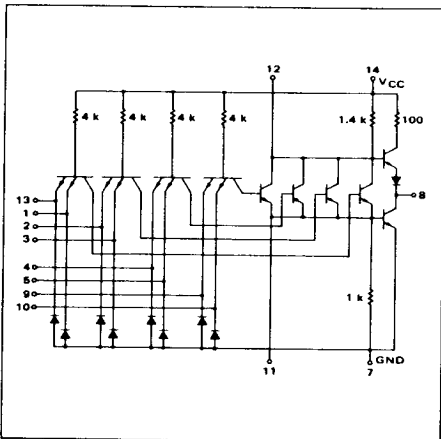


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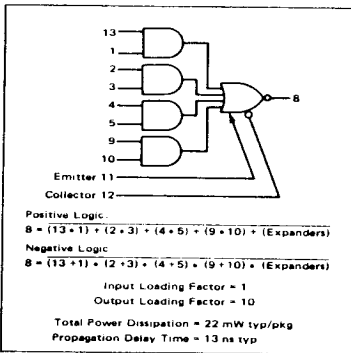
**EXPANDABLE 4-WIDE 2-INPUT
"AND-OR-INVERT" GATE**

**MTTL MC7400P series
MTTL MC5400L/7400L series**

**MC5453L*
MC7453P,L***



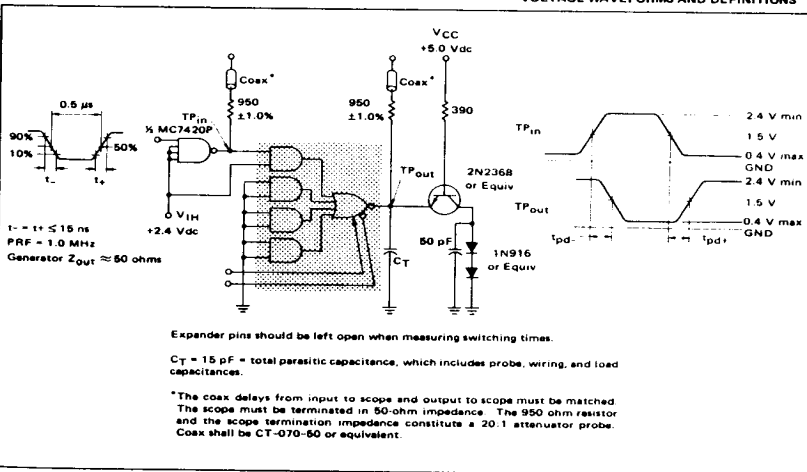
This device consists of four 2-input AND gates ORed together and inverted. Up to four MC5460/7460 expander gates may be ORed with the device at the expander points.



*L suffix = TO-118 ceramic package (Case 632)
 P suffix = TO-118 plastic package (Case 605)
 See General Information section for package outline dimensions.

SWITCHING TIME TEST CIRCUIT

VOLTAGE WAVEFORMS AND DEFINITIONS



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FIGURE 1 - I_{EX} TEST CIRCUIT

