



The Infinite Bandwidth Company™

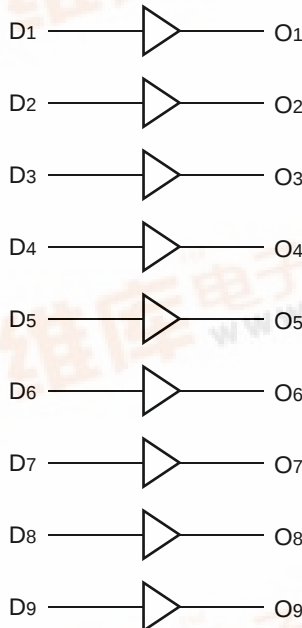
9-BIT BUFFER

SY100S322

FEATURES

- Max. propagation delay of 700ps
- IEE min. of -55mA
- 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 Fairchild 300K at lower power
- Function and pinout compatible with Fairchild F100K
- Available in 24-pin CERPAC and 28-pin PLCC packages

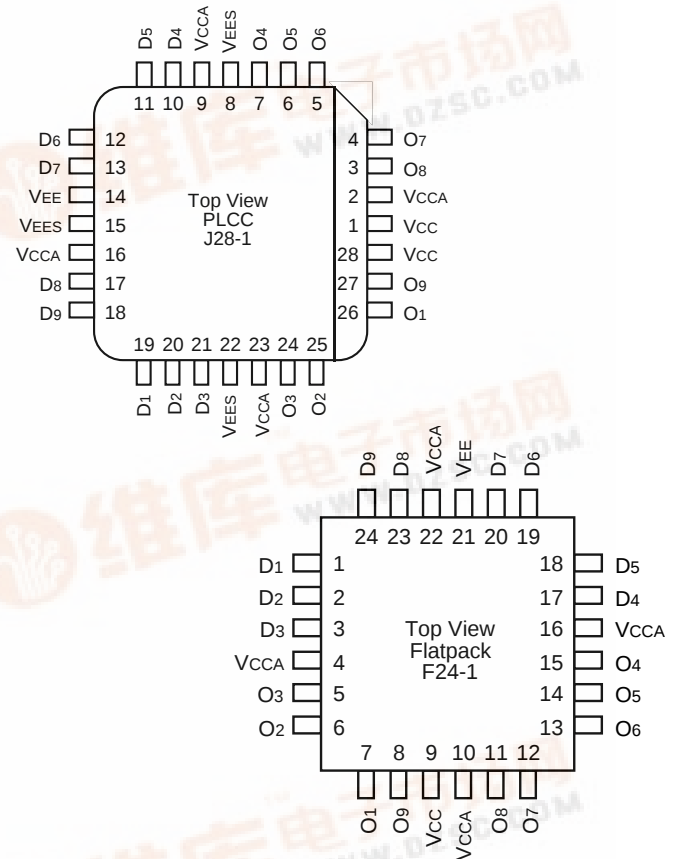
BLOCK DIAGRAM



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.

PIN CONFIGURATIONS



PIN NAMES

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

LOGIC EQUATION

$O_n = D_n$, $n = 1$ to 9

DC ELECTRICAL CHARACTERISTICS

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$

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

AC ELECTRICAL CHARACTERISTICS

CERPACK

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$

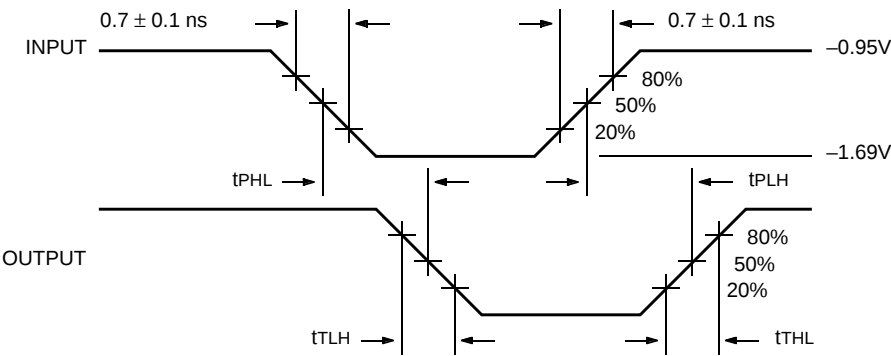
Symbol	Parameter	$T_A = 0^{\circ}C$		$T_A = +25^{\circ}C$		$T_A = +85^{\circ}C$		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	800	300	800	300	800	ps	
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

PLCC

$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$

Symbol	Parameter	$T_A = 0^{\circ}C$		$T_A = +25^{\circ}C$		$T_A = +85^{\circ}C$		Unit	Condition
		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



