

SPEED/PACKAGE AVAILABILITY PIN CONFIGURATION

8250—A,F,W
 8251,52—B,F,W
 82S50—A,F
 82S52—B,F

DESCRIPTION

The 8250, 8251 and 8252 are gate arrays for decoding and logic conversion applications.

The 8250 converts 3 lines of input to a one-of-eight output. The fourth input line (D) is utilized as an inhibit to allow use in larger decoding networks.

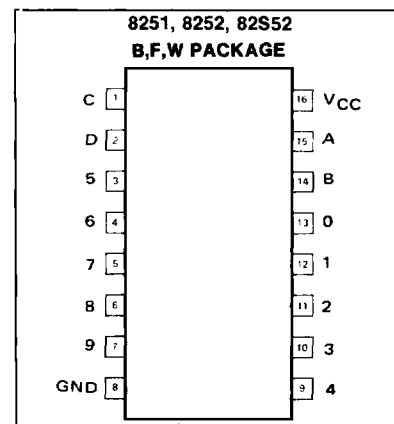
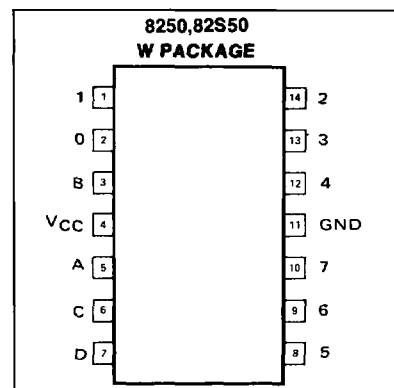
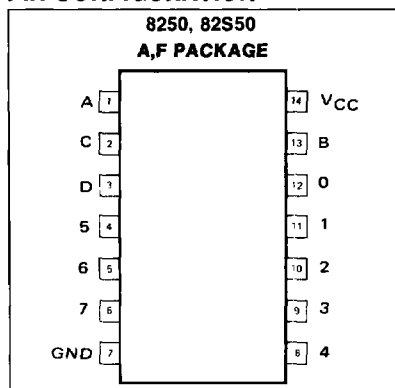
The 8251 and 8252 convert a 4 line input code (with 1-2-4-8 weighting) to a one-of-ten output as shown in the Truth Table.

The 8252 is a direct replacement for the 9301 with all outputs being forced high when a binary code greater than nine is applied to the inputs.

The selected output is a logic "0".

TRUTH TABLE

INPUT STATE				OUTPUT STATES											
				8250/82S50							8251		8252/82S52		
A	B	C	D	0	1	2	3	4	5	6	7	8	9	8	9
0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1
0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1
0	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1
1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1
0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1
1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1
0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	1
1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0
0	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1
1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1
0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1
1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	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	1	1	0	1	1

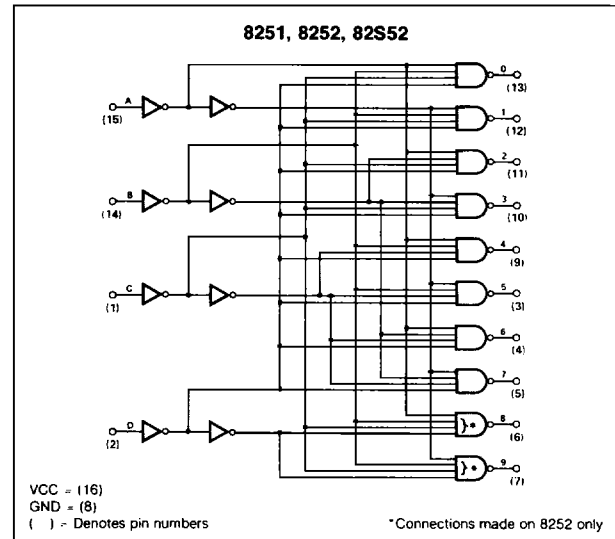
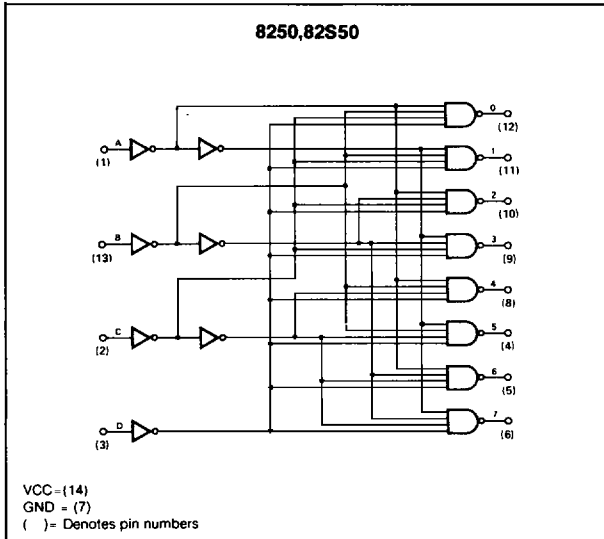