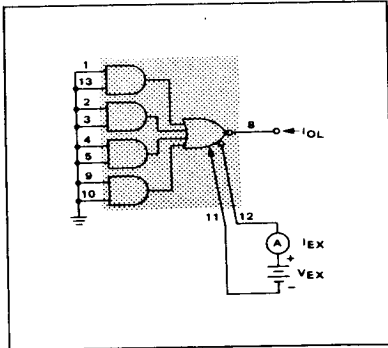


FIGURE 2 - V_{BE} TEST CIRCUIT

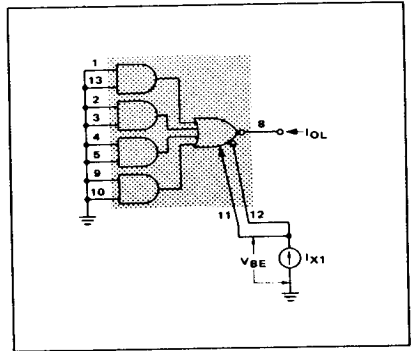
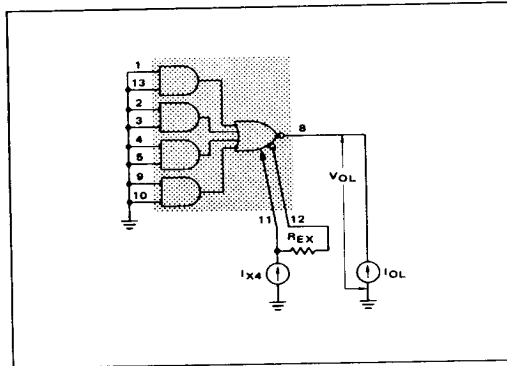


FIGURE 3 - V_{OL} TEST CIRCUIT



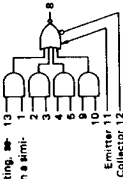
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ELECTRICAL CHARACTERISTICS

Test procedures are shown for one input of the device. To complete testing, sequence through remaining inputs in a similar manner.



MC5453
MC7453

Characteristic	Symbol	TEST CURRENT/VOLTAGE VALUES (All Temperatures)											Gnd				
		mA			Ohms			Volts									
		I_{CC}	I_{OH}	I_{OL}	$R_{EX}^{\#}$	$I_{EX}^{\#}$	$V_{EX}^{\#}$	$V_{OH}^{\#}$	$V_{OL}^{\#}$	V_{IH}	V_{IL}	V_{TH}		V_{TL}	V_{CC}	V_{CEC}	
		TEST CURRENT/VOLTAGE APPLIED TO PINS LISTED BELOW:															
Supply Forward Current	I_T	1	-	-	-	-	-	-	1	-	13	-	-	-	14	2.3,4.5 7.8,10,13	7
Leakage Current	I_{HI}	1	-	-	-	-	-	-	1	-	-	-	-	-	14	2.3,4.5 7.8,10,13	7
	I_{HI}^{\dagger}	1	-	-	-	-	-	-	1	-	-	-	-	14	2.3,4.5 7.8,10,13	7	
	I_{HI}^{\ddagger}	1	-	-	-	-	-	-	11,12	-	-	-	-	14	2.3,4.5 7.8,10,13	7	
Excess Input Current	I_{EX}	12	-	-	-	-	-	-	-	-	-	-	-	14	2.3,4.5 7.8,10,13	7	
Base-Emitter Voltage	V_{BE}	11, 2	-	1.0	Vdc	-	1.0	Vdc	-	-	-	-	-	14	1.2,3,4.5 7.8,10,13	7	
Output	Output Voltage	V_{OL}	8	-	0.4	Vdc	-	0.4	Vdc	-	-	-	1.13	-	14	2.3,4.5 7.8,10	7
	V_{OH}	8	2.4	-	0.4	Vdc	-	0.4	Vdc	-	11, 12	-	1.13	-	14	2.3,4.5 7.8,10,13	7
Short-Circuit Current	I_{SC}	8	-20	-55	mADC	-18	-55	mADC	-	-	-	-	-	-	14	1.2,3,4.5 7.8,10,13	7
	I_{DHL}	14	-	9.2	mADC	-	9.2	mADC	-	-	-	-	1.2,3,4.5 8,10,13	-	14	1.2,3,4.5 7.8,10,13	7
Switching Parameters	Turn-On Delay	t_{ON}	1, 8	-	15**	ns	-	15**	ns	-	13	-	-	-	14	2.3,4.5 7.8,10	7
	Turn-Off Delay	t_{OFF}	1, 8	-	29**	ns	-	29**	ns	-	13	-	-	-	14	2.3,4.5 7.8,10	7

** Tested only at 25°C.
1. See Figure 1. 2. See Figure 2. 3. See Figure 3.