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!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

TRIPLE 4-INPUT MULTIPLEXER WITH ENABLE

SY100S371

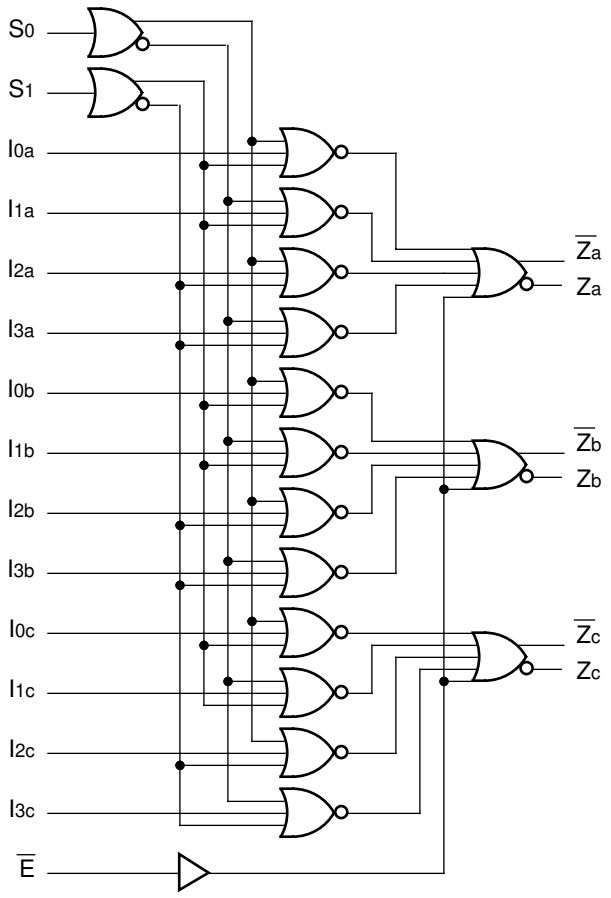
FEATURES

- **Max. propagation delay of 1000ps**
- **I_{EE} min. of –68mA**
- **Industry standard 100K ECL levels**
- **Extended supply voltage option: V_{EE} = –4.2V to –5.5V**
- **Voltage and temperature compensation for improved noise immunity**
- **Internal 75kΩ input pull-down resistors**
- **40% faster than Fairchild**
- **40% lower power than Fairchild**
- **Function and pinout compatible with Fairchild F100K**
- **Available in 28-pin PLCC packages**

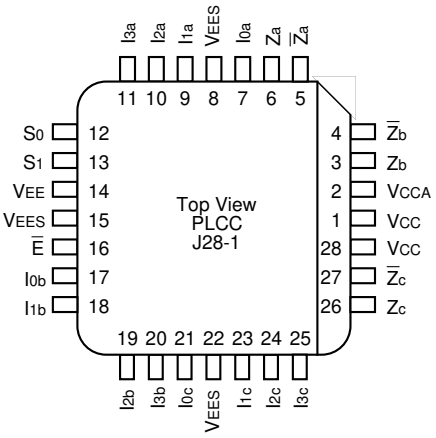
DESCRIPTION

The SY100S371 is an ultra-fast triple 4-input multiplexer with true and complementary outputs designed for use in high-performance ECL systems. The multiplexer is controlled by common select inputs S_0 and S_1. A logic HIGH on the Enable ($\overline{E}$) control input takes the outputs to a logic LOW. The inputs on the device have 75kΩ pull-down resistors.

BLOCK DIAGRAM



PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100S371JC	J28-1	Commercial	SY100S371JC	Sn-Pb
SY100S371JCTR[1]	J28-1	Commercial	SY100S371JC	Sn-Pb
SY100S371JZ[2]	J28-1	Commercial	SY100S371JZ with Pb-Free bar-line indicator	Matte-Sn
SY100S371JZTR[1, 2]	J28-1	Commercial	SY100S371JZ 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
$I_{0X} – I_{3X}$	Data Inputs (x = a, b or c)
S_0, S_1	Select Inputs
$\overline{E}$	Enable Input (Active LOW)
$Z_a – Z_c$	Data Outputs
$\overline{Z}_a – \overline{Z}_c$	Complementary Data Outputs
V_{EES}	V_{EE} Substrate
V_{CCA}	V_{CCO} for ECL Outputs

TRUTH TABLE[1]

Inputs			Outputs
$\overline{E}$	S_0	S_1	Z_n
L	L	L	I_{0X}
L	H	L	I_{1X}
L	L	H	I_{2X}
L	H	H	I_{3X}
H	X	X	L

Note:

