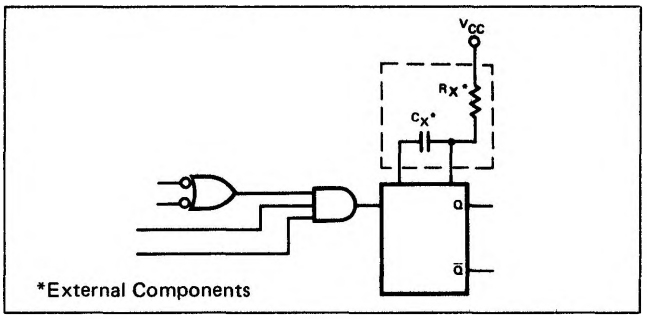
DESCRIPTION

The Signetics N8T22A is a direct pin-for-pin replacement for the 9601 retriggerable one-shot. Triggering can be performed on either the leading or falling edge of the input signal through selection of the proper input terminal.

The inputs are level-sensitive making triggering independent of signal transition times. Output pulse width is determined by external timing components (R_X and C_X) with each trigger pulse initiating a complete new timing cycle.

LOGIC DIAGRAM



ELECTRICAL CHARACTERISTICS (Over Recommended Operating Temperature And Voltage)

CHARACTERISTICS	LIMITS				TEST CONDITIONS
	MIN.	TYP.	MAX.	UNITS	
"1" Output Voltage	2.4	3.4		V	I_{out} = -720μA
"0" Output Voltage		0.2	0.4	V	I_{out} = 12.8mA
Input HIGH Voltage	1.9			V	
Input LOW Voltage			0.9	V	
"0" Input Current			1.6	mA	V_{in} = 0.45V
"1" Input Current			60	μA	V_{in} = 4.5V
Timing Resistor	5.0		50	kΩ	
C_{Stray} - Maximum allowable wiring capacitance			50	pF	P13 to Ground

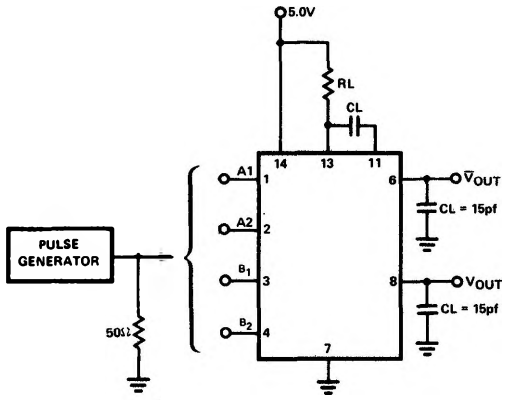
T_A = 25° C and V_{CC} = 5.0V

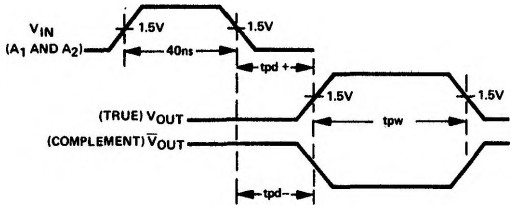
CHARACTERISTICS	LIMITS				TEST CONDITIONS
	MIN.	TYP.	MAX.	UNITS	
Propagation Delay					
Negative Trigger Input		25	40	ns	R_X = 5.0kΩ, C_X = 0
to True Output (t_{pd}+)					C_L = 15pf
Negative Trigger Input		25	40	ns	R_X = 5.0kΩ, C_X = 0
to False Output (t_{pd}-)					C_L = 15pF
Min. True Output Pulse Width		45	65	ns	R_X = 5.0kΩ, C_X = 0
					C_L = 15pF
Pulse Width Variation	3.08	3.42	3.76	μs	R_X = 10kΩ, C_X = 1000pF
Short Circuit Current	-10		-40	mA	V_{out} = 0V
Power Supply Current			25	mA	V_{CC} = 5.25V

NOTES:
1. Positive current is defined as into the pin referenced.
2. Unless otherwise noted, 10kΩ resistor placed between Pin 13 and V_{CC} (R_X).
3. Manufacturer reserves the right to make design and process changes and improvements.

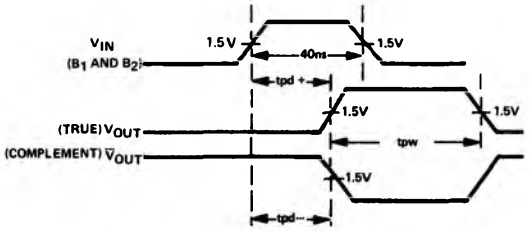
AC TEST FIGURE AND WAVEFORMS

TRIGGER INPUT/OUTPUT AND PULSE WIDTH





WAVEFORM A.



WAVEFORM B.

NOTES:
1. Pulse Generator has the following characteristics:
   $t_r = t_f$ = 10ns (10% to 90%), AMP. = 3V.
2. C_L includes probe and jig capacitance.
3. For tpd+, tpd- and tpw (min.)
   RX = 5kΩ ± 1%, CX = OPEN, PRR = 1MHz.
4. For Δtpw: RX = 10kΩ ± 1%, C_X = 1000pF ± 1%, PRR = 200kHz.