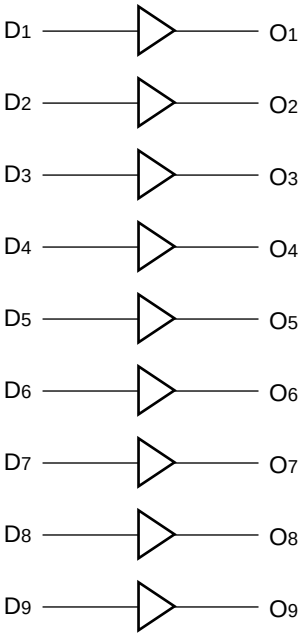
FEATURES

- Max. propagation delay of 700ps
- I_{EE} min. of –55mA
- 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
- 70% faster than Fairchild 300K at lower power
- Function and pinout compatible with Fairchild F100K
- Available in 24-pin CERPACK and 28-pin PLCC packages

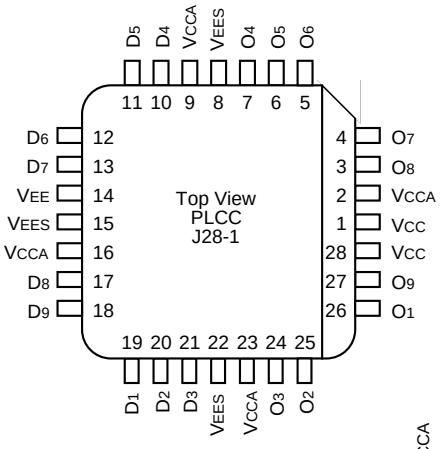
BLOCK DIAGRAM

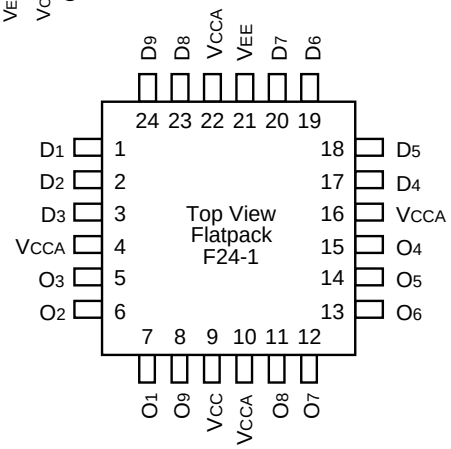


DESCRIPTION

The SY100S322 is an ultra-fast buffer designed for use in high-performance ECL systems. The device provides nine non-inverting buffers with single-ended outputs. The inputs on the device have 75KΩ pull-down resistors.

PIN CONFIGURATIONS





PIN NAMES

Pin	Function
D_1 – D_9	Data Inputs
O_1 – O_9	Data Outputs
V_{EES}	V_{EE} Substrate
V_{CCA}	V_{CCO} for ECL Outputs

LOGIC EQUATION

$O_n = D_n$, n = 1 to 9

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	—	—	200	µA	$V_{IN} = V_{IH}$ (Max.)
I_{EE}	Power Supply Current	–55	–41	–25	mA	Inputs Open

AC ELECTRICAL CHARACTERISTICS

CERPACK

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

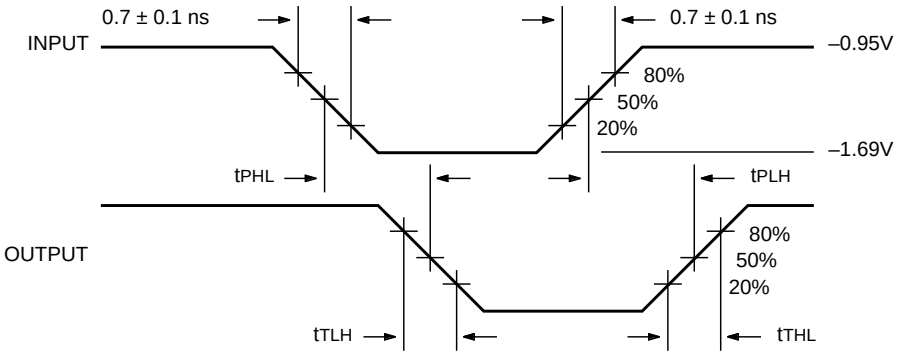
Symbol	Parameter	T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	800	300	800	300	800	ps	
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

PLCC

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

Symbol	Parameter	T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.		
t_{PLH} t_{PHL}	Propagation Delay Data to Output	300	700	300	700	300	700	ps	
t_{TLH} t_{THL}	Transition Time 20% to 80%, 80% to 20%	300	900	300	900	300	900	ps	

