

**TYPES SN5490A, SN5492A, SN5493A, SN7490A, SN7492A, SN7493A
DECADE, DIVIDE-BY-TWELVE, AND BINARY COUNTERS**

switching characteristics, $V_{CC} = 5\text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER [†]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'90A			'92A			'93A			UNIT
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
f_{max}	A	Q_A	$C_L = 15\text{ pF}$, $R_L = 400\ \Omega$, See Figure 1	32	42		32	42		32	42		MHz
	B	Q_B		16			16			16			
t_{PLH}	A	Q_A		10	16		10	16		10	16		ns
t_{PHL}				12	18		12	18		12	18		
t_{PLH}	A	Q_D		32	48		32	48		46	70		ns
t_{PHL}				34	50		34	50		46	70		
t_{PLH}	B	Q_B		10	16		10	16		10	16		ns
t_{PHL}				14	21		14	21		14	21		
t_{PLH}	B	Q_C		21	32		10	16		21	32		ns
t_{PHL}				23	35		14	21		23	35		
t_{PLH}	B	Q_D		21	32		21	32		34	51		ns
t_{PHL}				23	35		23	35		34	51		
t_{PHL}	Set-to-0	Any		26	40		26	40		26	40		ns
t_{PLH}	Set-to-9	Q_A, Q_D		20	30								ns
t_{PHL}		Q_B, Q_C	26	24									

[†] f_{max} ≡ maximum count frequency
 t_{PLH} ≡ propagation delay time, low-to-high-level output
 t_{PHL} ≡ propagation delay time, high-to-low-level output

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