

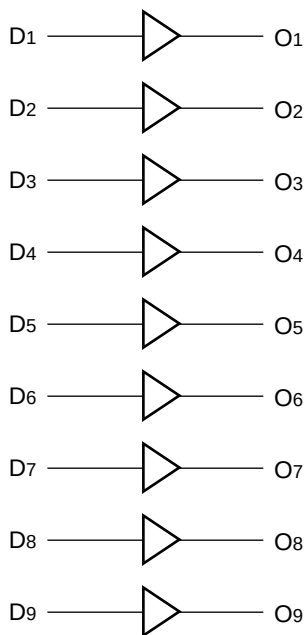
FEATURES

- 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 28-pin PLCC package

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.

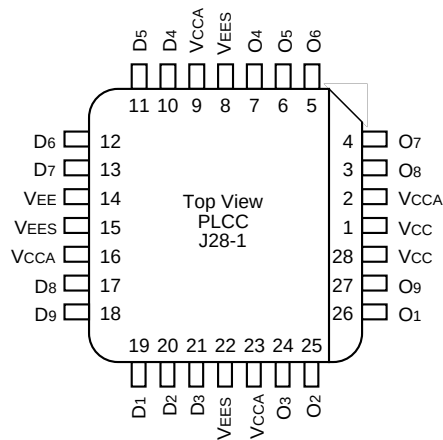
BLOCK DIAGRAM



PIN NAMES

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

PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100S322JC	J28-1	Commercial	SY100S322JC	Sn-Pb
SY100S322JCTR ⁽¹⁾	J28-1	Commercial	SY100S322JC	Sn-Pb
SY100S322JZ ⁽²⁾	J28-1	Commercial	SY100S322JZ with Pb-Free bar-line indicator	Matte-Sn
SY100S322JZTR ^(1, 2)	J28-1	Commercial	SY100S322JZ with Pb-Free bar-line indicator	Matte-Sn

- Notes:
- 1. Tape and Reel.
 - 2. Pb-Free package is recommended for new designs.

LOGIC EQUATION

On = Dn, n = 1 to 9

DC ELECTRICAL CHARACTERISTICS

VEE = −4.2V to −5.5V unless otherwise specified, VCC = VCCA = GND

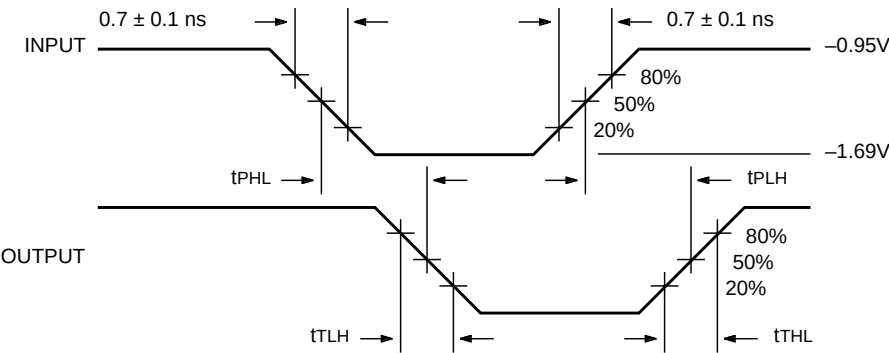
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I _{IH}	Input HIGH Current	—	—	200	μA	V _{IN} = V _{IH} (Max.)
I _{EE}	Power Supply Current	−55	−41	−25	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

