



**QUAD 2:1
MULTIPLEXER**

**SY10E157
SY100E157**

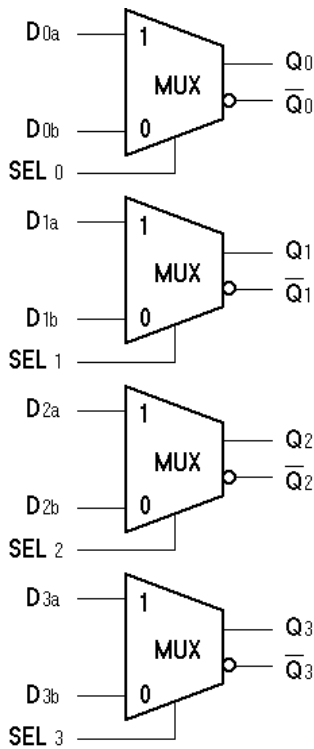
FEATURES

- 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.

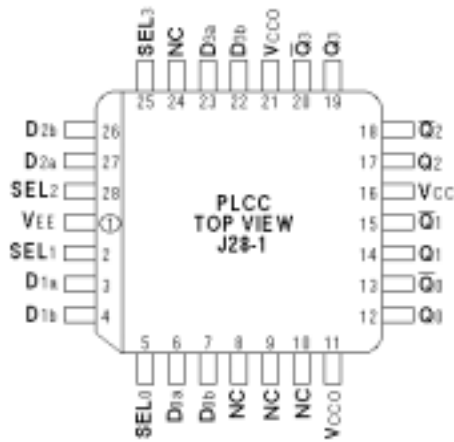
BLOCK DIAGRAM



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⁽¹⁾

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

Notes:

1. Contact factory for die availability. Dice are guaranteed at T_A = 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⁾

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

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 _{IH}	Input HIGH Current	—	—	200	—	—	200	—	—	200	—	—	200	μA
	D SEL	—	—	150	—	—	150	—	—	150	—	—	150	
I _{EE}	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⁾

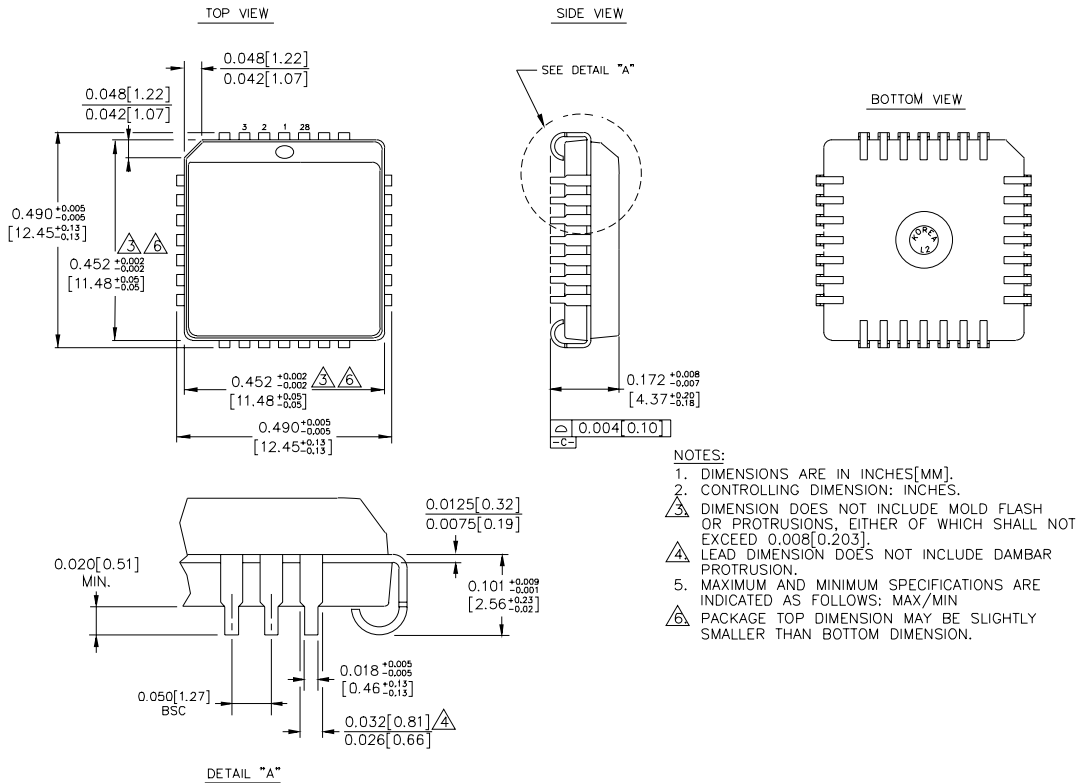
$V_{EE} = V_{EE} \text{ (Min.) to } V_{EE} \text{ (Max.)}; V_{CC} = V_{CCO} = \text{GND}$

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 _{PD}	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 _{skew}	Within-Device Skew ⁽¹⁾	—	70	—	—	70	—	—	70	—	—	70	—	ps
t _r t _f	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)



- 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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