



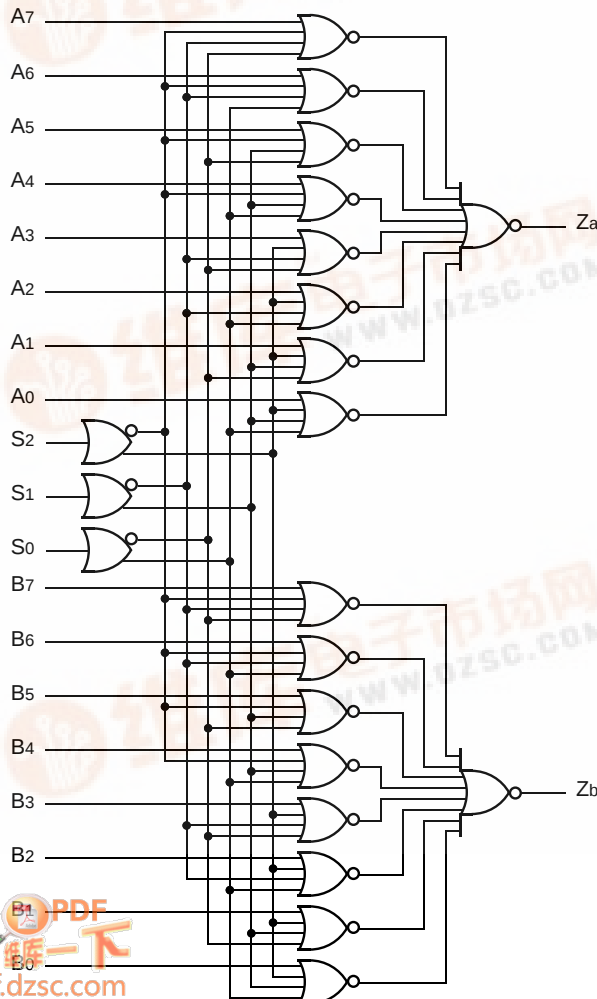
DUAL 8-INPUT MULTIPLEXER

SY100S363

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 CERPAC and 28-pin PLCC packages

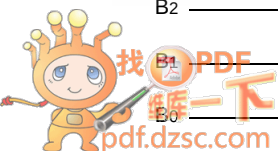
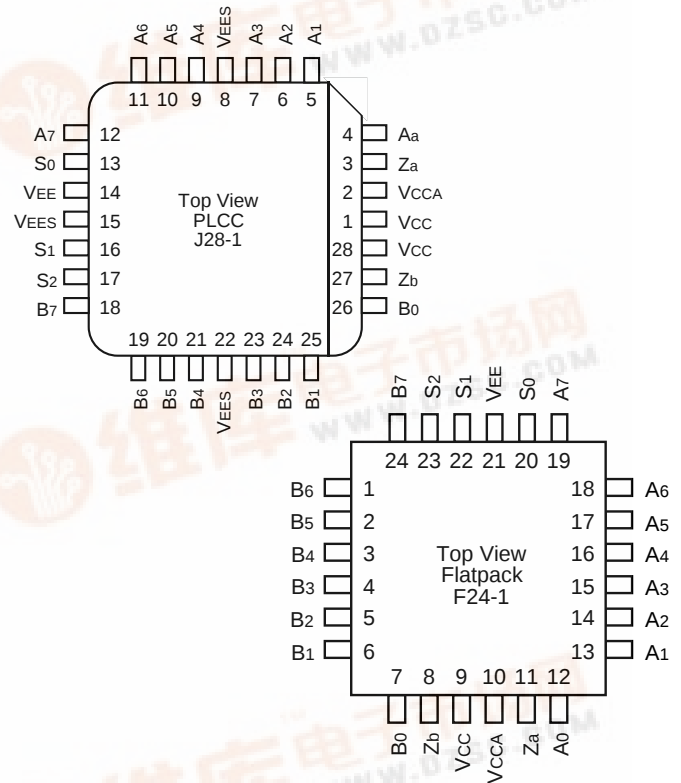
BLOCK DIAGRAM



DESCRIPTION

The SY100S363 is a dual 8-input multiplexer designed for use in new, high-performance ECL systems. The three Data Select inputs (S0, S1, S2) 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.

PIN CONFIGURATIONS



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
VEES	VEE Substrate
VCCA	Vcco for ECL Outputs

TRUTH TABLE⁽¹⁾

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 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

CERPACK

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

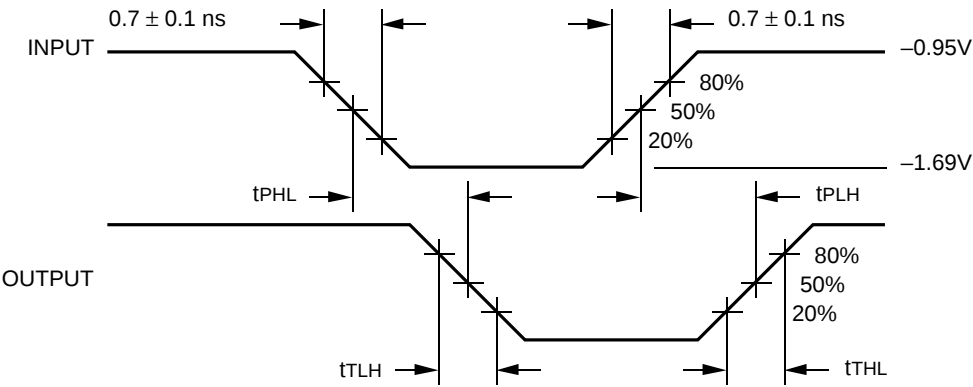
Symbol	Parameter	$T_A = 0^{\circ}C$		$T_A = +25^{\circ}C$		$T_A = +85^{\circ}C$		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t_{PLH} t_{PHL}	Propagation Delay $A_0 - A_7, B_0 - B_7$ to Output	300	1000	300	1000	300	1000	ps	
t_{PLH} t_{PHL}	Propagation Delay $S_0 - S_2$ to Output	400	1400	400	1400	400	1400	ps	
t_{TLH} t_{THL}	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	$T_A = 0^{\circ}C$		$T_A = +25^{\circ}C$		$T_A = +85^{\circ}C$		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
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



