

8-Line Data Selectors/Multiplexers

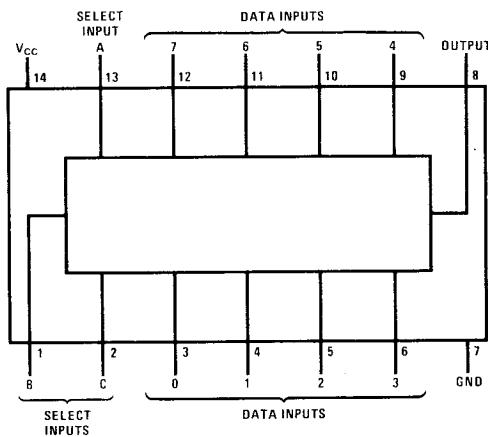
General Description

These monolithic data selectors/multiplexers contain full on-chip binary decoding to select the desired one of eight data sources. The DM7211/8211 have a strobe input, which must be at a low logic level to enable these devices. A high logic level on the strobe latches the output in a high logic state, regardless of the conditions on the other inputs. Depending upon the 3-bit binary number applied to the select lines, the non-inverted data present on the selected input is passed to the output. The circuit can also be used to convert parallel input data to serial output data. If 8 bits of parallel information are applied to the inputs, and if the binary numbers 000 through 111 are sequenced on the select lines, the output will provide a serial presentation of the input bits.

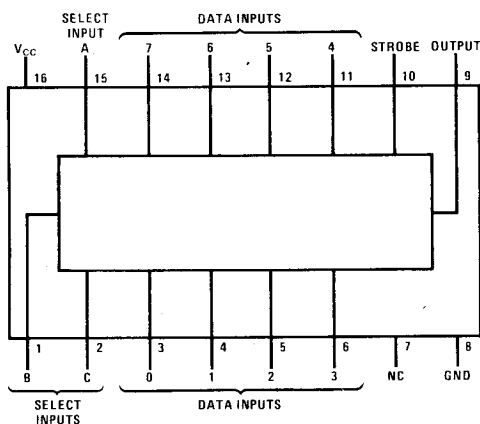
Features

- Full on-chip decoding
- Series 54/74 compatible
- Converts parallel data to serial data
- One volt typical noise immunity
- Typical propagation delay 22 ns
- Typical power dissipation 100 mW

Connection Diagrams



7210(J), (W); 8210(J), (N), (W)



7211(J), (W); 8211(J), (N), (W)

Truth Table

SELECT INPUTS			STROBE (DM7211/DM8211 ONLY)	DATA INPUTS								OUTPUT
C	B	A		0	1	2	3	4	5	6	7	
L	L	L	L	L	X	X	X	X	X	X	X	L
L	L	L	L	H	X	X	X	X	X	X	X	H
L	L	H	L	X	L	X	X	X	X	X	X	L
L	L	H	L	X	H	X	X	X	X	X	X	H
L	H	L	L	X	X	L	X	X	X	X	X	L
L	H	L	L	X	X	H	X	X	X	X	X	H
L	H	L	L	X	X	X	L	X	X	X	X	L
L	H	H	L	X	X	X	H	X	X	X	X	H
H	L	L	L	X	X	X	X	L	X	X	X	L
H	L	L	L	X	X	X	X	H	X	X	X	H
H	L	H	L	X	X	X	X	X	H	X	X	L
H	L	H	L	X	X	X	X	X	H	X	X	H
H	H	L	L	X	X	X	X	X	X	L	X	L
H	H	L	L	X	X	X	X	X	H	X	X	H
H	H	H	L	X	X	X	X	X	X	X	L	L
H	H	H	L	X	X	X	X	X	X	X	H	H
X	X	X	H	X	X	X	X	X	X	X	X	H

