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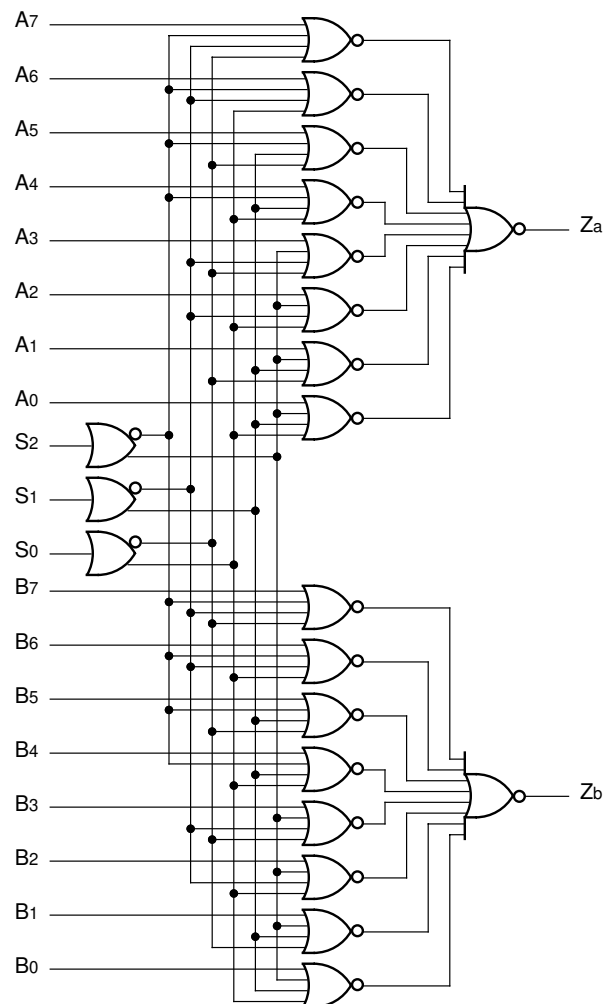
### FEATURES

- Max. propagation delay of 900ps
- IEE min. of -92mA
- Industry standard 100K ECL levels
- Extended supply voltage option:  
VEE = -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 24-pin CERPACK and 28-pin PLCC packages

### DESCRIPTION

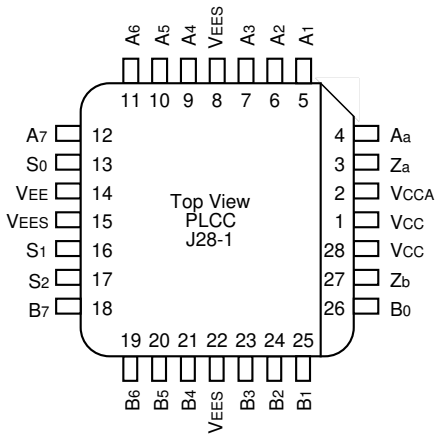
The SY100S363 is a dual 8-input multiplexer designed for use in new, high-performance ECL systems. The three Data Select inputs (S<sub>0</sub>, S<sub>1</sub>, S<sub>2</sub>) determine the bits from each of the inputs (A<sub>n</sub>, B<sub>n</sub>) that will be passed on through the two outputs. The same bit will be selected from the two groups of 8 inputs. The inputs on this device have 75KΩ pull-down resistors.

### BLOCK DIAGRAM

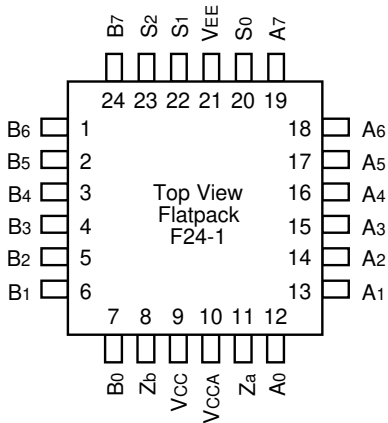


**PACKAGE/ORDERING INFORMATION**

**Ordering Information**



**28-Pin PLCC (J28-1)**



**24-Pin Cerpack (F24-1)**

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100S363FC	F24-1	Commercial	SY100S363FC	Sn-Pb
SY100S363FCTR <sup>(1)</sup>	F24-1	Commercial	SY100S363FC	Sn-Pb
SY100S363JC	J28-1	Commercial	SY100S363JC	Sn-Pb
SY100S363JCTR <sup>(1)</sup>	J28-1	Commercial	SY100S363JC	Sn-Pb
SY100S363JZ <sup>(2)</sup>	J28-1	Commercial	SY100S363JZ with Pb-Free bar-line indicator	Matte-Sn
SY100S363JZTR <sup>(1, 2)</sup>	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.

