



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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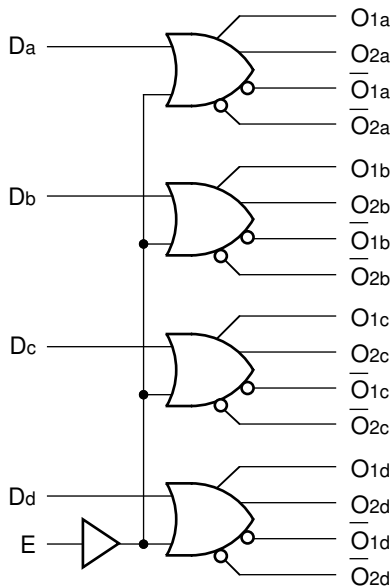
FEATURES

- 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

DESCRIPTION

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.

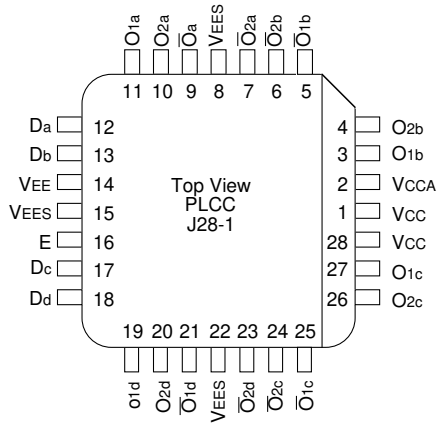
BLOCK DIAGRAM



PIN NAMES

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

PACKAGE/ORDERING INFORMATION



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.

LOGIC EQUATION

$$O = D + E$$

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

DC ELECTRICAL CHARACTERISTICS

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

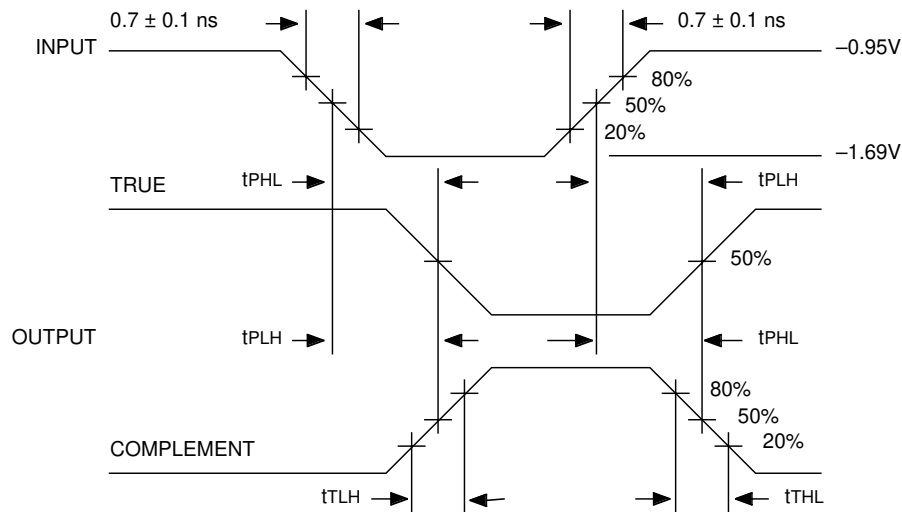
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I _{IH}	Input HIGH Current, All Inputs	—	—	200	μA	V _{IN} = V _{IH} (Max.)
I _{EE}	Power Supply Current	-60	-43	-20	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

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	

TIMING DIAGRAM

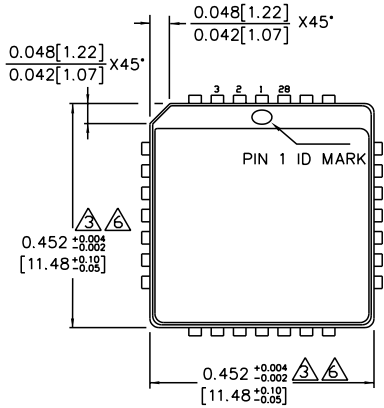


Propagation Delay and Transition Times

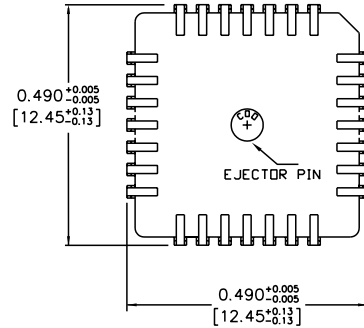
NOTE:

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

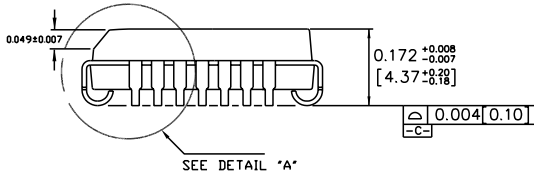
28-PIN PLCC (J28-1)



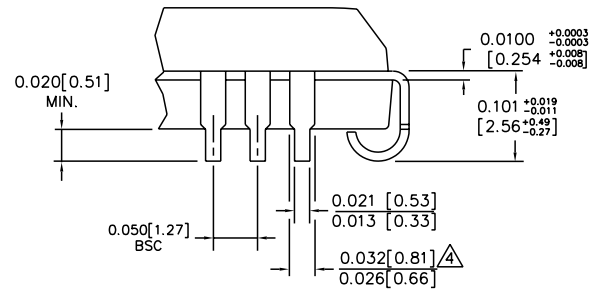
TOP VIEW



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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