

74361 Bubble-Memory Function Timing Generator

	Schottky TTL				High-Speed TTL				Low-Power Schottky TTL				Standard TTL				Low-Power TTL				
	Device Type		Package		Device Type		Package		Device Type		Package		Device Type		Package		Device Type		Package		
	C	P	M	CF	C	P	M	CF	C	P	M	CF	C	P	M	CF	C	P	M	CF	
T. I.									SN74LS361												
FAIRCHILD																					
MOTOROLA																					
N. S. C.																					
PHILIPS																					
SIGNETICS																					
SIEMENS																					
FUJITSU																					
HITACHI																					
mitsubishi																					
NEC																					
TOSHIBA																					

Electrical Characteristics SN74LS361

absolute maximum ratings over operating free-air temperature range

Supply voltage, V _{CC}	7V	Operating free-air temperature range	SN74LS361	0°C to 70°C
Input voltage	7V	Storage temperature range		-65°C to 150°C

recommended operating conditions

	MIN	NOM	MAX	UNIT
Supply voltage, V _{CC}	4.75	5	5.25	V
High-level output current, I _{OH}			-400	μA
Low-level output current, I _{OL}			8	mA
Clock frequency, f _{clock}	0		12	MHz
Width of clock pulse, t _w	20			ns
Setup time, t _{su}	20			ns
Hold time, t _h	0			ns
Operating free-air temperature, T _A	0		70	°C

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

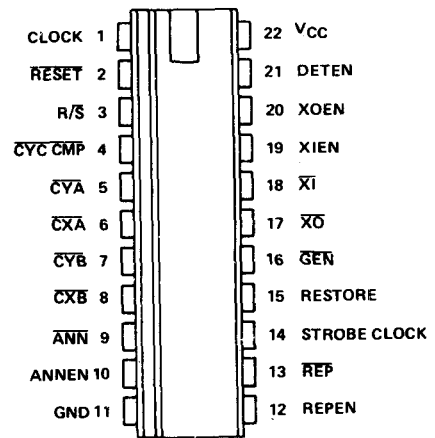
PARAMETER	TEST CONDITIONS	MIN	TYP†	MAX	UNIT
V _{IH} High-level input voltage			2		V
V _{IL} Low-level input voltage			0.8		V
V _{IK} Input clamp voltage	V _{CC} = 4.75V, I _I = -18mA			-1.5	V
V _{OH} High-level output voltage	V _{CC} = 4.75V, V _{IH} = 2V, V _{IL} = 0.8V, I _{OH} = -400μA	2.7	3.1		V
V _{OL} Low-level output voltage	V _{CC} = 4.75V, V _{IH} = 2V, I _{OL} = 8mA		0.35	0.5	V
	V _{CC} = 4.75V, V _{IH} = 2V, I _{OL} = 4mA		0.25	0.4	
I _I Input current at maximum input voltage	DETE _N			0.2	mA
	All others			0.1	
I _{IH} High-level input current	DETE _N			40	μA
	All others			20	
I _{IL} Low-level input current	DETE _N			-0.8	mA
	All others			-0.4	
I _{OS} Short-circuit output current ‡	V _{CC} = 5.25V, V _O = 0	-20		-100	mA
I _{CC} Supply current	V _{CC} = 5.25V, All inputs at GND, All outputs open		70	115	mA

switching characteristics, V_{CC} = 5V, T_A = 25°C

PARAMETER †	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
f _{max}				12	16		MHz
t _{PLH}	CLOCK	CYC CMP	R _L = 2kΩ, C _L = 15pF, See Figure 1		43	60	ns
t _{PHL}					41	60	
t _{PLH}					35	55	
t _{PHL}	RESET	CYC CMP			33	50	ns
t _{PHL}				All others	26	40	
t _{PLH}	ANNEN	ANN			39	55	ns
t _{PHL}				All others	9	15	
t _{PLH}	REPEN	REP			13	20	ns
t _{PHL}				All others	9	15	
t _{PLH}	XOEN	XO			13	20	ns
t _{PHL}			All others	10	15		
t _{PLH}	XIEN	XI		13	20	ns	
t _{PHL}			All others	30	45		
t _{PLH}	DETE _N	RESTORE		11	15	ns	
t _{PHL}			All others	13	20		
t _{PLH}	DETE _N	STROBE CLOCK		5	15	ns	
t _{PHL}			All others	14	20		

Pin Assignment (Top View)

N DUAL-IN-LINE PACKAGE (TOP VIEW)



NOTE 1: Voltage values are with respect to network ground terminal.

† All typical values are at V_{CC} = 5V, T_A = 25°C

‡ Not more than one output should be shorted at a time, and duration of the short-circuit should not exceed one second.

† f_{max} = maximum clock frequency

t_{PLH} = propagation delay time, low-to-high level output

t_{PHL} = propagation delay time, high-to-low level output