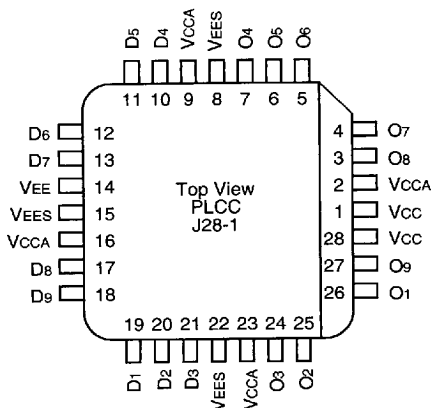
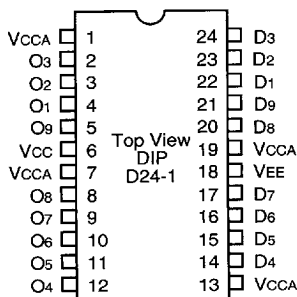


FEATURES

- Max. propagation delay of 700ps
- IEE min. of -55mA
- ESD protection of 2000V
- Extended supply voltage option:
VEE = -4.2V to -5.5V
- Voltage and temperature compensation for improved noise immunity
- Internal 75KΩ input pull-down resistors
- 70% faster than National 300K at lower power
- Function and pinout compatible with National and Signetics F100K
- Available in CERPDP, CERPAC and PLCC

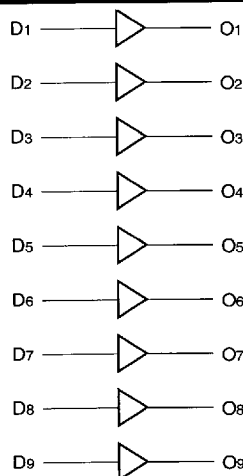
PIN CONFIGURATIONS



DESCRIPTION

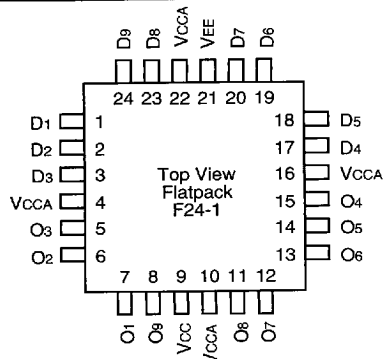
The SY100S322 is an ultra-fast buffer designed for use in high-performance ECL systems. The device provides nine non-inverting buffers with single-ended outputs. The inputs on the device have 75KΩ pull-down resistors.

BLOCK DIAGRAM



PIN NAMES

Pin	Function
D1 – D9	Data Inputs
O1 – O9	Data Outputs
VEES	VEE Substrate
VCCA	Vcco for ECL Outputs



LOGIC EQUATION

$O_n = D_n, n = 1 \text{ to } 9$

DC ELECTRICAL CHARACTERISTICS

$V_{EE} = -4.2V \text{ to } -5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$, $T_A = 0^\circ C \text{ to } +85^\circ C$

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I_{IH}	Input HIGH Current	—	—	200	μA	$V_{IN} = V_{IH} \text{ (Max.)}$
I_{EE}	Power Supply Current	-55	-41	-25	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

CERDIP

$V_{EE} = -4.2V \text{ to } -5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$, $T_A = 0^\circ C \text{ to } +85^\circ C$

Symbol	Parameter	$T_A = 0^\circ C$		$T_A = +25^\circ C$		$T_A = +85^\circ C$		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	900	300	900	300	900	ps
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps

CERPACK

$V_{EE} = -4.2V \text{ to } -5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$, $T_A = 0^\circ C \text{ to } +85^\circ C$

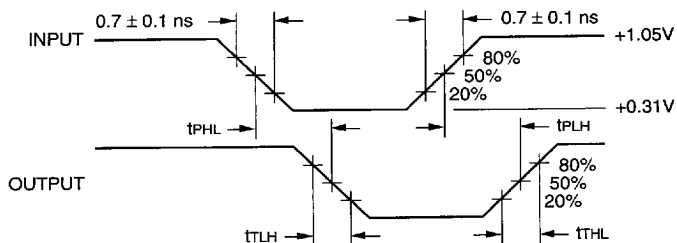
Symbol	Parameter	$T_A = 0^\circ C$		$T_A = +25^\circ C$		$T_A = +85^\circ C$		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	800	300	800	300	800	ps
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps

PLCC

$V_{EE} = -4.2V \text{ to } -5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$, $T_A = 0^\circ C \text{ to } +85^\circ C$

Symbol	Parameter	$T_A = 0^\circ C$		$T_A = +25^\circ C$		$T_A = +85^\circ C$		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	700	300	700	300	700	ps
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps

TIMING DIAGRAM



Propagation Delay and Transition Times

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY100S322DC	D24-1	Commercial
SY100S322FC	F24-1	Commercial
SY100S322JC	J28-1	Commercial
SY100S322JCTR	J28-1	Commercial