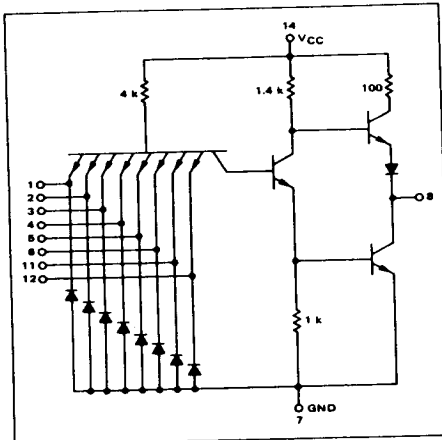


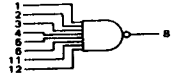
8-INPUT "NAND" GATE

MTTL MC7400P series  
MTTL MC5400L/7400L series

MC5430L\*  
MC7430P,L†



This device is an 8-input NAND gate. It is useful when processing a large number of variables, such as in encoders and decoders.



Positive Logic:  
 $B = 1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 11 \cdot 12$   
Negative Logic:  
 $B = 1 + 2 + 3 + 4 + 5 + 6 + 11 + 12$

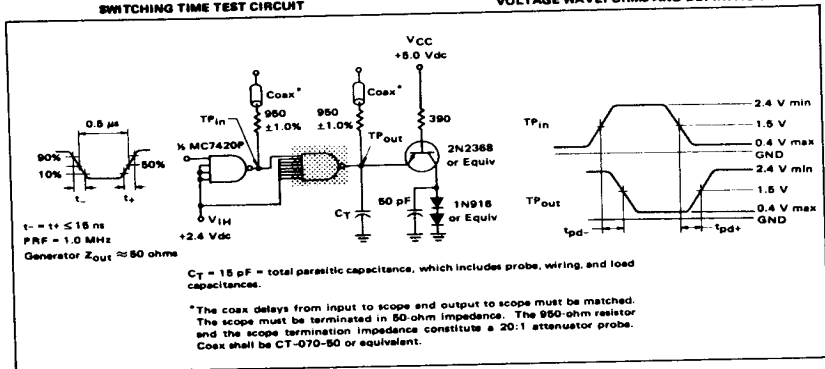
Input Loading Factor = 1  
Output Loading Factor = 10

Total Power Dissipation = 10 mW typ/pkg  
Propagation Delay Time = 13 ns typ

\* L suffix = TO-118 ceramic package (Case 632)  
† suffix = TO-116 plastic package (Case 606)  
See General Information section for package outline dimensions.

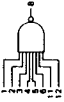
SWITCHING TIME TEST CIRCUIT

VOLTAGE WAVEFORMS AND DEFINITIONS



4-11

**ELECTRICAL CHARACTERISTICS**  
 Test procedures are shown for only one input of this device. To complete testing, sequence through remaining inputs in the same manner



Characteristic	Symbol	Pin Under Test	MC5430 Test Limits -55 To +125 °C				MC7430 Test Limits 0 To +70 °C				TEST CURRENT/VOLTAGE VALUES (All Temperatures)																						
			Min	Max	Unit	Test	Min	Max	Unit	Test	$I_{OL}$	$I_{OH}$	$V_{IL}$	$V_{IH}$	$V_{M1}$	$V_{M2}$	$V_{M3}$	$V_{M4}$	$V_{M5}$	$V_{M6}$	$V_{M7}$	$V_{M8}$	$V_{M9}$	$V_{M10}$	$V_{M11}$	$V_{M12}$	$V_{CC}$	$V_{CC}$	$V_{CC}$				
Input Forward Current	$I_F$	1	-	-1.6	mAdc	-	-1.6	mAdc	-	-	1	-	-	2.3,4,5,6,11,12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
Leakage Current	$I_{R1}$	1	-	40	$\mu$ Adc	-	40	$\mu$ Adc	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
	$I_{R2}$	1	-	1.0	mAdc	-	1.0	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
Output Output Voltage	$V_{OL}$	8	-	0.4	Vdc	-	0.4	Vdc	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
	$V_{OH}$	8	2.4	-	Vdc	2.4	-	Vdc	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
Short-Circuit Current	$I_{SC}$	8	-20	-55	mAdc	-18	-55	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7	
Power Requirements																																	
Power Supply's Drain	$I_{PDI}$	14	-	5.1	mAdc	-	5.1	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7
	$I_{PDL}$	14	-	1.8	mAdc	-	1.8	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7
Switching Parameters																																	
Turn-On Delay	$t_{p-}$	1,8	-	15**	ns	-	15**	ns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7
Turn-Off Delay	$t_{p+}$	1,8	-	29**	ns	-	29**	ns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	7

\*\* Tested only at 25 °C.

380

380