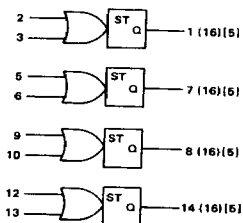


QUAD SCHMITT
TRIGGER

PLASTIC MRTL MC700P/800P series

MC9709P • MC9809P

The MC9709P/9809P device consists of four Schmitt Triggers in a single 14-pin dual in-line plastic package. It provides a square-wave output from a slow-rise-time input with 650 mV internal hysteresis.



$$t_r = t_f = 20 \text{ ns typ}$$

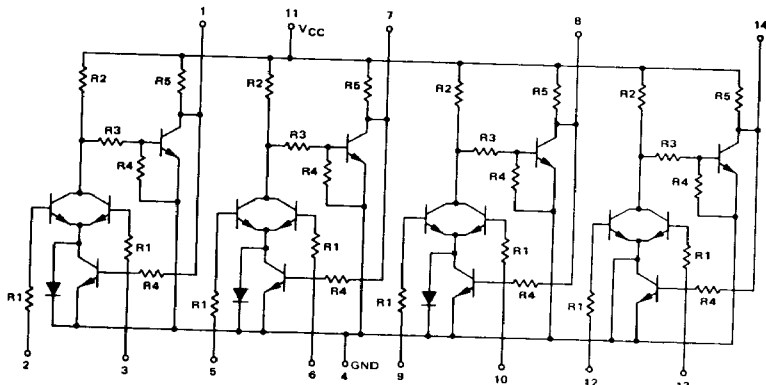
$$\text{Avg. } t_{pd} = 30 \text{ ns typ, Avg. } = \frac{t_{on} + t_{off}}{2}$$

$$f = 18 \text{ MHz typ}$$

$$P_D = 95 \text{ mW typ}$$

Upper Trigger Voltage = 1.40 V typ
Lower Trigger Voltage = 0.75 V typ

Number in Parenthesis Indicates mW MRTL Loading Factor.
Number in Brackets Indicates MRTL Loading Factor.



TYPICAL RESISTANCE VALUES

R1 = 450 Ω R4 = 1.5 k
R2 = 2.0 k R5 = 640 Ω
R3 = 500 Ω

MC9709P, MC9809P (continued)

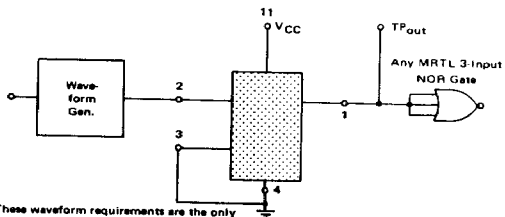
ELECTRICAL CHARACTERISTICS
 Test procedures are shown for one Schmitt Trigger only. The other Schmitt triggers are tested in the same manner.

Characteristic	Symbol	Pin Under Test	MC9709P Test Limits												MC9809P Test Limits												TEST VOLTAGE VALUES						
			0°C		+25°C		+75°C		+15°C		+25°C		+55°C		0°C		+25°C		+75°C		+15°C		+25°C		+55°C		V _{on}		V _{off}		V _{CC}		
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
Output Current	I _{AS}	1	3.0	-	3.0	-	2.85	-	2.65	-	2.65	-	2.65	-	2.50	-	2.50	-	2.65	-	2.65	-	2.50	-	2.50	1	2	-	11	4	11	4	
		1	3.0	-	3.0	-	2.85	-	2.65	-	2.65	-	2.65	-	2.50	-	2.50	-	2.65	-	2.65	-	2.50	-	2.50	1	3	-	11	4	11	4	
Output Voltage	V _{out}	1	-	500	-	400	-	400	-	400	-	400	-	300	-	320	-	320	-	400	-	400	-	320	-	-	-	-	2,3	11	4	4	
Power Supply Drain Current (Total Device)	I _{PD}	11	-	-	-	32	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4	11	4
Output Pulse Rise and Fall Times	t ₁₊ t ₁₋	1	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	1	2	-	-	11	4	11	4
		1	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	100	-	1	2	-	-	11	4	11	4

Ground unused input pins. Other pins not listed are left open.

MC9709P, MC9809P (continued)

SWITCHING TIMES TEST CIRCUIT AND WAVEFORMS



These waveform requirements are the only restrictions for test.

$f \geq 60$ Hz

$P_{AV} = 2.0$ V * Do not exceed ± 4.0 volts.