**PIN NAMES**

Pin	Function
S0 – S2	Data Select Inputs
A0 – A7	A Data Inputs
B0 – B7	B Data Inputs
Za, Zb	Data Outputs
VEES	VEE Substrate
VCCA	Vcco for ECL Outputs

**TRUTH TABLE<sup>(1)</sup>**

Inputs											Outputs
Select			Data								
S2	S1	S0	A7/B7	A6/B6	A5/B5	A4/B4	A3/B3	A2/B2	A1/B1	A0/B0	Za/Zb
L	L	L								L	L
L	L	L								H	H
L	L	H							L		L
L	L	H							H		H
L	H	L						L			L
L	H	L						H			H
L	H	H					L				L
L	H	H					H				H
H	L	L				L					L
H	L	L				H					H
H	L	H			L						L
H	L	H			H						H
H	H	L		L							L
H	H	L		H							H
H	H	H	L								L
H	H	H	H								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 <sub>IH</sub>	Input HIGH Current	—	—	200	μA	V <sub>IN</sub> = V <sub>IH</sub> (Max.)
	S <sub>n</sub> A <sub>n</sub> , B <sub>n</sub>	—	—	200		
I <sub>EE</sub>	Power Supply Current	-92	-66	-45	mA	Inputs Open

**AC ELECTRICAL CHARACTERISTICS**

**CERPACK**

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

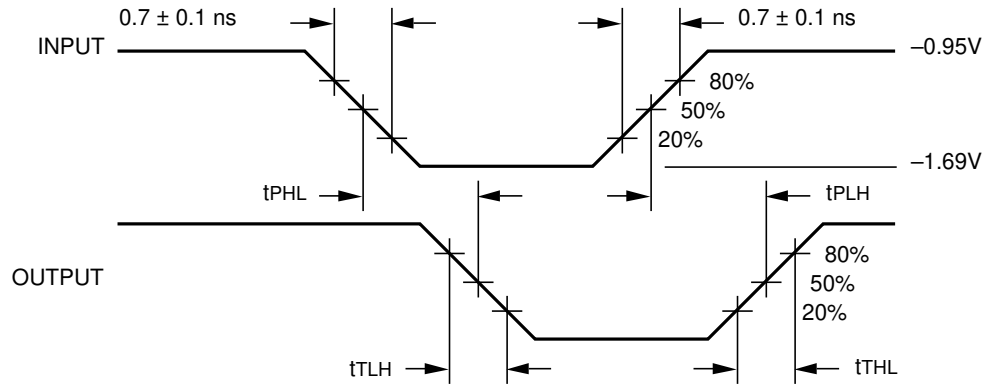
Symbol	Parameter	T <sub>A</sub> = 0°C		T <sub>A</sub> = +25°C		T <sub>A</sub> = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay A <sub>0</sub> – A <sub>7</sub> , B <sub>0</sub> – B <sub>7</sub> to Output	300	1000	300	1000	300	1000	ps	
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay S <sub>0</sub> – S <sub>2</sub> to Output	400	1400	400	1400	400	1400	ps	
t <sub>TLH</sub> t <sub>THL</sub>	Transition Time 20% to 80%, 80% to 20%	300	1000	300	1000	300	1000	ps	

**PLCC**

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

Symbol	Parameter	T <sub>A</sub> = 0°C		T <sub>A</sub> = +25°C		T <sub>A</sub> = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay A <sub>0</sub> – A <sub>7</sub> , B <sub>0</sub> – B <sub>7</sub> to Output	300	900	300	900	300	900	ps	
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay S <sub>0</sub> – S <sub>2</sub> to Output	400	1300	400	1300	400	1300	ps	
t <sub>TLH</sub> t <sub>THL</sub>	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

