

DM54155/DM74155 Dual 2-Line to 4-Line Decoders/Demultiplexers

General Description

These TTL circuits feature dual 1-line-to-4-line demultiplexers with individual strobes and common binary-address inputs in a single 16-pin package. When both sections are enabled by the strobes, the common address inputs sequentially select and route associated input data to the appropriate output of each section. The individual strobes permit activating or inhibiting each of the 4-bit sections as desired. Data applied to input C1 is inverted at its outputs and data applied at C2 is true through its outputs. The inverter following the C1 data input permits use as a 3-to-8-line decoder, or 1-to-8-line demultiplexer, without external gating. Input clamping diodes are provided on these circuits to minimize transmission-line effects and simplify system design.

Features

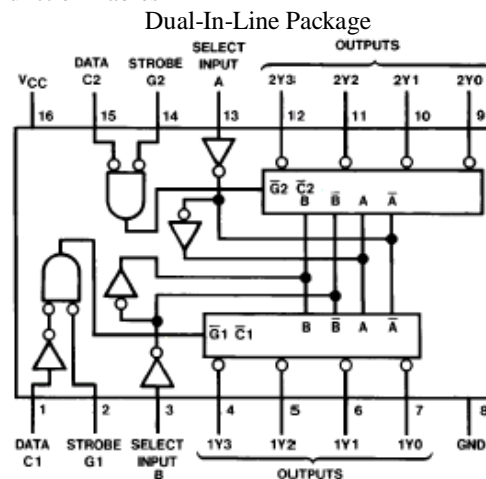
Applications:

- Dual 2-to-4-line decoder
- Dual 1-to-4-line demultiplexer
- 3-to-8-line decoder
- 1-to-8-line demultiplexer

Individual strobes simplify cascading for decoding or demultiplexing larger words

Input clamping diodes simplify system design

Connection Diagram and Function Tables



†C = inputs C1 and C2 connected together

‡G = inputs G1 and G2 connected together

H = high level, L = low level, X = don't care

2-Line-to-4-Line Decoder or 1-Line-to-4-Line Demultiplexer

Inputs			Outputs			
Select	Strobe	Data				
BA	G1	C1	1Y0	1Y1	1Y2	1Y3
XX	H	X	H	H	H	H

LL	L	L	L	H	H	H
LH	L	L	H	L	H	H
HL	L	L	H	H	L	H
HH	L	L	H	H	H	L
XX	X	H	H	H	H	H

Inputs			Outputs			
Select	Strobe	Data				
BA	G2	C2	2Y0	2Y1	2Y2	2Y3
XX	H	X	H	H	H	H
LL	L	L	L	H	H	H
LH	L	L	H	L	H	H
HL	L	L	H	H	L	H
HH	L	L	H	H	H	L
XX	X	H	H	H	H	H

3-Line-to-8-Line Decoder or 1-Line-to-8-Line Demultiplexer

Inputs		Outputs							
Select	Strobe-Or-Data	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
C ² BA	G ³	2Y0	2Y1	2Y2	2Y3	1Y0	1Y1	1Y2	1Y3
XXX	H	H	H	H	H	H	H	H	H
LLL	L	L	H	H	H	H	H	H	H
LLH	L	H	L	H	H	H	H	H	H
LHL	L	H	H	L	H	H	H	H	H
LHH	L	H	H	H	L	H	H	H	H
HLL	L	H	H	H	H	L	H	H	H
HLH	L	H	H	H	H	H	L	H	H
HHL	L	H	H	H	H	H	H	L	H
HHH	L	H	H	H	H	H	H	H	L