FEATURES

- **Max. propagation delay of 900ps**
- **I_{EE} min. of –92mA**
- **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**
- **60% faster than Fairchild 300K at lower power**
- **Function and pinout compatible with Fairchild F100K**
- **Available in 28-pin PLCC packages**

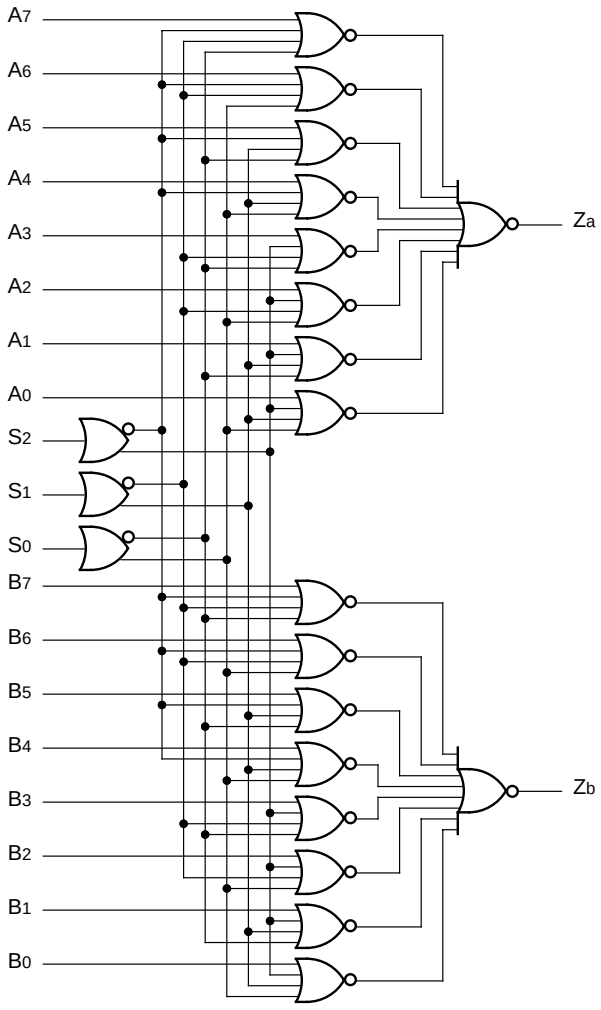
PIN NAMES

Pin	Function
S_0 – S_2	Data Select Inputs
A_0 – A_7	A Data Inputs
B_0 – B_7	B Data Inputs
Z_a, Z_b	Data Outputs
V_{EES}	V_{EE} Substrate
V_{CCA}	V_{CCO} for ECL Outputs

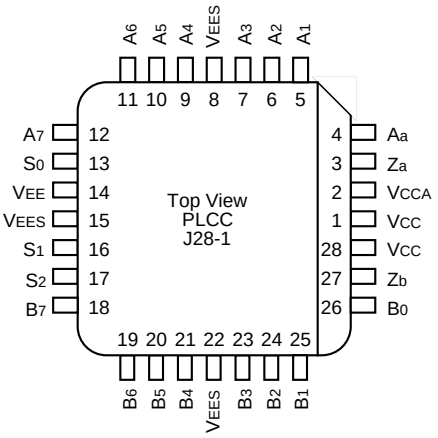
DESCRIPTION

The SY100S363 is a dual 8-input multiplexer designed for use in new, high-performance ECL systems. The three Data Select inputs (S_0, S_1, S_2) determine the bits from each of the inputs (A_n, B_n) that will be passed on through the two outputs. The same bit will be selected from the two groups of 8 inputs. The inputs on this 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
SY100S363JC	J28-1	Commercial	SY100S363JC	Sn-Pb
SY100S363JCTR[1]	J28-1	Commercial	SY100S363JC	Sn-Pb
SY100S363JZ[2]	J28-1	Commercial	SY100S363JZ with Pb-Free bar-line indicator	Matte-Sn
SY100S363JZTR[1, 2]	J28-1	Commercial	SY100S363JZ with Pb-Free bar-line indicator	Matte-Sn

Notes:

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

TRUTH TABLE[1]

