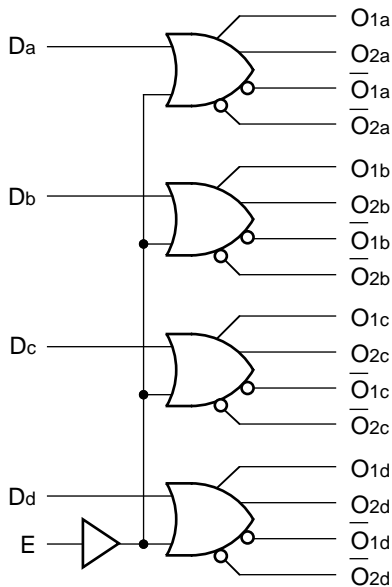
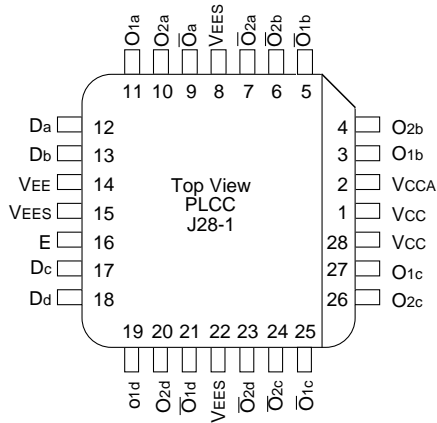


- Max. propagation delay of 800ps
- Enable to Output max. of 950ps
- IEE min. of -60mA
- Extended supply voltage option:
VEE = -4.2V to -5.5V
- Voltage and temperature compensation for improved noise immunity
- Internal 75kΩ input pull-down resistors
- 50% faster than Fairchild 300K
- Function and pinout compatible with Fairchild F100K
- Available in 28-pin PLCC package

The SY100S313 offers four drivers with two OR and two NOR outputs, designed for use in high-performance ECL systems. The four drivers are controlled by a common Enable signal which is buffered to minimize input loading. If the D inputs are not used, the Enable signal can be used to drive sixteen 50Ω lines. All inputs have 75kΩ pulldown resistors and all outputs are buffered.



Pin	Function
Da – Dd	Data Inputs (n-1...5)
E	Enable Input
O _{na} – O _{nd}	Data Outputs
\overline{O}_{na} – \overline{O}_{nd}	Complementary Data Outputs
VEES	VEE Substrate
VCCA	VCCO for ECL Outputs



28-Pin PLCC (J28-1)

Ordering Information

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100S313JC	J28-1	Commercial	SY100S313JC	Sn-Pb
SY100S313JCTR ⁽¹⁾	J28-1	Commercial	SY100S313JC	Sn-Pb
SY100S313JZ ⁽²⁾	J28-1	Commercial	SY100S313JZ with Pb-Free bar-line indicator	Matte-Sn
SY100S313JZTR ^(1, 2)	J28-1	Commercial	SY100S313JZ with Pb-Free bar-line indicator	Matte-Sn

Notes:

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

$$O = D + E$$

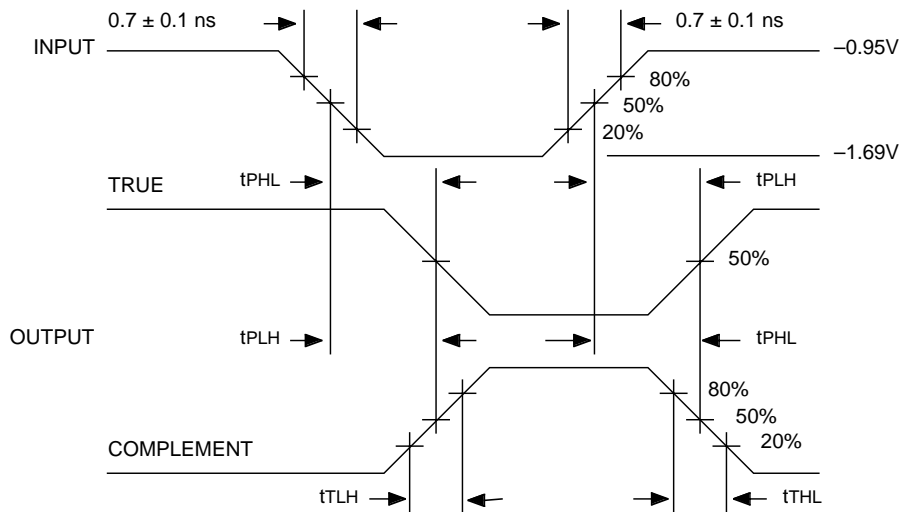
$$\overline{O} = \overline{D + E}$$

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

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I _{IH}	Input HIGH Current, All Inputs	—	—	200	μA	V _{IN} = V _{IH} (Max.)
I _{EE}	Power Supply Current	-60	-43	-20	mA	Inputs Open

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

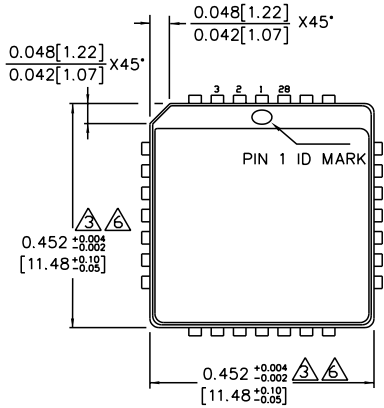
Symbol	Parameter	T _A = 0°C		T _A = +25°C		T _A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t _{PLH} t _{PHL}	Propagation Delay Data to Output	200	800	200	800	200	800	ps	
t _{PLH} t _{PHL}	Propagation Delay Enable to Output	300	950	300	950	300	950	ps	
t _{TLH} t _{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	



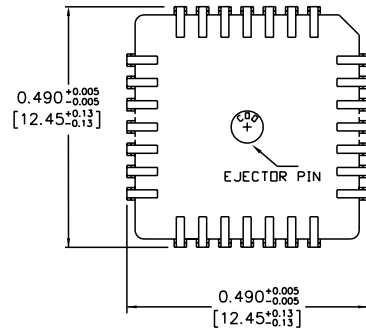
Propagation Delay and Transition Times

NOTE:

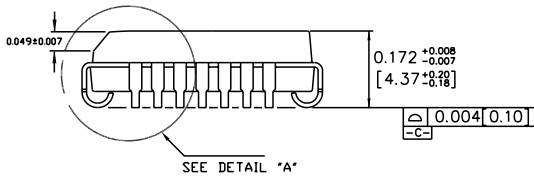
$V_{EE} = -4.2V$ to $-5.5V$ unless otherwise specified, $V_{CC} = V_{CCA} = GND$



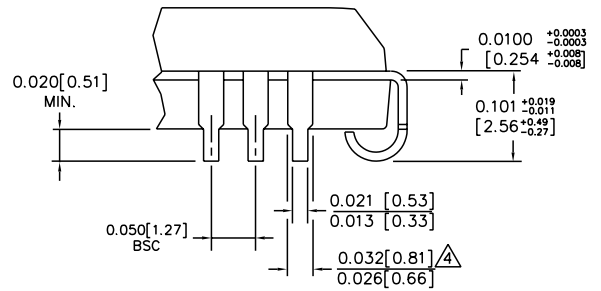
TOP VIEW



BOTTOM VIEW



SIDE VIEW



DETAIL "A"

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

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