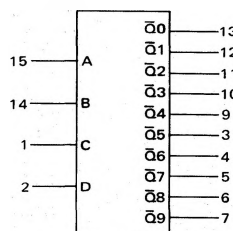
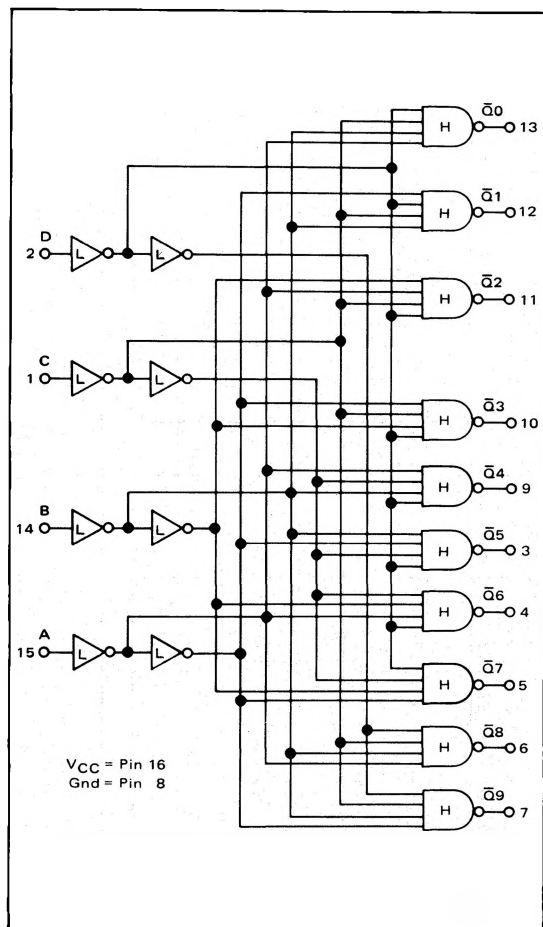


BCD-TO-DECIMAL DECODER

MC9300/MC8300 series

MC9301L*
MC8301L, P*

This decoder converts four-bit BCD inputs to select one-of-ten outputs. The selected output is in the logic "0" state while all other outputs are in the logic "1" state. When a binary code greater than nine is applied to the inputs, all outputs will be in the logic "1" state. This device is useful in memory selection, industrial control, and data routing applications.

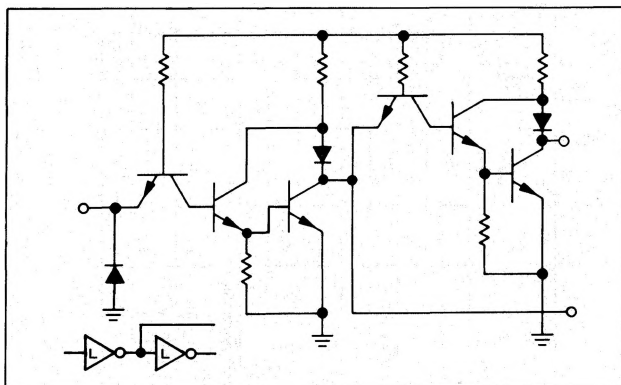


Input Loading Factor = 1
Output Loading Factor = 10
Total Power Dissipation = 125 mW typ/pkg
Propagation Delay Time = 22 ns typ

