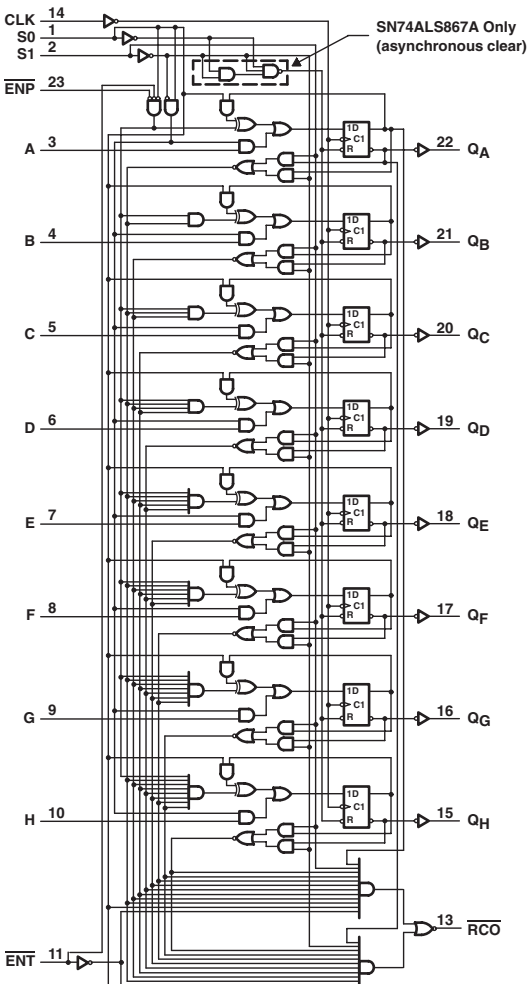
867

SYNCHRONOUS 8-BIT UP/DOWN COUNTERS

- Fully Programmable with Synchronous Counting and Loading
- Asynchronous Clear
- Ripple-Carry Output for n-Bit Cascading

Logic Diagram



: OBSOLETED or NOT RECOMMENDED NEW DESIGNS

FUNCTION TABLE

S1	S0	FUNCTION
L	L	Clear
L	H	Count down
H	L	Load
H	H	Count up

ELECTRICAL CHARACTERISTICS AND RECOMMENDED OPERATING CONDITIONS

PARAMETER	MAX or MIN	ALS	AS	UNIT
I_{CC}	MAX	45	195	mA
I_{OH}	MAX	-0.4	-2	mA
I_{OL}	MAX	8	20	mA

TIMING REQUREMENTS AND SWITCHING CHARACTERISTICS

PARAMETER	INPUT	OUTPUT	MAX or MIN	ALS	AS
f_{max}			MIN	35	50
t_w	CLK (clock)		MIN	14	10
	S0 and S1 (clear)			10	10
t_{su}	Data input A-H		MIN	10	4
	$\overline{ENP}$ or $\overline{ENT}$			15	8
	S0 low and S1 high (load)			12	10
	S0 and S1 low (clear)			-	10
	S0 high and S1 low (count down)			12	40
	S0 and S1 high (count up)			12	40
t_h	S0 high after S1 ↑ or S1 high after S0 ↑		MIN	3	-
	Data input A-H			0	0
t_{PLH}	CLK	$\overline{RCO}$	MAX	14	22
t_{PHL}				14	16
t_{PLH}	CLK	Any Q	MAX	16	11
t_{PHL}				16	15
t_{PLH}	$\overline{ENT}$	$\overline{RCO}$	MAX	14	10
t_{PHL}				9	17
t_{PLH}	$\overline{ENP}$	$\overline{RCO}$	MAX	-	14
t_{PHL}				-	17
t_{PHL}	S0, S1 (clear mode)	Any Q	MAX	26	-
t_{PLH}	S0 or S1 (count up/down)	$\overline{RCO}$	MAX	16	-
t_{PHL}				16	-
t_{PHL}	S0 or S1 (clear mode)	$\overline{RCO}$	MAX	16	21

UNIT fmax : MHz other : ns