LOGIC

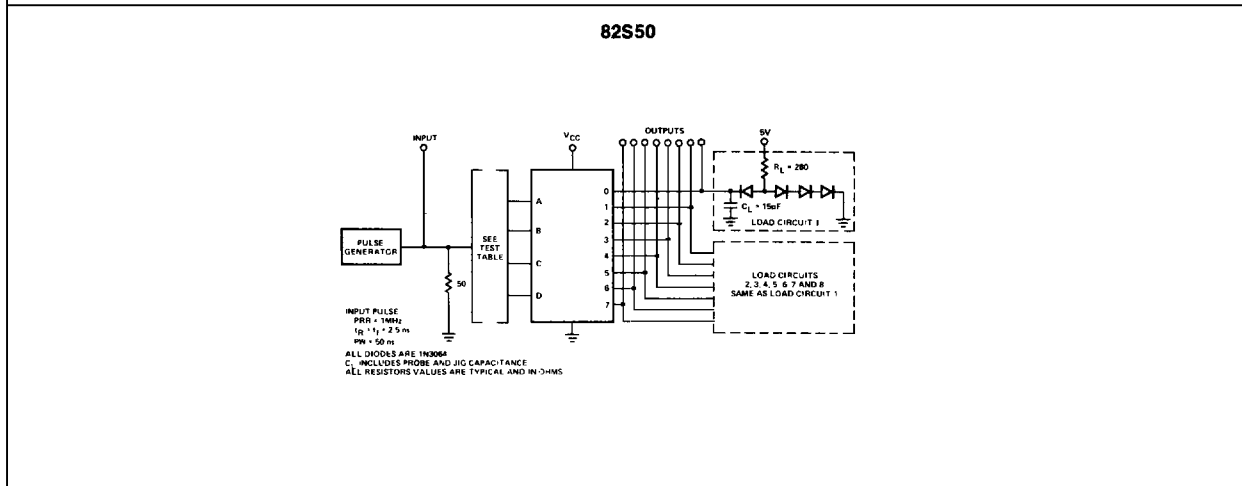
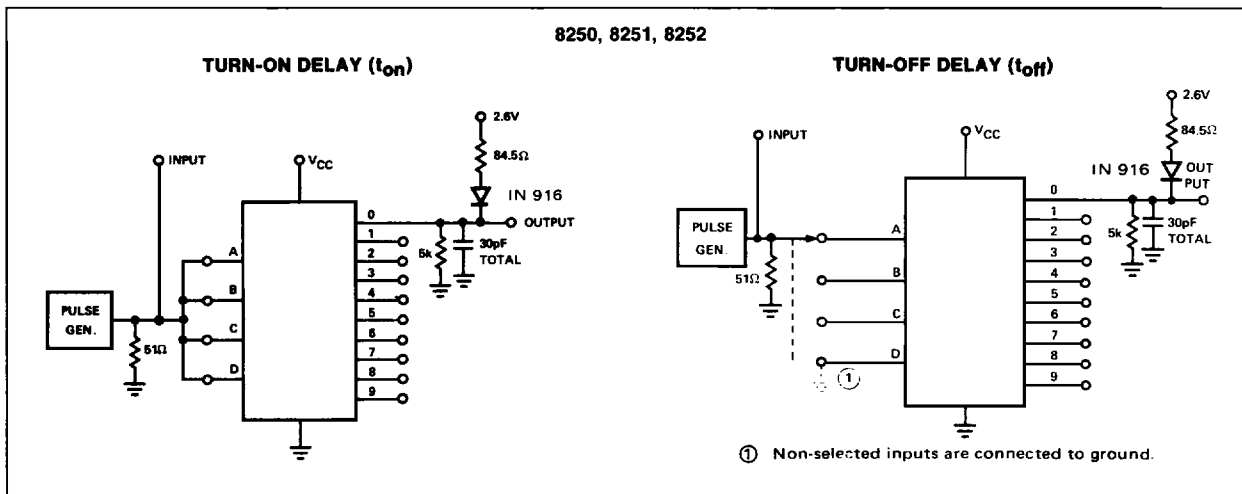
SWITCHING CHARACTERISTICS $T_A=25^\circ\text{C}$, $V_{CC}=5\text{V}$