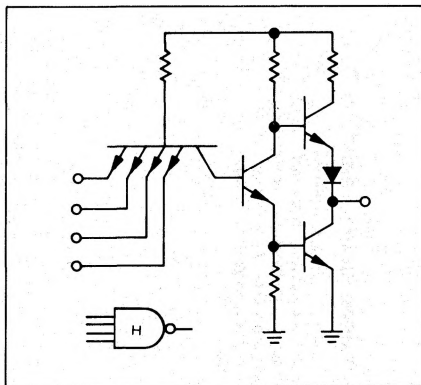
TRUTH TABLE

INPUT				OUTPUT									
D	C	B	A	9	8	7	6	5	4	3	2	1	0
0	0	0	0	1	1	1	1	1	1	1	1	1	0
0	0	0	1	1	1	1	1	1	1	1	0	1	1
0	0	1	0	1	1	1	1	1	1	0	1	1	1
0	0	1	1	1	1	1	1	1	0	1	1	1	1
0	1	0	0	1	1	1	1	0	1	1	1	1	1
0	1	0	1	1	1	1	0	1	1	1	1	1	1
0	1	1	0	1	1	1	0	1	1	1	1	1	1
0	1	1	1	1	1	0	1	1	1	1	1	1	1
1	0	0	0	1	0	1	1	1	1	1	1	1	1
1	0	0	1	0	1	1	1	1	1	1	1	1	1
1	0	1	0	1	1	1	1	1	1	1	1	1	1
1	0	1	1	1	1	1	1	1	1	1	1	1	1
1	1	0	0	1	1	1	1	1	1	1	1	1	1
1	1	0	1	1	1	1	1	1	1	1	1	1	1
1	1	1	0	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1

LOW-LEVEL INVERTER



HIGH-LEVEL "NAND" GATE

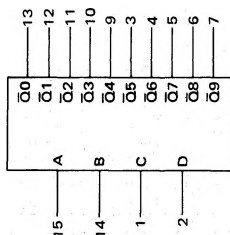


*L suffix = 16-pin dual in-line ceramic package (Case 620).
P suffix = 16-pin dual in-line plastic package (Case 612).

MC9301, MC8301 (continued)

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one input and one output. Test other inputs and outputs in the same manner according to the truth table. Additionally, test all input-output combinations according to the truth table.

[illegible]

MC9301, MC8301 (continued)

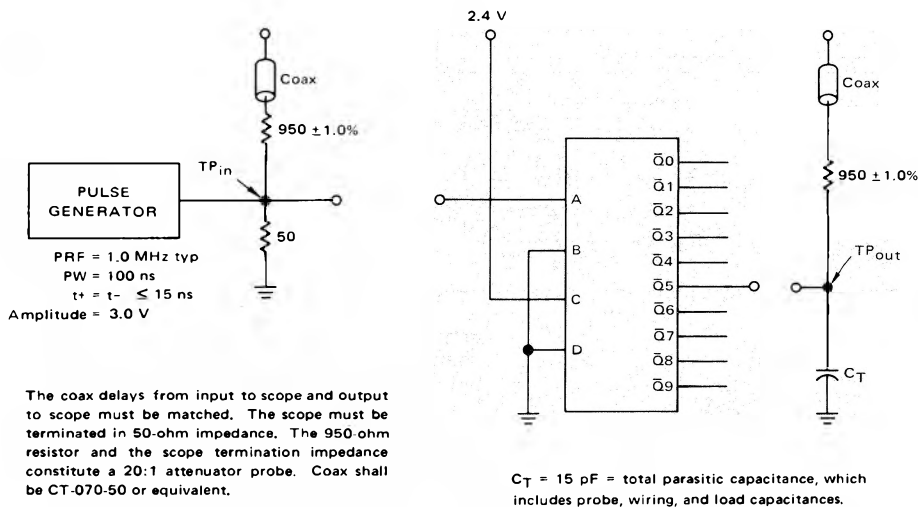
INPUT and OUTPUT LOADING FACTORS with respect to MTTL and MDTL families

FAMILY	MC9301 INPUT LOADING FACTOR	MC9301 OUTPUT LOADING FACTOR
MC9300	1.0	10
MC500	1.06	10.6
MC2100	0.7	7.0
MC3100	0.7	7.0
MC4300	1.0	10
MC5400	1.0	7.75
MC930*	Fan-Out = 2 (6.0 k ohm pullup) Fan-Out = 8 (2.0 k ohm pullup)	9.4

FAMILY	MC8301 INPUT LOADING FACTOR	MC8301 OUTPUT LOADING FACTOR
MC8300	1.0	10
MC400	1.0	9.0
MC2000	0.6	6.0
MC3000	0.7	7.4
MC4000	1.0	10
MC7400	1.0	8.75
MC830*	Fan-Out = 2 (6.0 k ohm pullup) Fan-Out = 8 (2.0 k ohm pullup)	10.8

*Due to logic "1" state drive limitations of the MDTL family.

SWITCHING TIME TEST CIRCUIT



VOLTAGE WAVEFORMS