H = High Level
L = Low Level
X = Don't Care

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

PARAMETER		CONDITIONS	DM72/82						UNITS
			10			11			
			MIN	TYP(1)	MAX	MIN	TYP(1)	MAX	
V _{IH}	High Level Input Voltage		2			2			V
V _{IL}	Low Level Input Voltage		0.8			0.8			V
V _I	Input Clamp Voltage	V _{CC} = Min, I _I = -12 mA T _A = 25°C	-1.5			-1.5			V
I _{OH}	High Level Output Current		-400			-400			μA
V _{OH}	High Level Output Voltage	V _{CC} = Min, V _{IH} = 2V I _{OH} = -400μA	2.4			2.4			V
I _{OL}	Low Level Output Current		16			16			mA
V _{OL}	Low Level Output Voltage	V _{CC} = Min, V _{IL} = 0.8V I _{OL} = 16 mA	0.4			0.4			V
I _I	Input Current at Maximum Input Voltage	V _{CC} = Max, V _I = 5.5V	1			1			mA
I _{IH}	High Level Input Current	V _{CC} = Max, V _I = 2.4V	40			40			μA
I _{IL}	Low Level Input Current	V _{CC} = Max, V _I = 0.4V	-1.6			-1.6			mA
I _{OS}	Short Circuit Output Current	V _{CC} = Max(2)	-18		-55		-18 -55		mA
I _{CC}	Supply Current	V _{CC} = Max(3)	20		33		20 33		mA

Notes

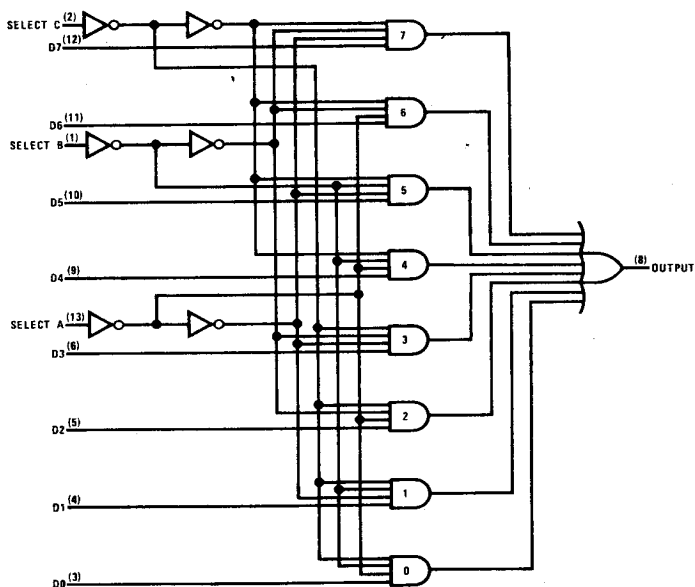
- (1) All typical values are at V_{CC} = 5V, T_A = 25°C.
(2) Not more than one output should be shorted at a time.
(3) I_{CC} is measured with all inputs grounded.

Switching Characteristics V_{CC} = 5V, T_A = 25°C

PARAMETER		FROM	TO	CONDITIONS	DM72/82						UNITS
					10			11			
					MIN	TYP	MAX	MIN	TYP	MAX	
t _{PLH}	Propagation Delay Time, Low-to-High Level Output	Data	Output	C _L = 15 pF, R _L = 400Ω	23	32		23	32		ns
t _{PHL}	Propagation Delay Time, High-to-Low Level Output	Data	Output		21	30		21	30		ns
t _{PLH}	Propagation Delay Time, Low-to-High Level Output	Strobe	Output		N/A			21	30		ns
t _{PHL}	Propagation Delay Time, High-to-Low Level Output	Strobe	Output		N/A			19	27		ns
t _{PLH}	Propagation Delay Time, Low-to-High Level Output	Select	Output		31	43		31	43		ns
t _{PHL}	Propagation Delay Time, High-to-Low Level Output	Select	Output		31	42		31	42		ns

Logic Diagrams

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