

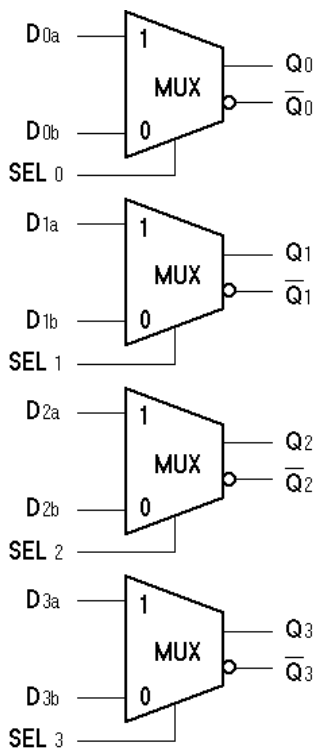
**FEATURES**

- Individual select controls
- Extended 100E VEE range of -4.2V to -5.5V
- 550ps max. D to Output
- 800ps max. SEL to Output
- Internal 75KΩ input pull-down resistors
- Fully compatible with industry standard 10KH, 100K ECL levels
- Available in 28-pin PLCC package

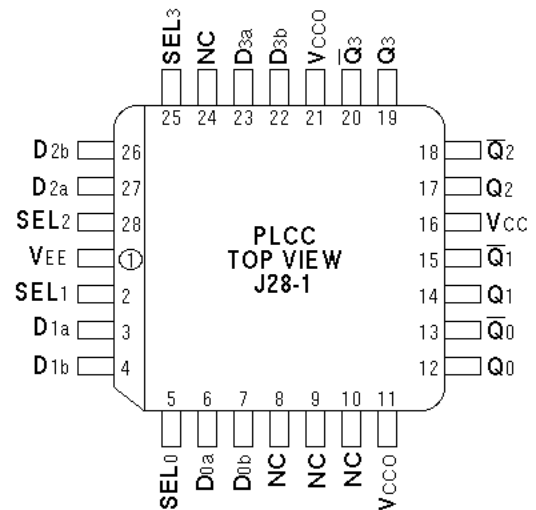
**DESCRIPTION**

The SY10/100E157 contain four 2:1 multiplexers with differential outputs. The output data are controlled by the individual Select (SEL) inputs. The individual select control makes the devices well suited for random logic designs.

**BLOCK DIAGRAM**



**PIN CONFIGURATION**



**PIN NAMES**

Pin	Function
D0a – D3a	Input Data a
D0b – D3b	Input Data b
SEL0 – SEL3	Select Inputs
Q0 – Q3	True Outputs
Q0-bar – Q3-bar	Inverted Outputs
Vcc0	Vcc to Output

**TRUTH TABLE**

SEL	Data
H	a
L	b

**DC ELECTRICAL CHARACTERISTICS<sup>(1)</sup>**

$V_{EE} = V_{EE} \text{ (Min.) to } V_{EE} \text{ (Max.)}; V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	$T_A = -40^\circ\text{C}$			$T_A = 0^\circ\text{C}$			$T_A = +25^\circ\text{C}$			$T_A = +85^\circ\text{C}$			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I <sub>IH</sub>	Input HIGH Current	—	—	200	—	—	200	—	—	200	—	—	200	$\mu\text{A}$
	D SEL	—	—	150	—	—	150	—	—	150	—	—	150	
I <sub>EE</sub>	Power Supply Current	—	32	38	—	32	38	—	32	38	—	32	38	mA
	10E	—	32	38	—	32	38	—	32	38	—	32	38	
	100E	—	32	38	—	32	38	—	32	38	—	37	44	

**NOTE:**

1. Specification for packaged product only.

**AC ELECTRICAL CHARACTERISTICS<sup>(2)</sup>**

$V_{EE} = V_{EE} \text{ (Min.) to } V_{EE} \text{ (Max.)}; V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	$T_A = -40^\circ\text{C}$			$T_A = 0^\circ\text{C}$			$T_A = +25^\circ\text{C}$			$T_A = +85^\circ\text{C}$			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay to D SEL	220 425	380 600	550 800	220 425	380 600	550 800	220 425	380 600	550 800	220 425	380 600	550 800	$\mu\text{s}$
t <sub>skew</sub>	Within-Device Skew <sup>(1)</sup>	—	70	—	—	70	—	—	70	—	—	70	—	
t <sub>r</sub> t <sub>f</sub>	Rise/Fall Time 20% to 80%	275	400	650	275	400	650	275	400	650	275	400	650	$\mu\text{s}$

**NOTE:**

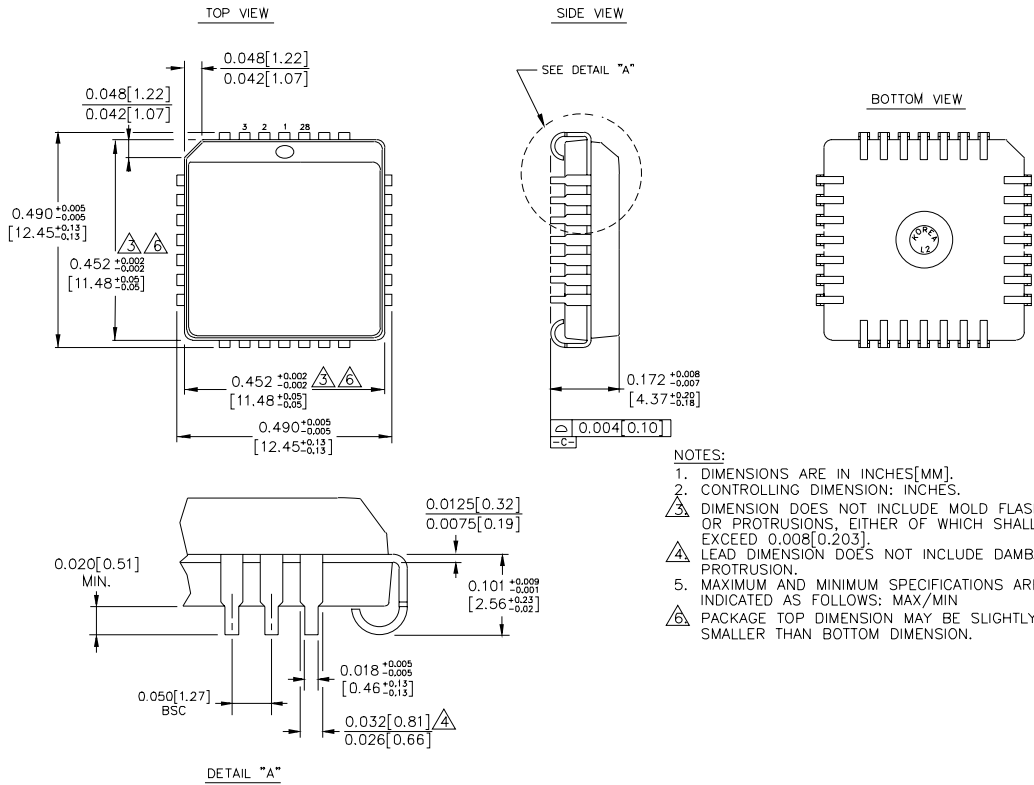
1. Within-device skew is defined as identical transitions on similar paths through a device.
2. Specification for packaged product only.

**PRODUCT ORDERING CODE**

Ordering Code	Package Type	Operating Range
SY10E157JI	J28-1	Industrial
SY10E157JITR*	J28-1	Industrial
SY100E157JI	J28-1	Industrial
SY100E157JITR*	J28-1	Industrial

\*Tape and Reel

**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.

Rev. 03

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