PARAMETER		LIMITS										UNIT
		8250		8251		8252		82S50		82S52		
		TYP	MAX	TYP	MAX	TYP	MAX	TYP	MAX	TYP	MAX	
t_{on}	TURN-ON DELAY	20	35	20	35	20	35	12	16	12	16	ns
t_{off}	TURN-OFF DELAY	20	35	20	35	20	35	12	16	12	16	ns

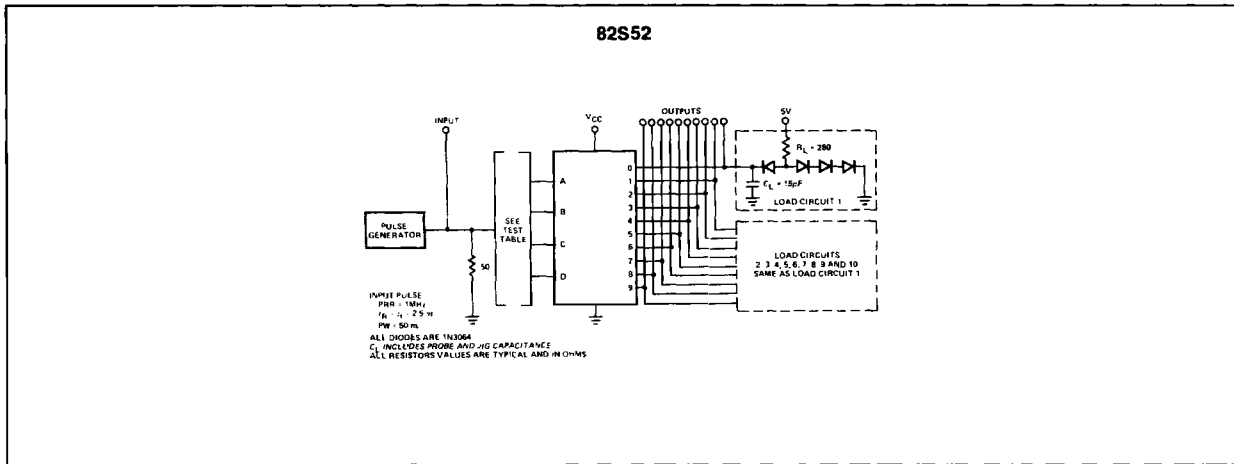
LOGIC DIAGRAMS



AC TEST FIGURE



AC TEST FIGURE (CONT'D.)