Inputs											Outputs
Select			Data								
S_2	S_1	S_0	A_7/B_7	A_6/B_6	A_5/B_5	A_4/B_4	A_3/B_3	A_2/B_2	A_1/B_1	A_0/B_0	Z_a/Z_b
L L	L L	L L								L H	L H
L L	L L	H H							L H		L H
L L	H H	L L						L H			L H
L L	H H	H H					L H				L H
H H	L L	L L				L H					L H
H H	L L	H H			L H						L H
H H	H H	L L		L H							L H
H H	H H	H H	L H								L H

Note:

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

DC ELECTRICAL CHARACTERISTICS

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

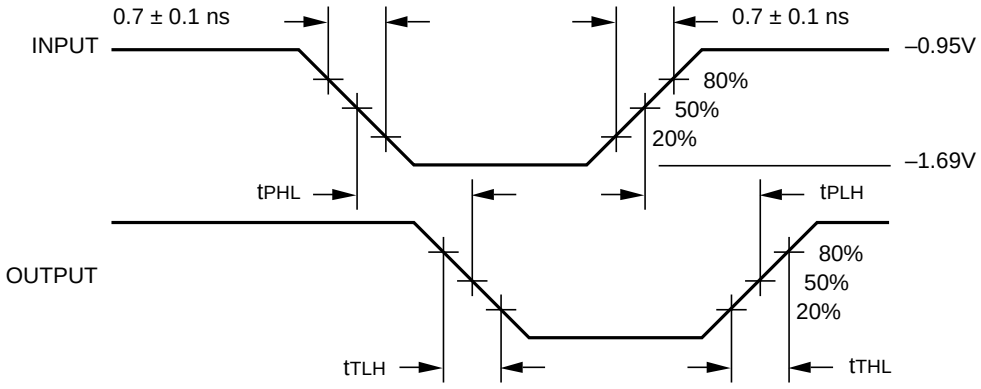
Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
I_{IH}	Input HIGH Current S_n A_n, B_n	 — —	 — —	 200 200	µA	V_{IN} = V_{IH} (Max.)
I_{EE}	Power Supply Current	–92	–66	–45	mA	Inputs Open

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 A_0 – A_7, B_0 – B_7 to Output	300	900	300	900	300	900	ps	
t_{PLH} t_{PHL}	Propagation Delay S_0 – S_2 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

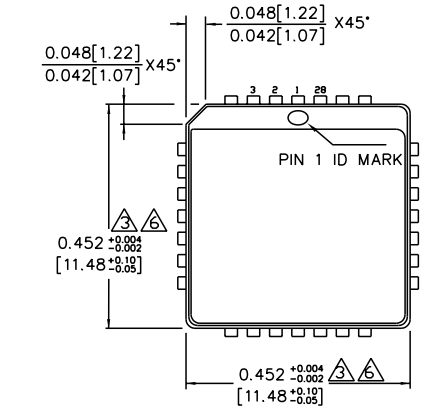


Propagation Delay and Transition Times

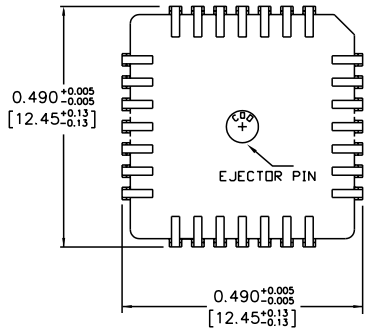
Note:

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

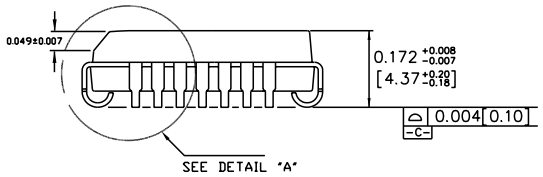
28-PIN PLCC (J28-1)



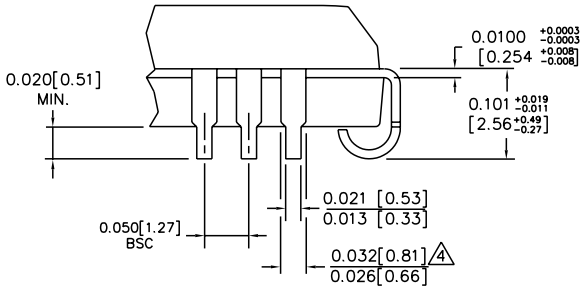
TOP VIEW



BOTTOM VIEW



SIDE VIEW



DETAIL "A"

Rev. 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.

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