1. H = HIGH Voltage Level
   L = LOW Voltage Level
   X = Don't Care

DC ELECTRICAL CHARACTERISTICS

V_{EE} = –4.2V to –5.5V unless otherwise specified; V_{CC} = V_{CCA} = GND

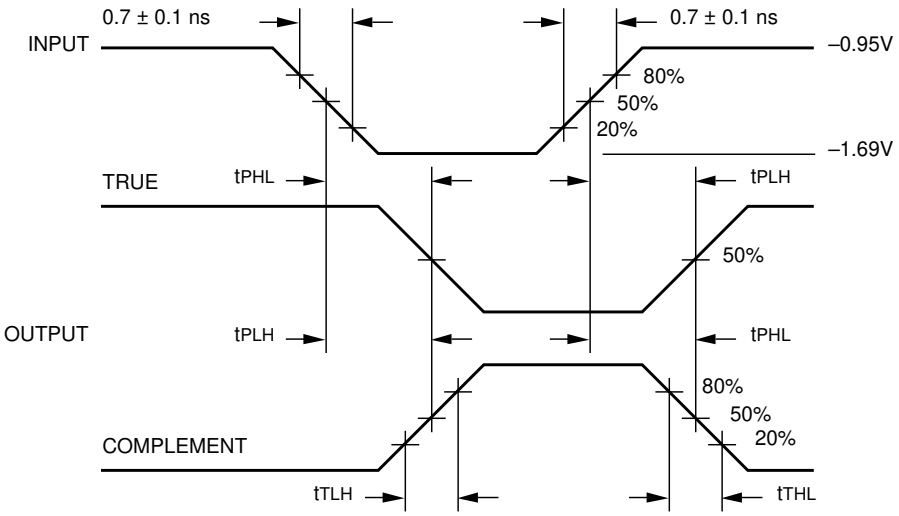
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I_{IH}	Input HIGH Current I_{0X} – I_{3X} S_0, S_1, $\overline{E}$	 — —	 — —	 250 300	µA	V_{IN} = V_{IH} (Max.)
I_{EE}	Power Supply Current	–68	–48	–34	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

V_{EE} = –4.2V to –5.5V unless otherwise specified; V_{CC} = V_{CCA} = GND

		T_A = 0°C		T_A = +25°C		T_A = +85°C			
Symbol	Parameter	Min.	Max.	Min.	Max.	Min.	Max.	Unit	Condition
t_{PLH} t_{PHL}	Propagation Delay I_{0X} – I_{3X} to Output	300	1000	300	1000	300	1000	ps	
t_{PLH} t_{PHL}	Propagation Delay S_0, S_1 to Output	400	1400	400	1400	400	1400	ps	
t_{PLH} t_{PHL}	Propagation Delay $\overline{S}_0$, S_1 to Output	400	1300	400	1300	400	1300	ps	
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

TIMING DIAGRAM

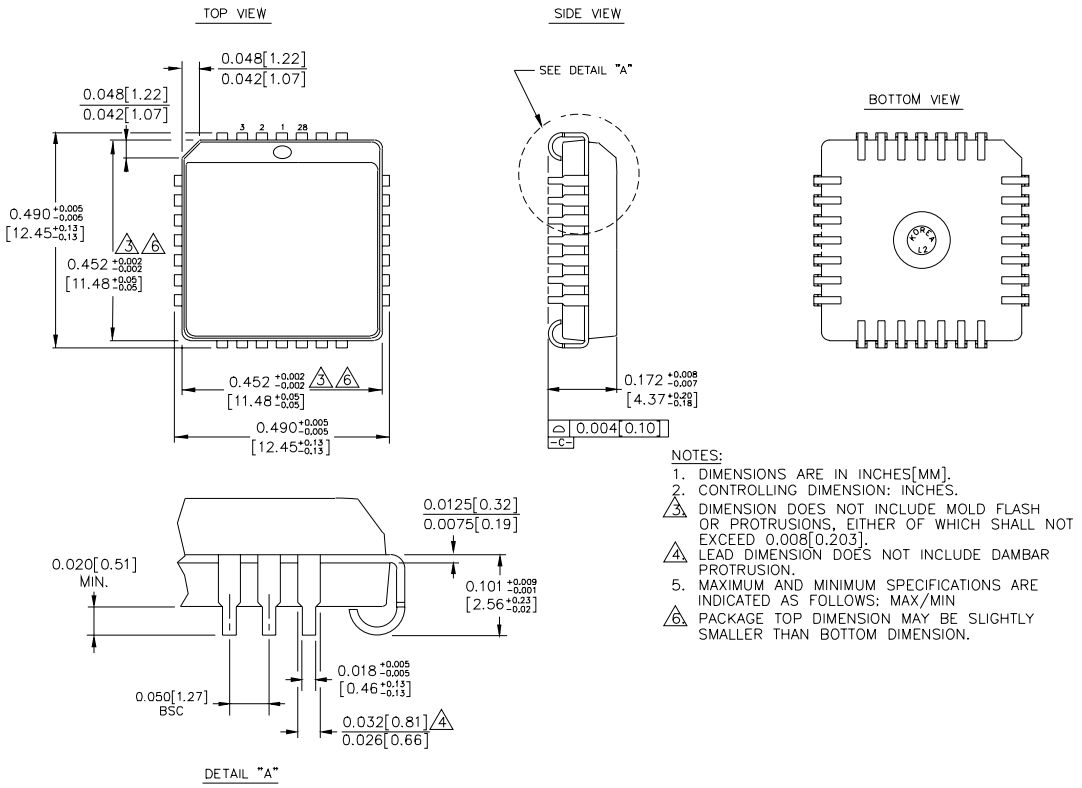


Propagation Delay and Transition Times

Note:

V_{EE} = –4.2V to –5.5V unless otherwise specified; V_{CC} = V_{CCA} = GND

28-PIN PLCC (J28-1)



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. 03

MICREL, INC. 2180 FORTUNE DRIVE SAN JOSE, CA 95131 USA

TEL + 1 (408) 944-0800 FAX + 1 (408) 474-1000 WEB http://www.micrel.com