TIMING DIAGRAM



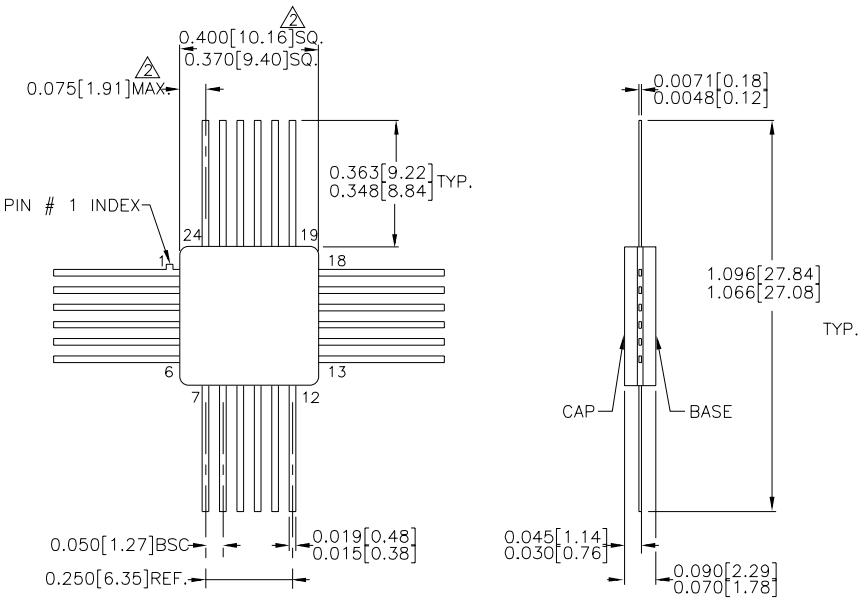
Propagation Delay and Transition Times

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
SY100S322FC	F24-1	Commercial
SY100S322JC	J28-1	Commercial
SY100S322JCTR	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.

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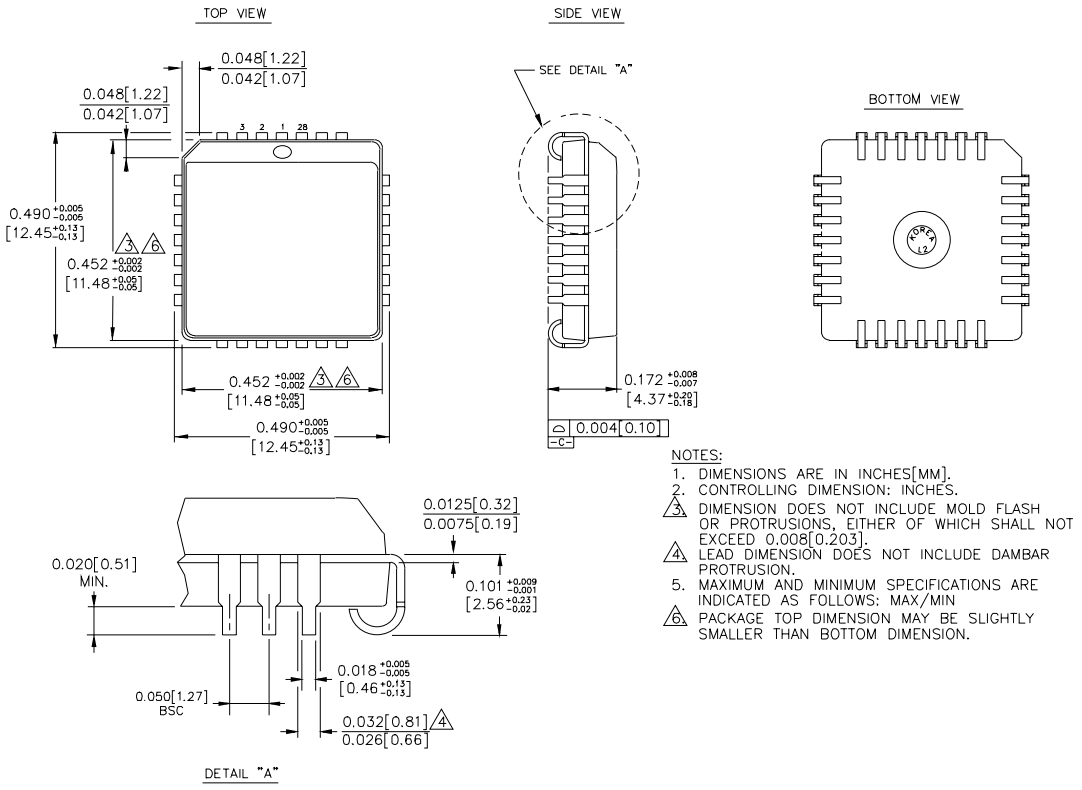
28 LEAD PLCC (J28-1)



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.

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