

MC3100/MC3000 series

$$8 = 3 + 4 + 5 + 6 + 11 + 12 + 1 + 2$$

Propagation Delay Time = 8.0 ns typ

DEVICE	PIN NUMBERS													
MC3116F,L/3016F,L,P	1	2	3	4	5	6	7	8	9	10	11	12	13	14
54H30F/74H30F	9	10	2	3	5	6	11	12	1	14	7	8	13	4

The schematic diagram shows a pulse generator connected to the input of an MMD6150 or equivalent monostable multivibrator. The input signal is terminated with a 950-ohm resistor. The output of the multivibrator is connected to a 280-ohm resistor and a 950-ohm resistor, which is in turn connected to a 25 pF capacitor (C_T). The output signal is terminated with a 950-ohm resistor. The circuit is powered by a +2.5 Vdc supply (V_{IHX}) and a V_{CC} supply. The output signal is measured at TP_{in} and TP_{out}. The timing waveforms show the input pulse (TP_{in}) and the output pulse (TP_{out}). The input pulse has a width of 7.0 ns and a peak-to-peak voltage of 1.5 V. The output pulse has a width of 7.0 ns and a peak-to-peak voltage of 1.5 V. The output pulse is delayed by t_{pd-} and t_{pd+} relative to the input pulse. The output pulse is terminated in 50-ohm impedance.

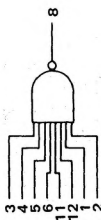
Timing Waveform Data:

Parameter	Value
Input Pulse Width (7.0 ns)	7.0 ns
Input Pulse Peak-to-Peak Voltage (1.5 V)	1.5 V
Output Pulse Width (7.0 ns)	7.0 ns
Output Pulse Peak-to-Peak Voltage (1.5 V)	1.5 V
Output Pulse Delay (t _{pd-} , t _{pd+})	≤ 0.4 V
Output Pulse Termination	50-ohm

General Information section for packaging.

ELECTRICAL CHARACTERISTICS

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



TEST CURRENT / VOLTAGE VALUES																				
		Volts																		
		mA																		
@ Test Temperature	I _{OL}	I _{OH}	I _{in}	I _b	V _{IL}	V _{IH}	V _F	V _R	V _{BH}	V _{max}	V _{CC}	V _{CCL}	V _{CCH}	V _{HKX}						
MC3116	-55°C	20	-2.0	-	-	1.1	2.0	0.4	2.4	4.0	-	5.0	4.5	5.5	-					
	+25°C	20	-2.0	1.0	-10	1.1	1.8	0.4	2.4	4.0	7.0	5.0	4.5	5.5	2.5					
	+125°C	20	-2.0	-	-	0.8	1.8	0.4	2.4	4.0	-	5.0	4.5	5.5	-					
MC3016	0°C	20	-2.0	-	-	1.1	2.0	0.4	2.5	4.0	-	5.0	4.75	5.25	-					
	+25°C	20	-2.0	1.0	-10	1.1	1.8	0.4	2.5	4.0	7.0	5.0	4.75	5.25	2.5					
	+75°C	20	-2.0	-	-	0.9	1.8	0.4	2.5	4.0	-	5.0	4.75	5.25	-					
TEST CURRENT / VOLTAGE APPLIED TO PINS LISTED BELOW:																				
	I _{OL}	I _{OH}	I _{in}	I _b	V _{IL}	V _{IH}	V _F	V _R	V _{BH}	V _{max}	V _{CC}	V _{CCL}	V _{CCH}	V _{HKX}	Gnd					
Input	-	-	-	-	-	-	3	-	1,2,4,5,6,11,12	-	-	-	14	-	7					
	Forward Current	-	-	-	-	-	-	-	-	-	-	-	-	-	1,2,4,5,6,7,11,12					
	Leakage Current	-	-	-	-	-	-	3	-	-	-	-	14	-	1,2,4,5,6,7,11,12					
Breakdown Voltage	-	-	3	-	-	-	-	-	-	-	-	-	14	-	1,2,4,5,6,7,11,12					
	V _{Iin}	-	-	3	-	-	-	-	-	-	-	-	14	-	1,2,4,5,6,7,11,12					
	Clamp Voltage	-	-	-	3	-	-	-	-	-	-	-	14	-	7					
Output	-	-	-	-	-	-	-	-	1,2,4,5,6,11,12	-	-	14	-	-	7					
	V _{OL}	8	-	-	-	-	3	-	-	-	-	14	-	-	7					
	V _{OH}	8	2.4	-	2.4	-	2.5	-	2.5	-	-	-	14	-	7					
Short-Circuit Current	I _{SC}	8	-40	-100	-40	-100	-40	-100	mAde	-	-	-	14	-	1,2,3,4,5,6,11,12					
	Power Requirements (Total Device)	14	-	-	6.5	-	-	6.5	-	-	-	-	-	-	1,2,3,4,5,7,11,12					
	Max Power Supply Current	14	-	10	-	10	-	10	-	10	mAde	-	-	14	-	7				
Power Supply Drain	I _{PDH}	14	-	10	-	10	-	10	-	10	mAde	-	-	14	-	7				
	I _{PDL}	14	-	4.2	-	4.2	-	4.2	-	4.2	mAde	-	-	14	-	1,2,3,4,5,7,11,12				
	Switching Parameters	Pulse In	Pulse Out	-	-	-	-	-	-	-	-	-	-	-	-	1,2,4,5,6,11,12				
Turn-On Delay	t _{pd-}	3, 8	-	-	-	-	-	-	-	-	14	-	-	-	1,2,4,5,6,11,12					
	t _{pd+}	3, 8	-	-	-	-	-	-	-	-	14	-	-	-	1,2,4,5,6,11,12					