

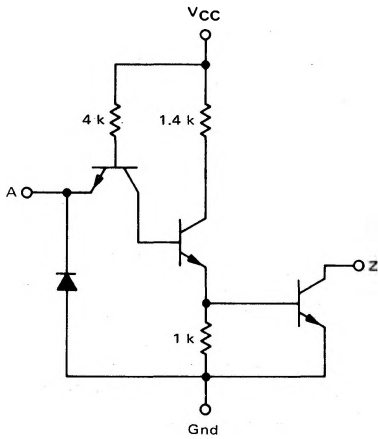
HEX INVERTER  
(Open Collector)

MC5400/7400 series

MC5405 • MC7405

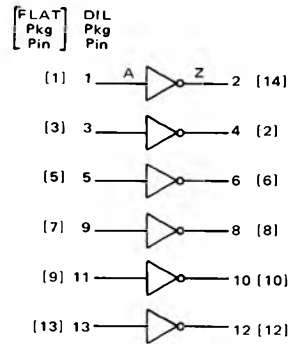
Add Suffix F for TO-86 ceramic package (Case 607).  
 Suffix L for TO-116 ceramic package (Case 632).  
 Suffix P for TO-116 plastic package (Case 605) MC7405 only.

CIRCUIT SCHEMATIC  
1/6 OF CIRCUIT SHOWN



VCC = Pin 14 [4]  
 Gnd = Pin 7 [11]

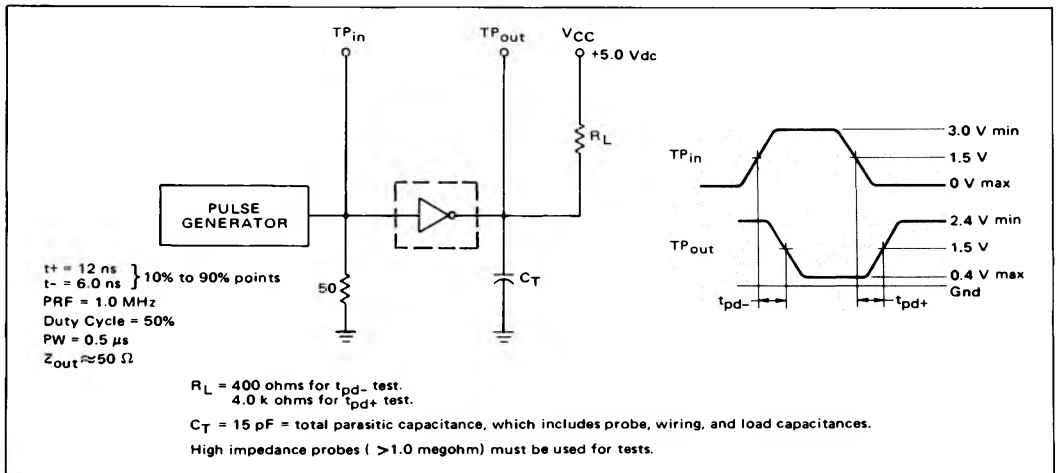
This device consists of six independent inverting gates with no output pullup circuits. It can be used where the Wired-OR function is required, or for driving discrete components.



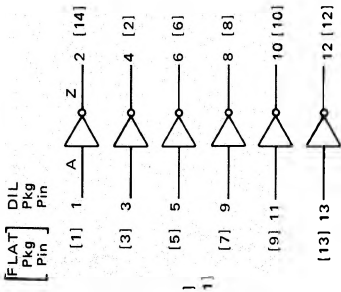
Positive Logic:  $Z = \bar{A}$

Input Loading Factor = 1  
 Output Loading Factor = 10  
 Total Power Dissipation = 60 mW typ/pkg  
 Propagation Delay Time = 35 ns typ

SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



MC5405, MC7405 (continued)



**ELECTRICAL CHARACTERISTICS**  
 Test procedures are shown for only one inverter. The other inverters are tested in the same manner.

Characteristic	Symbol	Pin Under Test	MC5405 Test Limits -55 to +125°C		MC7405 Test Limits 0 to +70°C		TEST CURRENT/VOLTAGE VALUES (All Temperatures)												Pin 7[11] is grounded for all tests in addition to the pins listed below: Gnd															
			Min	Max	Unit	Min	Max	mA																										
			TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:																															
Input Forward Current	I <sub>F</sub>	A	-	-1.6	mAdc	-	-1.6	mAdc	V <sub>CEX</sub>	V <sub>IL</sub>	V <sub>IH</sub>	V <sub>IHH</sub>	V <sub>R1</sub>	V <sub>R2</sub>	V <sub>th1</sub>	V <sub>th0</sub>	V <sub>CC</sub>	V <sub>CCL</sub>	V <sub>CCH</sub>	16	5.5	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.0	4.50	5.50			
Leakage Current	I <sub>R1</sub>	A	-	40	μAdc	-	40	μAdc	-	-	A	-	-	-	-	-	-	-	-	16	5.5	0.4	2.4	5.5	4.5	5.0	2.0	0.8	5.0	4.75	5.25			
Output Voltage	V <sub>OL</sub>	A	-	1.0	mAdc	-	1.0	mAdc	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Output Leakage Current	I <sub>CEX</sub>	Z	0.25	-	mAdc	0.25	-	mAdc	Z	-	-	-	-	-	A	-	-	-	-	Z	-	-	-	-	-	-	-	-	-	-	-	-	-	
Power Requirements (Total Device)	I <sub>PDH</sub>	V	-	33**	mAdc	-	33**	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Switching Parameters	I <sub>PDL</sub>	V	-	12**	mAdc	-	12**	mAdc	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turn-On Delay	t <sub>pd-</sub>	A,Z	-	15**	ns	-	15**	ns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turn-Off Delay	t <sub>pd+</sub>	A,Z	-	55**	ns	-	55**	ns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Ground inputs to inverters not under test.  
 \*\* Tested only at 25°C.