		$C_L = 30\text{pF}$ $R_1 = 360\Omega$ $R_2 = 440\Omega$		
			Min	Max	Min	Max	
tPLH tPHL	Propagation delay A _n to f _n	Figures 1 & 2		26 26		36 36	ns ns
tPLH tPHL	Propagation delay S ₀ , S ₁ to f _n	Figures 1 & 2		36 36		36 36	ns ns
tPLH tPHL	Propagation delay DC to f _n	Figures 1 & 2		26 26		30 30	ns ns
tPLH tPHL	Propagation delay OE to f _n	Figure 1				30 30	ns ns

NOTE

b. For family dc characteristics, see inside front cover for 54/74 and 54H/74H, and see inside back cover for 54S/74S and 54LS/74LS specifications.

AC WAVEFORMS