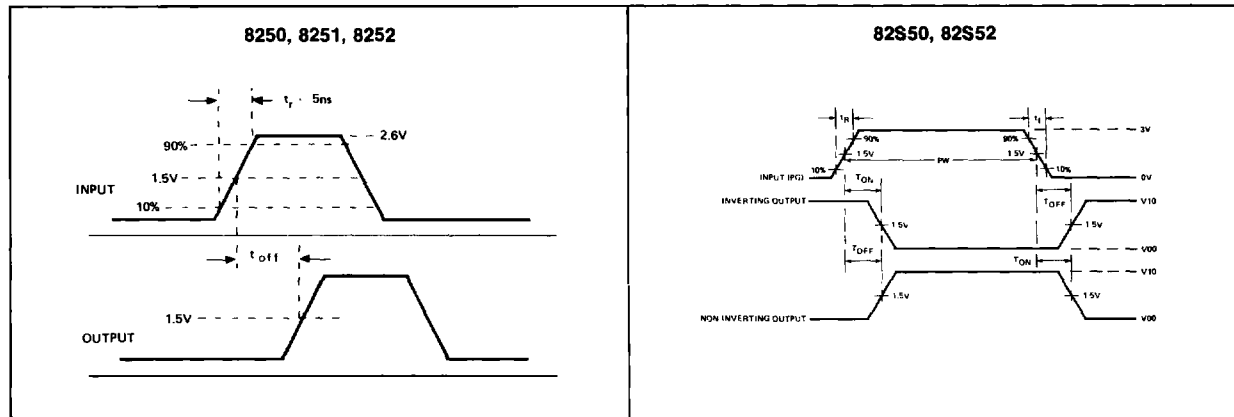
AC TEST TABLE

TEST NO.	82S50 INPUTS				82S50 OUTPUTS							
	A	B	C	D	0	1	2	3	4	5	6	7
1	1	1	PG	0								T
2	1	1	PG	0			T					T
3	PG	1	0	0		T	T					
4	0	PG	1	0				T		T		
5	0	0	0	PG	T							
6	1	0	PG	0		T				T		

TEST NO.	82S52 INPUTS				82S52 OUTPUTS									
	A	B	C	D	0	1	2	3	4	5	6	7	8	9
1	0	0	PG	0					T					
2	PG	1	0	0			T	T						
3	0	0	0	PG	T								T	
4	1	0	PG	0		T				T				
5	1	PG	0	1										T
6	PG	1	1	0										

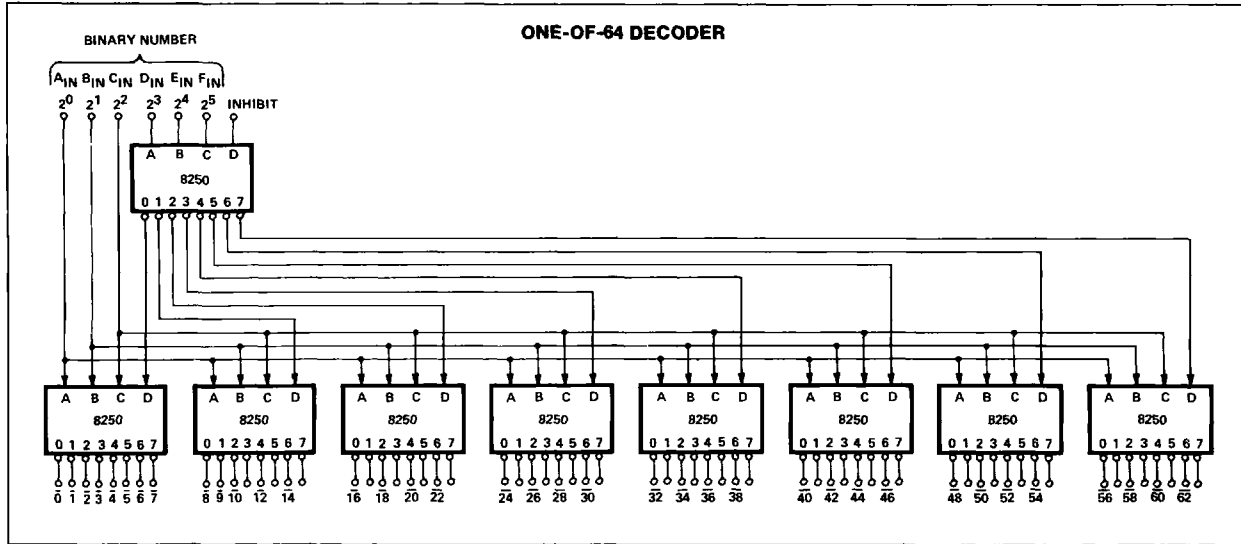
"1" = 2.7V "0" = Ground

VOLTAGE WAVEFORMS



LOGIC

TYPICAL APPLICATIONS



TYPICAL APPLICATIONS