**TIMING DIAGRAM**

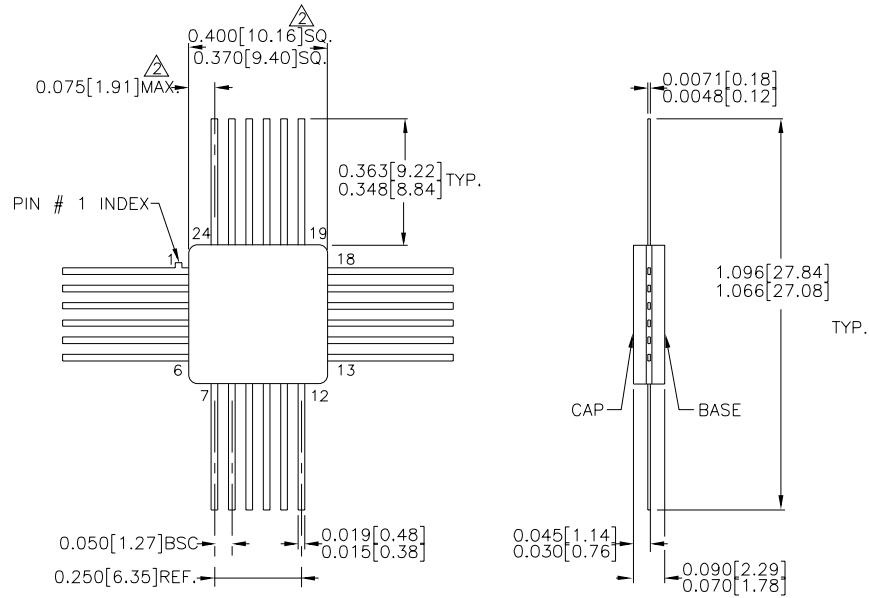


**Propagation Delay and Transition Times**

**Note:**

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

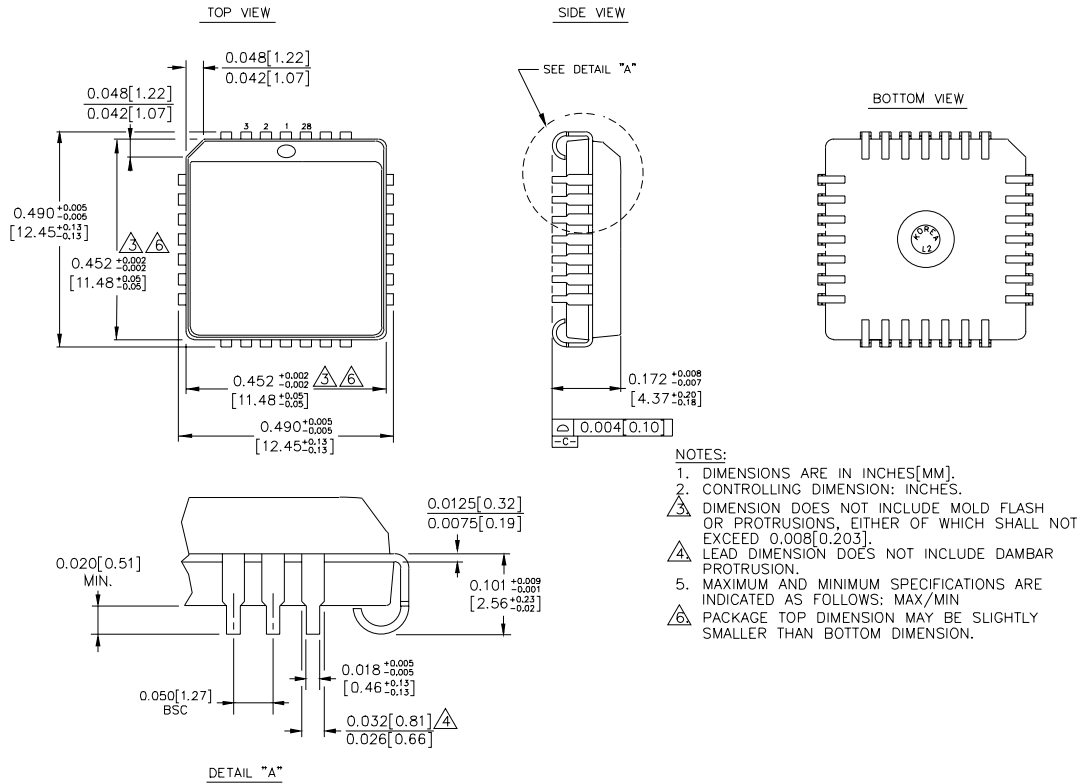
**24-PIN CERPACK (F24-1)**



- NOTES:**
1. DIMENSIONS ARE IN INCHES[MM].
  2. THIS DIMENSION INCLUDES GLASS PROTRUSION AND CAP TO BASE ALIGNMENT TOLERANCES.
  3. DIMENSIONS SHOWN ARE MAX/MIN, WHERE NOTED.

Rev. 03

**28-PIN PLCC (J28-1)**



Rev. 03

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