VEE = −4.2V to −5.5V unless otherwise specified, VCC = VCCA = GND

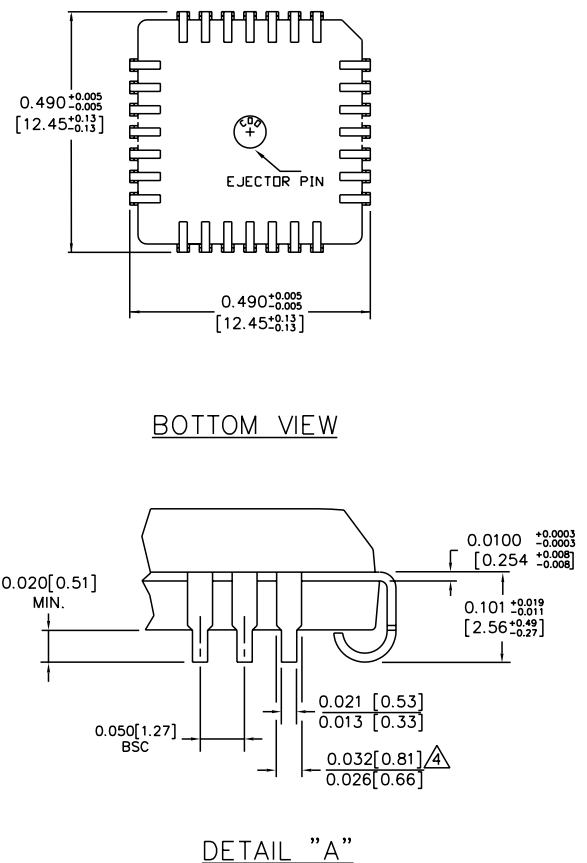
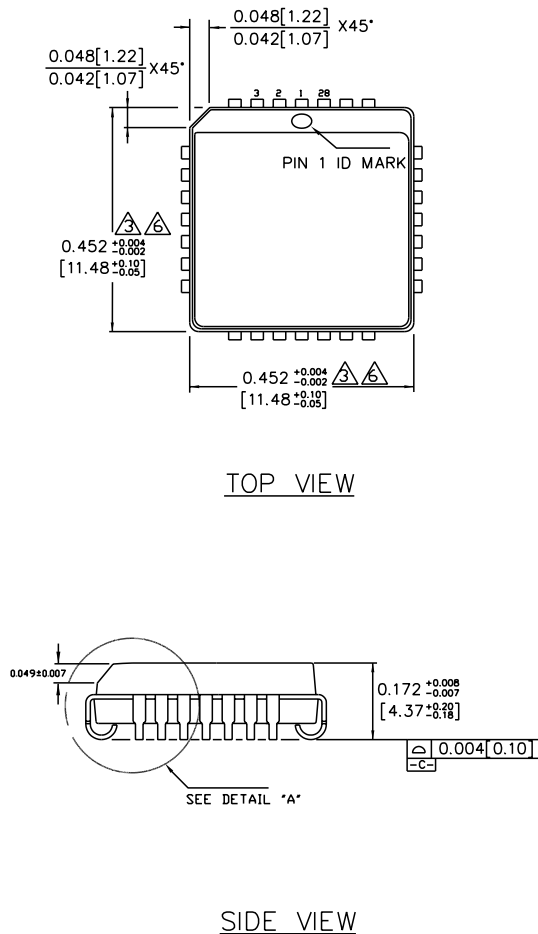
Symbol	Parameter	T _A = 0°C		T _A = +25°C		T _A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t _{PLH} t _{PHL}	Propagation Delay Data to Output	300	700	300	700	300	700	ps	
t _{TLH} t _{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

TIMING DIAGRAM



Propagation Delay and Transition Times

Note:
VEE = −4.2V to −5.5V unless otherwise specified, VCC = VCCA = GND

28-PIN PLCC (J28-1)**NOTES:**

1. DIMENSIONS ARE IN INCHES [MM].
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.008 [0.203].
4. LEAD DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION.
5. MAXIMUM AND MINIMUM SPECIFICATIONS ARE INDICATED AS FOLLOWS: MAX/MIN
6. PACKAGE TOP DIMENSION MAY BE SLIGHTLY SMALLER THAN BOTTOM DIMENSION.

Rev. A

MICREL, INC. 2180 FORTUNE DRIVE SAN JOSE, CA 95131 USATEL + 1 (408) 944-0800 FAX + 1 (408) 474-1000 WEB <http://www.micrel.com>

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