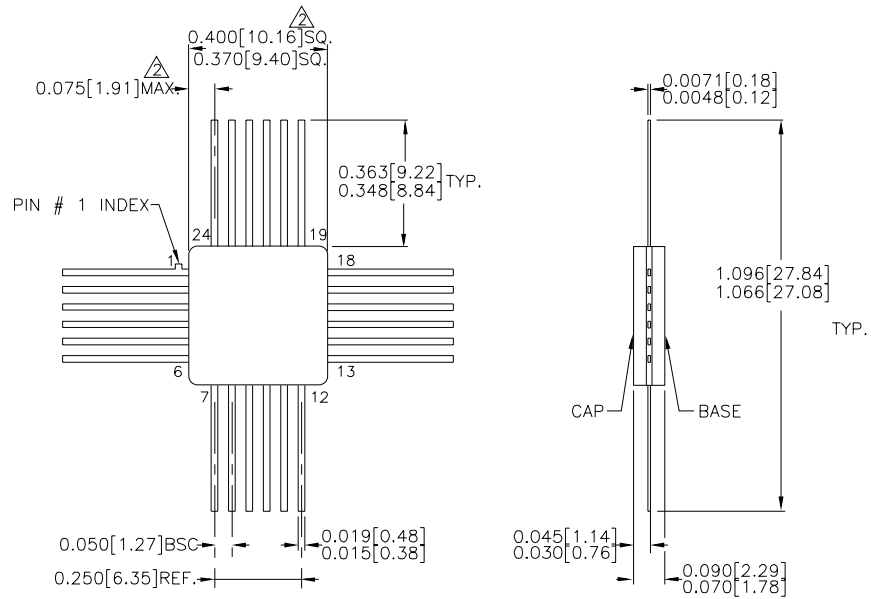
Propagation Delay and Transition Times

NOTE:
 $V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$

PRODUCT ORDERING CODE

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

24 LEAD CERPACK (F24-1)



NOTES:

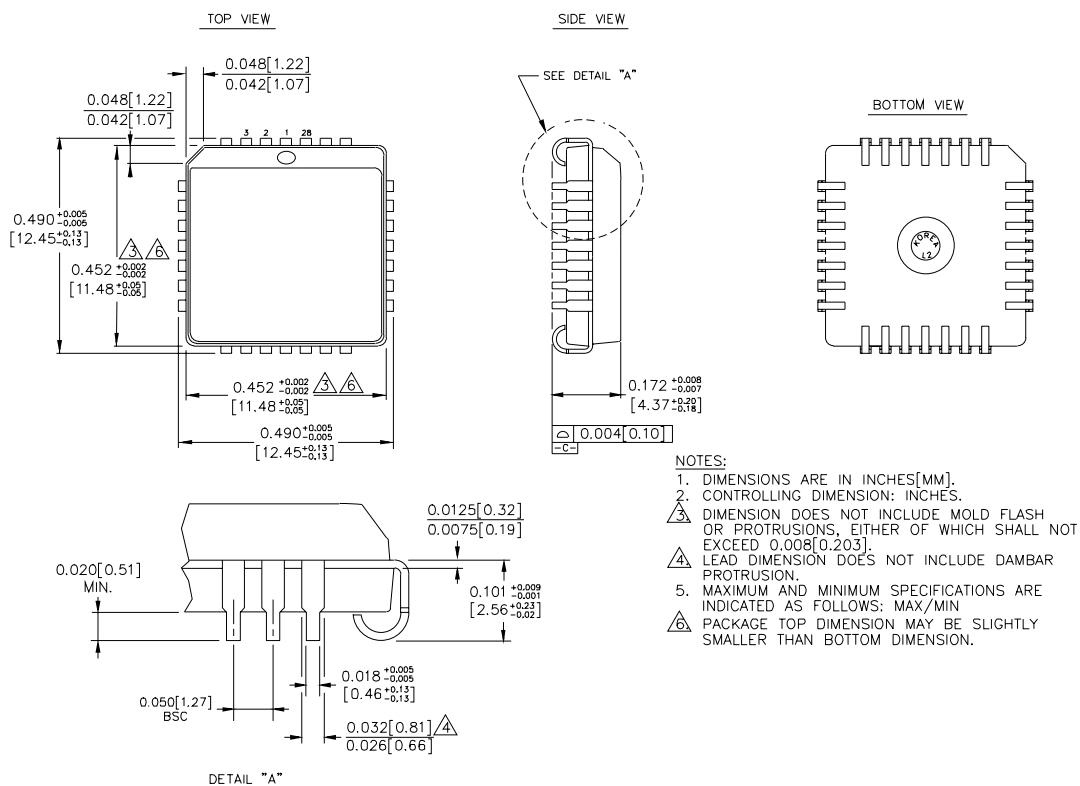
1. DIMENSIONS ARE IN INCHES[MM].

2. THIS DIMENSION INCLUDES GLASS PROTRUSION AND CAP TO BASE ALIGNMENT TOLERANCES.

3. DIMENSIONS SHOWN ARE MAX/MIN, WHERE NOTED.

Rev. 03

28 LEAD PLCC (J28-1)



Rev. 03