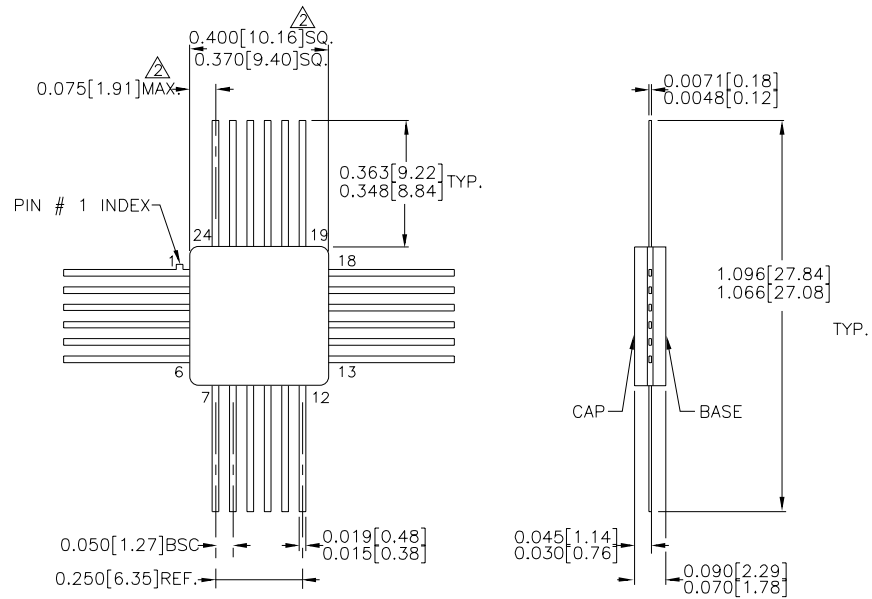
Propagation Delay and Transition Times

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

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY100S363FC	F24-1	Commercial
SY100S363JC	J28-1	Commercial
SY100S363JCTR	J28-1	Commercial

24 LEAD CERPACK (F24-1)



NOTES:

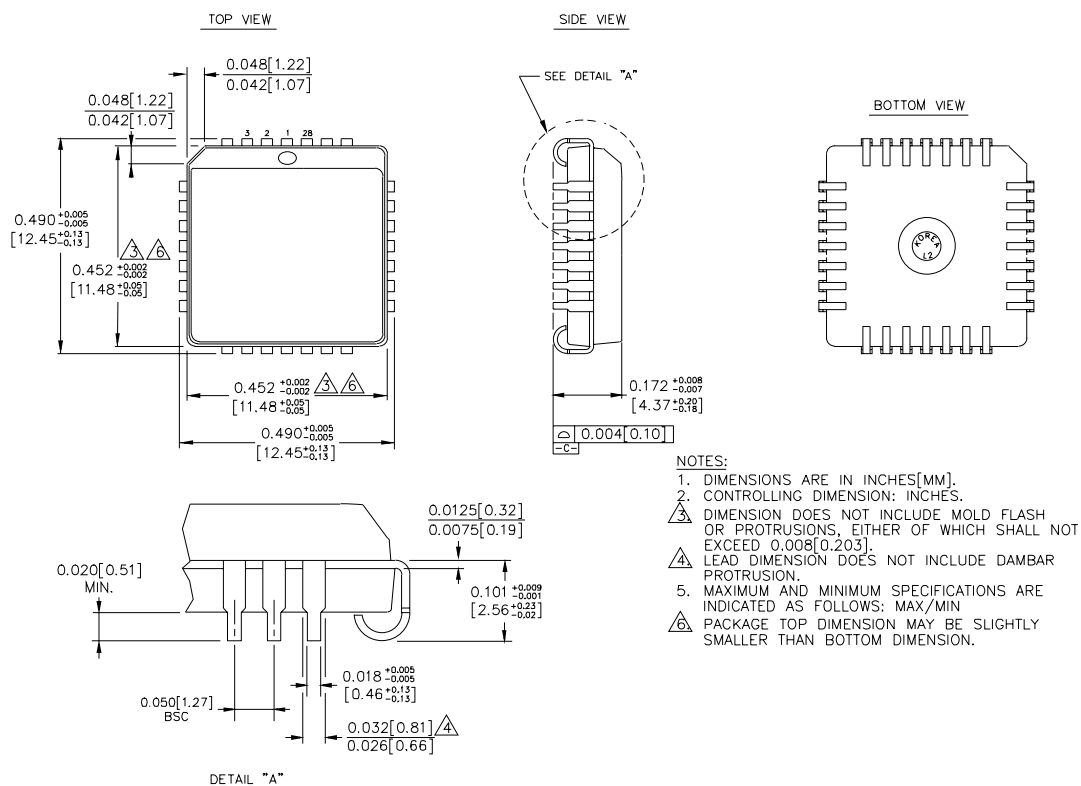
1. DIMENSIONS ARE IN INCHES[MM].

2. THIS DIMENSION INCLUDES GLASS PROTRUSION AND CAP TO BASE ALIGNMENT TOLERANCES.

3. DIMENSIONS SHOWN ARE MAX/MIN, WHERE NOTED.

Rev. 03

28 LEAD PLCC (J28-1)



Rev. 03