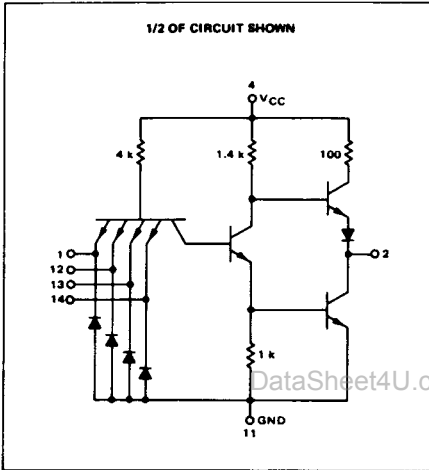


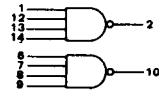
DUAL 4-INPUT "NAND" GATE

MTTL MC5400F/7400F series

MC5420F\*  
MC7420F\*



This device consists of two 4-input NAND gates. These gates may be cross-coupled to form a set-reset flip-flop.



Positive Logic: 2 = 1 · 12 · 13 · 14  
Negative Logic: 2 = 1 + 12 + 13 + 14

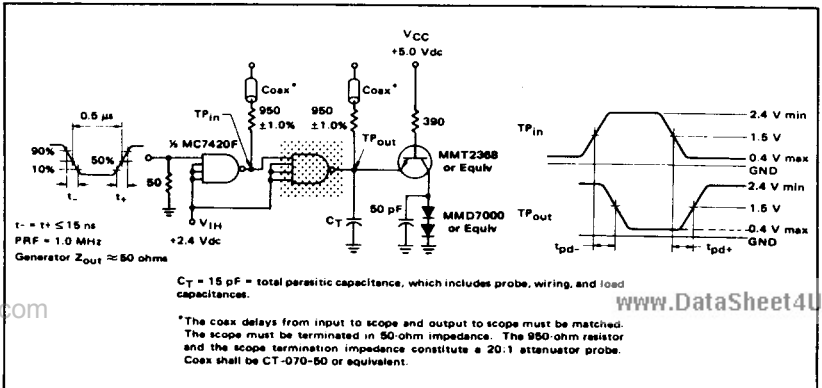
Input Loading Factor = 1  
Output Loading Factor = 10

Total Power Dissipation = 20 mW typ/pkg  
Propagation Delay Time = 13 ns typ

\* F suffix = TO-88 ceramic package (Case 808).  
See General Information section for package outline dimensions.

SWITCHING TIME TEST CIRCUIT

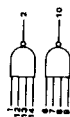
VOLTAGE WAVEFORMS AND DEFINITIONS



## MC5420F, MC7420F (continued)

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## ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one gate. The other gates is tested in the same manner. Further, test procedures are shown for only one input of the gate under test. To complete testing, sequence through remaining inputs.

TEST CURRENT/VOLTAGE VALUES (All Temperatures)														
mA														
Volts														
	$I_{OL}$	$I_{OH}$	$V_{IL}$	$V_{IH}$	$V_{OL}$	$V_{OH}$	$V_{T1}$	$V_{T2}$	$V_{T3}$	$V_{T4}$	$V_{T5}$	$V_{T6}$	$V_{T7}$	$V_{T8}$
	16	16	-0.4	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.0	4.5	5.5	5.25
TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:														
	$I_{OL}$	$I_{OH}$	$V_{IL}$	$V_{IH}$	$V_{OL}$	$V_{OH}$	$V_{T1}$	$V_{T2}$	$V_{T3}$	$V_{T4}$	$V_{T5}$	$V_{T6}$	$V_{T7}$	$V_{T8}$
<b>Input</b>														
Forward Current	1	-	-1.6	mAdc	-	-1.6	mAdc	-	-	-	-	-	-	-
Leakage Current	1	-	40	$\mu$ Adc	-	40	$\mu$ Adc	-	-	-	-	-	-	-
<b>Output</b>														
Output Voltage	2	-	0.4	Vdc	-	0.4	Vdc	-	-	-	-	-	-	-
Short-Circuit Current	2	-	2.4	-	Vdc	2.4	-	Vdc	-	-	-	-	-	-
Power Requirements (Total Device)	4	-	20	-55	mAdc	-18	-55	mAdc	-	-	-	-	-	-
Power Supply Drain	4	-	10.2	mAdc	-	10.2	mAdc	-	-	-	-	-	-	-
<b>Switching Parameters</b>														
Turn-On Delay	1,2	-	15**	ns	-	15**	ns	-	-	-	-	-	-	-
Turn-Off Delay	1,2	-	29**	ns	-	29**	ns	-	-	-	-	-	-	-

\*\* Tested only at 25°C.

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