

DIVIDE-BY-TWELVE COUNTER

MC5400/7400 series

MC5492F,L*
MC7492F,L,P*

COUNT SEQUENCE TRUTH TABLE

COUNT	OUTPUT			
	Q3	Q2	Q1	Q0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	1	0	0	0
7	1	0	0	1
8	1	0	1	0
9	1	0	1	1
10	1	1	0	0
11	1	1	0	1

A connected to $\bar{C}1$

This 4-bit counter is comprised of a divide-by-two section and a divide-by-six section. These sections can be used independently, or can be connected to perform the divide-by-twelve function. When used independently, the divide-by-six section provides the divide-by-three function at the C output and the divide-by-six function at the D output. The outputs may be set to the logic "0" state any time during the counting sequence by setting both R0 inputs to the logic "1" state.

V_{CC} = PIN 5
Gnd = PIN 10

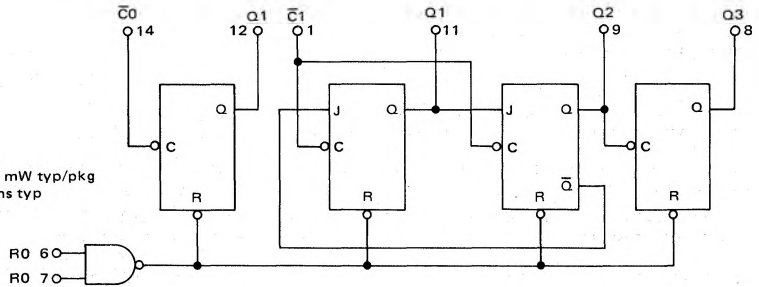
Input Loading Factor:

R0 = 1
C1 = 2
C2 = 4

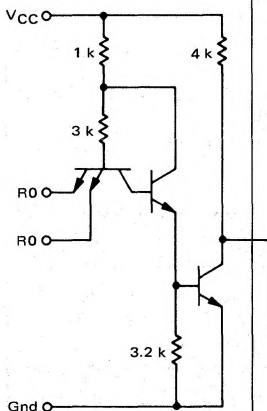
Output Loading Factor = 10

Total Power Dissipation = 160 mW typ/pkg

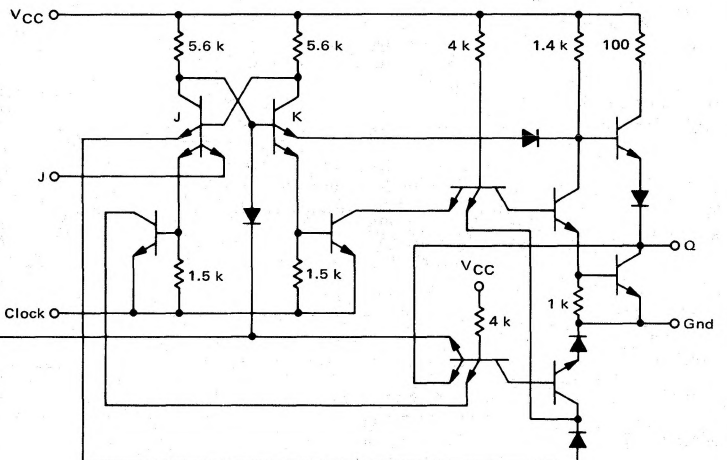
Propagation Delay Time = 60 ns typ



RESET GATE



TYPICAL FLIP-FLOP



*F suffix = TO-86 ceramic flat package (Case 607).

L suffix = TO-116 ceramic dual in-line package (Case 632).

P suffix = TO-116 plastic dual in-line package (Case 605).

MC5492F,L, MC7492F,L,P (continued)

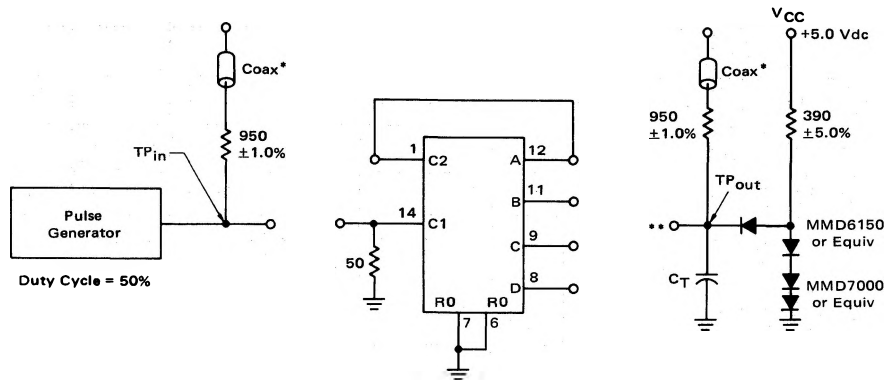


Pulse 1: Momentarily apply V_{th1} then ground prior to taking measurement to set the device in the desired state. 

Pulse 2: Apply positive pulse prior to taking measurement to set the device in the desired state. Maintain ground for measurement.

① All input, power supply and ground voltages must be maintained between each test unless otherwise noted.

SWITCHING TIME TEST CIRCUIT



$f_{Tog} = 10 \text{ MHz min}$
 $C_T = 15 \text{ pF}$ = total parasitic capacitance, which includes probe, wiring, and load capacitances.
*The coax delays from input to scope and output to scope must be matched. The scope must be terminated in 50-ohm impedance. The 950-ohm resistor and the scope termination impedance constitute a 20:1 attenuator probe. Coax shall be CT-070-50 or equivalent.
**A load is connected to each output during the test.

VOLTAGE WAVEFORMS AND DEFINITIONS

