



**QUAD 2:1  
MULTIPLEXER**

**SY10E157  
SY100E157**

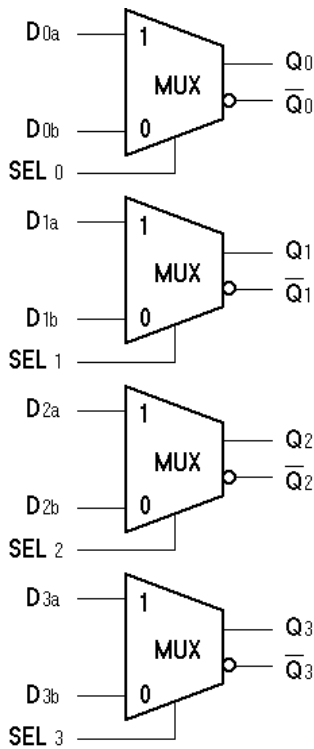
**FEATURES**

- 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.

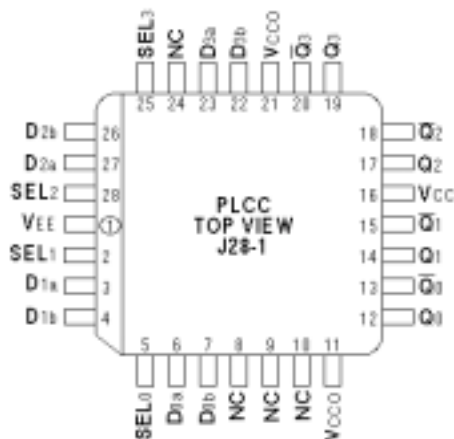
**BLOCK DIAGRAM**



**PIN 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

**PACKAGE/ORDERING INFORMATION**



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

**Ordering Information<sup>(1)</sup>**

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E157JI	J28-1	Industrial	SY10E157JI	Sn-Pb
SY10E157JITR <sup>(2)</sup>	J28-1	Industrial	SY10E157JI	Sn-Pb
SY100E157JI	J28-1	Industrial	SY100E157JI	Sn-Pb
SY100E157JITR <sup>(2)</sup>	J28-1	Industrial	SY100E157JI	Sn-Pb
SY10E157JC	J28-1	Commercial	SY10E157JC	Sn-Pb
SY10E157JCTR <sup>(2)</sup>	J28-1	Commercial	SY10E157JC	Sn-Pb
SY100E157JC	J28-1	Commercial	SY100E157JC	Sn-Pb
SY100E157JCTR <sup>(2)</sup>	J28-1	Commercial	SY100E157JC	Sn-Pb
SY10E157JY <sup>(3)</sup>	J28-1	Industrial	SY10E157JY with Pb-Free bar-line indicator	Matte-Sn
SY10E157JYTR <sup>(2, 3)</sup>	J28-1	Industrial	SY10E157JY with Pb-Free bar-line indicator	Matte-Sn
SY100E157JY <sup>(3)</sup>	J28-1	Industrial	SY100E157JY with Pb-Free bar-line indicator	Matte-Sn
SY100E157JYTR <sup>(2, 3)</sup>	J28-1	Industrial	SY100E157JY with Pb-Free bar-line indicator	Matte-Sn

**Notes:**

1. Contact factory for die availability. Dice are guaranteed at T<sub>A</sub> = 25°C, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

**TRUTH TABLE**

SEL	Data
H	a
L	b

**DC ELECTRICAL CHARACTERISTICS(1)**

V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = V<sub>CCO</sub> = GND

Symbol	Parameter	T <sub>A</sub> = -40°C			T <sub>A</sub> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°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	μA
	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(2)**

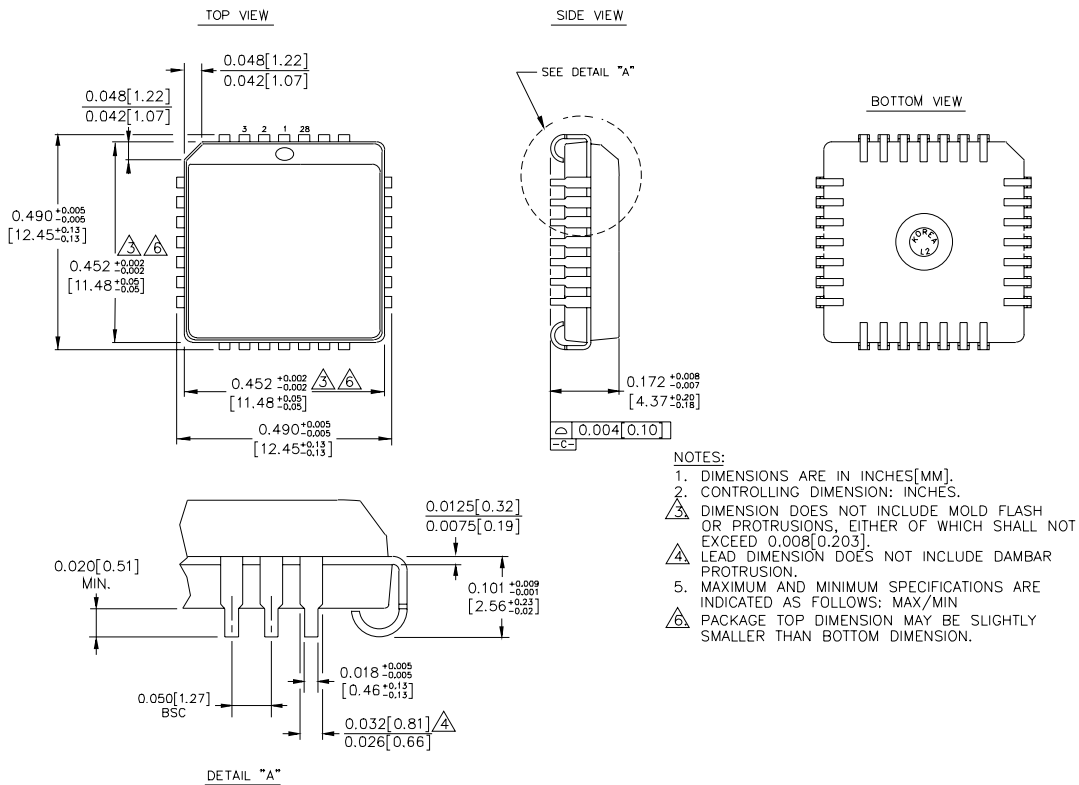
V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = V<sub>CCO</sub> = GND

Symbol	Parameter	T <sub>A</sub> = -40°C			T <sub>A</sub> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t <sub>PD</sub>	Propagation Delay to	220	380	550	220	380	550	220	380	550	220	380	550	ps
	D SEL	425	600	800	425	600	800	425	600	800	425	600	800	
t <sub>skew</sub>	Within-Device Skew <sup>(1)</sup>	—	70	—	—	70	—	—	70	—	—	70	—	ps
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	ps

**Notes:**

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

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



Rev. 03

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