

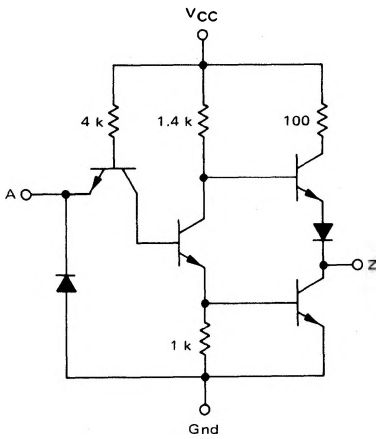
HEX INVERTER

MC5400/7400 series

MC5404 • MC7404

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) MC7404 only.

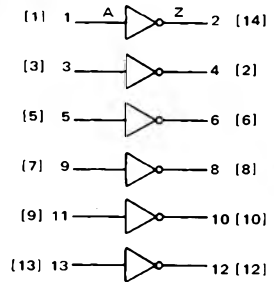
CIRCUIT SCHEMATIC 1/6 OF CIRCUIT SHOWN



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

[FLAT
Pkg
Pin]

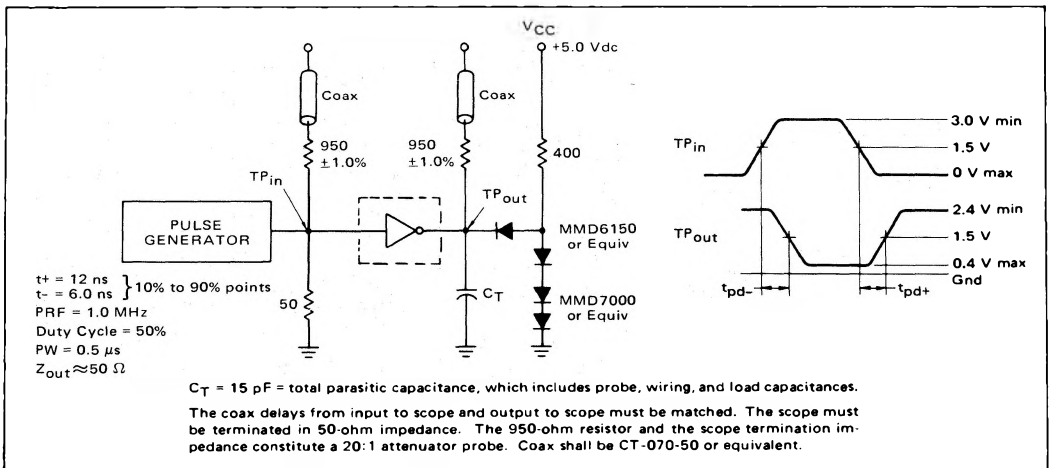
DIL
Pkg
Pin



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

Input Loading Factor = 1
 Output Loading Factor = 10
 Total Power Dissipation = 60 mW typ/pkg
 Propagation Delay Time = 13 ns typ

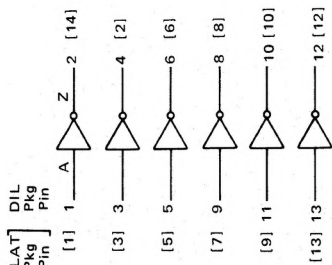
SWITCHING TIME TEST CIRCUIT AND WAVEFORMS



MC5404, MC7404 (continued)

ELECTRICAL CHARACTERISTICS

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



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

Characteristic	Symbol	Pin Under Test	MC5404 Test Limits -55 to +125°C			MC7404 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	Unit	Volts																			
Input									TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:																			
Forward Current	I_F	A	-	-1.6	mAdc	-	-1.6	mAdc	I_{OH}	A	-	-	V_{IH}	2.4	V_{IHH}	5.5	V_{R1}	4.5	V_{R2}	5.0	V_{th0}	0.8	V_{CC}	5.0	V_{CCL}	4.50	V_{CCH}	5.50
Leakage Current	I_{R1}	A	-	40	μ Adc	-	40	μ Adc	I_{OL}	-	-	-	V_{IL}	0.4	V_{IHL}	5.5	V_{R1}	4.5	V_{R2}	5.0	V_{th1}	0.8	V_{CC}	5.0	V_{CCL}	4.75	V_{CCH}	5.25
Output									I_{R2}	A	-	-	V_{IL}	0.4	V_{IHL}	5.5	V_{R1}	4.5	V_{R2}	5.0	V_{th1}	0.8	V_{CC}	5.0	V_{CCL}	4.75	V_{CCH}	5.25
Output Voltage	V_{OL}	Z	-	0.4	Vdc	-	0.4	Vdc	I_{OH}	Z	-	-	V_{IH}	-	V_{IHH}	-	V_{R1}	-	V_{R2}	-	V_{th1}	-	V_{CC}	-	V_{CCL}	-	V_{CCH}	-
Short-Circuit Current	V_{OH}	Z	2.4	-	Vdc	2.4	-	Vdc	I_{OL}	-	Z	-	V_{IL}	-	V_{IHL}	-	V_{R1}	-	V_{R2}	-	V_{th1}	-	V_{CC}	-	V_{CCL}	-	V_{CCH}	-
Power Requirements (Total Device)	I_{SC}^f	Z	-20	-55	mAdc	-18	-55	mAdc																				
	I_{ppH}	V	-	33	mAdc	-	33	mAdc																				
Switching Parameters	I_{pDL}	V	-	12	mAdc	-	12	mAdc																				
	t_{pd-}	A,Z	-	15**	ns	-	15**	ns																				
Turn-On Delay	t_{pd+}	A,Z	-	22**	ns	-	22**	ns																				
	t_{pd+}	A,Z	-	22**	ns	-	22**	ns																				

*Ground inputs to inverters not under test.

**Tested only at 25°C.

^f Only one output should be shorted at a time.