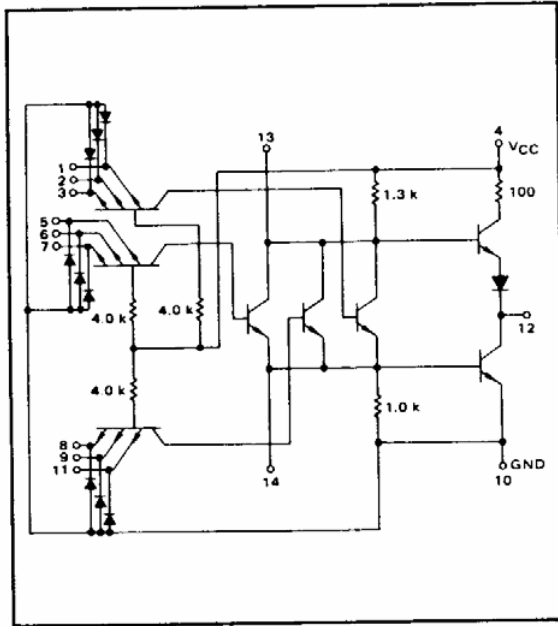


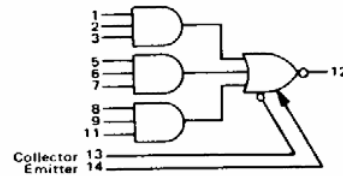
EXPANDABLE 3-WIDE 3-INPUT
"AND-OR-INVERT" GATE

MTTL I MC500/400 series

MC504 • MC554
MC404 • MC454



This device consists of three 3-input AND gates ORed together driving an output inverter. The common ORing nodes are available for expansion, and up to 10 AND gates can be ORed together using the MC509 or the MC510 series expanders. Care should be taken to minimize the amount of capacitance on the expander terminals in order to maintain switching speeds.



Positive Logic:

$$12 = (1 + 2 + 3) + (5 + 6 + 7) + (8 + 9 + 11) + (\text{Expanders})$$

Negative Logic:

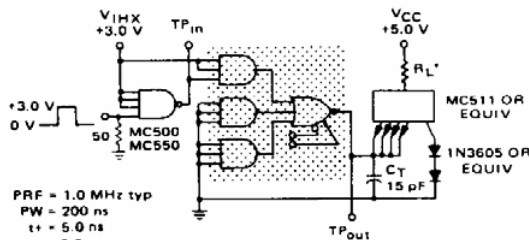
$$12 = (1 + 2 + 3) + (5 + 6 + 7) + (8 + 9 + 11) + (\text{Expanders})$$

Total Power Dissipation - 25 mW typ/pkg
Propagation Delay Time - 12 ns typ

TYPE NO.	INPUT LOADING FACTOR	(I _F)	OUTPUT DRIVE	(I _{OL})	TEMPERATURE RANGE
MC504 MC554	1	(-1.33 mA)	15 MC500 series Gates 7 MC500 series Gates	(20 mA) (10 mA)	-55°C to +125°C
MC404 MC454	1	(-1.66 mA)	12 MC400 series Gates 6 MC400 series Gates	(20 mA) (10 mA)	0° to +75°C

SWITCHING TIME TEST CIRCUIT

VOLTAGE WAVEFORMS AND DEFINITIONS



PRF = 1.0 MHz typ
PW = 200 ns
t_r = 5.0 ns
t_f = 5.0 ns

C_T = the total parasitic capacitance which includes probe, wiring, and load capacitances.
Scope rise time < 1.0 ns
Probe capacitance < 5.0 pF
Expander pins should be left open when measuring switching times.

*MC504 - 260 Ω
MC554 - 570 Ω
MC404 - 330 Ω
MC454 - 660 Ω

