

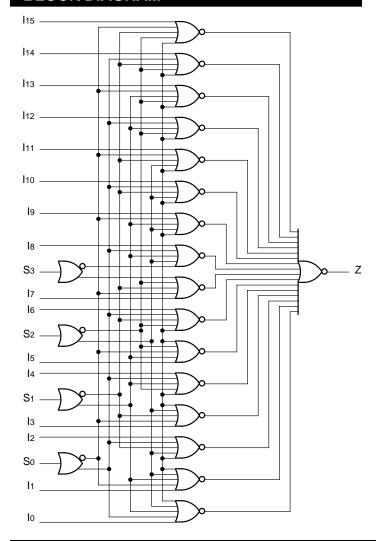
FEATURES

- Max. propagation delay of 1300ps
- IEE min. of -63mA
- Industry standard 100K ECL levels
- Extended supply voltage option: VEE = -4.2V to -5.5V
- Voltage and temperature compensation for improved noise immunity
- Internal 75k Ω input pull-down resistors
- 70% faster than Fairchild
- 40% lower power than Fairchild
- Function and pinout compatible with Fairchild F100K
- Available in 28-pin PLCC packages

DESCRIPTION

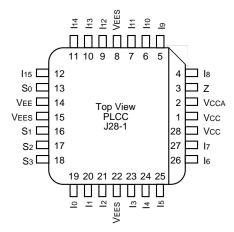
The SY100S364 is a 16-input multiplexer designed for use in high-performance ECL systems. The four Data Select inputs (So, S1, S2, S3) determine the bit from the 16 inputs (In) that will be passed on to the output as shown in the Truth Table. The output data polarity is the same as the input. The inputs on the device have $75 k\Omega$ pull-down resistors.

BLOCK DIAGRAM



Micrel, Inc. SY100S364

PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information

Part Number	Package Type	Operating Range	Package Marking	Lead Finish	
SY100S364JC	J28-1	Commercial	SY100S364JC	Sn-Pb	
SY100S364JCTR ⁽¹⁾	J28-1	Commercial	SY100S364JC	Sn-Pb	
SY100S364JZ ⁽²⁾	J28-1	Commercial	SY100S364JZ with Pb-Free bar-line indicator	Matte-Sn	
SY100S364JZTR ^(1, 2)	J28-1	Commercial	SY100S364JZ with Pb-Free bar-line indicator	Matte-Sn	

Notes:

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

PIN NAMES

Pin	Function				
lo — l15	Data Inputs				
So – S3	Select Inputs				
Z	Data Output				
VEES	VEE Substrate				
VCCA	Vcco for ECL Outputs				

TRUTH TABLE(1)

	Output			
So	S ₁	S ₂	S 3	Z
L H L H	L L H	L L L	L L L	lo l1 l2 l3
L Н Ц	L H H	H H H H	L L L	4 5 6 7
JIJI			ттт	18 19 110 111
コエコエ	\sqcup \sqcup \exists \exists	I I I I	пппп	l12 l13 l14 l15

NOTE:

1. H = HIGH Voltage Level

L = LOW Voltage Level

DC ELECTRICAL CHARACTERISTICS

VEE = -4.2V to -5.5V unless otherwise specified; VCC = VCCA = GND

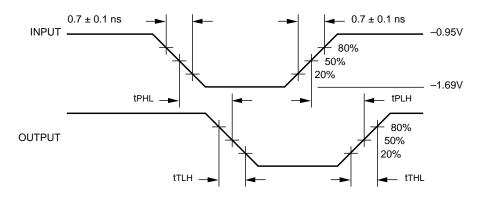
Symbol	Parameter	Min.	Тур.	Max.	Unit	Condition
lін	Input HIGH Current				μΑ	VIN = VIH (Max.)
	In	_	_	200		
	So, S1	_	_	200		
	S2, S3	_	_	200		
IEE	Power Supply Current	-63	-45	-30	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

VEE = -4.2V to -5.5V unless otherwise specified; VCC = VCCA = GND

		TA = 0°C		TA = +25°C		TA = +85°C			
Symbol	Parameter	Min.	Max.	Min.	Max.	Min.	Max.	Unit	Condition
tPLH tPHL	Propagation Delay lo – l15 to Output	400	1300	400	1300	400	1300	ps	
tPLH tPHL	Propagation Delay So, S1 to Output	400	1800	400	1800	400	1800	ps	
tPLH tPHL	Propagation Delay S2, S3 to Output	400	1600	400	1600	400	1600	ps	
tTLH tTHL	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

TIMING DIAGRAM



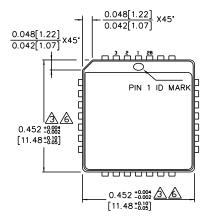
Propagation Delay and Transition Times

Note:

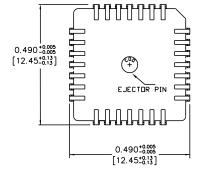
VEE = -4.2V to -5.5V unless otherwise specified; VCC = VCCA = GND

SY100S364 Micrel, Inc.

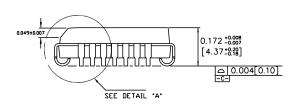
28-PIN PLCC (J28-1)



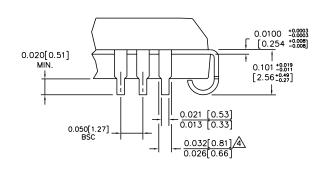
TOP VIEW



BOTTOM VIEW



SIDE VIEW



DETAIL "A"

NOTES:

DIMENSIONS ARE IN INCHES [MM].
CONTROLLING DIMENSION: INCHES.
DIMENSION DOES NOT INCLUDE MOLD FLASH
OR PROTRUSIONS, EITHER OF WHICH SHALL NOT
EXCEED 0.008 [0.203].
LEAD DIMENSION DOES NOT INCLUDE DAMBAR

LEAD DIMENSION DOES NOT INCLUDE DAMBAI PROTRUSION.
MAXIMUM AND MINIMUM SPECIFICATIONS ARE INDICATED AS FOLLOWS: MAX/MIN
PACKAGE TOP DIMENSION MAY BE SLIGHTLY SMALLER THAN BOTTOM DIMENSION.

Rev. A

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