

## FEATURES

- 750ps max. LEN to output
- Extended 100E VEE range of -4.2V to -5.5V
- 700ps max. D to output
- Single-ended outputs
- Asynchronous Master Reset
- Dual latch-enables
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E155
- Available in 28-pin PLCC package

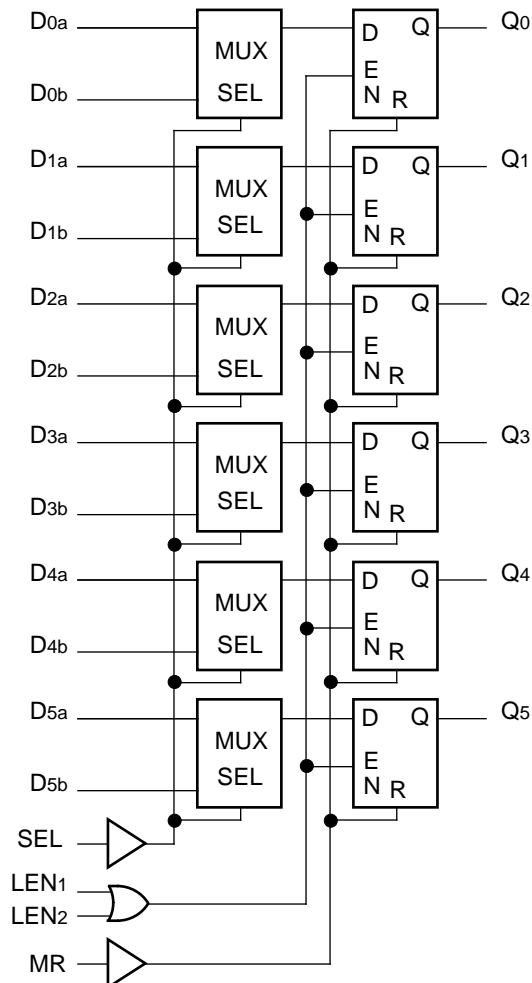
## DESCRIPTION

The SY10/100E155 offer six 2:1 multiplexers followed by latches with single-ended outputs, designed for use in new, high-performance ECL systems. The two external latch-enable signals (LEN<sub>1</sub> and LEN<sub>2</sub>) are gated through a logical OR operation before use as control for the six latches. When both LEN<sub>1</sub> and LEN<sub>2</sub> are at a logic LOW, the latches are transparent, thus presenting the data from the multiplexers at the output pins. If either LEN<sub>1</sub> or LEN<sub>2</sub> (or both) are at a logic HIGH, the outputs are latched.

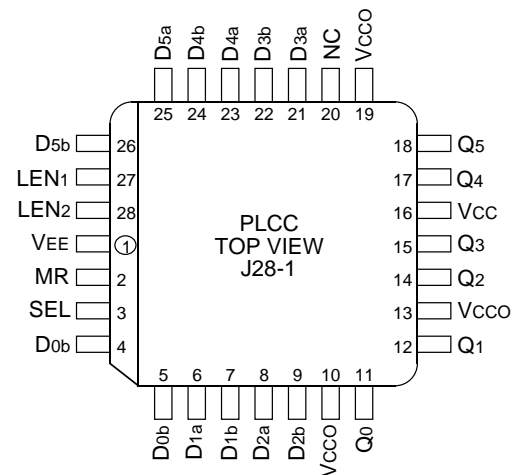
The multiplexer operation is controlled by the SEL (Select) signal which selects one of the two bits of input data at each mux to be passed through.

The MR (Master Reset) signal operates asynchronously to take all outputs to a logic LOW.

## BLOCK DIAGRAM



## PIN CONFIGURATION



## PIN NAMES

Pin	Function
D0a-D5a	Input Data a
D0b-D5b	Input Data b
SEL	Data Select Input
LEN1, LEN2	Latch Enables
MR	Master Reset
Q0-Q5	Outputs
VCCO	Vcc to Output

**TRUTH TABLES**

SEL	Data
H	a
L	b

LEN1	LEN2	Latch
L	L	Transparent
H	X	Latched
X	H	Latched

**DC ELECTRICAL CHARACTERISTICS**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> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit	Condition	
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.			
I <sub>IH</sub>	Input HIGH Current	—	—	150	—	—	150	—	—	150	μA	—	
I <sub>EE</sub>	Power Supply Current	—	85	102	—	85	102	—	85	102	mA	—	
		10E	—	85	102	—	85	102	—	85			102
		100E	—	85	102	—	85	102	—	98			117

**AC ELECTRICAL CHARACTERISTICS**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> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay to Output D SEL LEN MR	325 475 350 450	500 675 500 600	700 925 750 850	325 475 350 450	500 675 500 600	700 925 750 850	325 475 350 450	500 675 500 600	700 925 750 850	ps	—
t <sub>s</sub>	Set-up Time D SEL	300 500	100 250	— —	300 500	100 250	— —	300 500	100 250	— —	ps	—
t <sub>H</sub>	Hold Time D SEL	300 0	-100 -250	— —	300 0	-100 -250	— —	300 0	-100 -250	— —	ps	—
t <sub>RR</sub>	Reset Recovery Time	800	650	—	800	650	—	800	650	—	ps	—
t <sub>PW</sub>	Minimum Pulse Width, MR	400	—	—	400	—	—	400	—	—	ps	—
t <sub>skew</sub>	Within-Device Skew	—	75	—	—	75	—	—	75	—	ps	1
t <sub>r</sub> t <sub>f</sub>	Rise/Fall Time 20% to 80%	300	450	800	300	450	800	300	450	800	ps	—

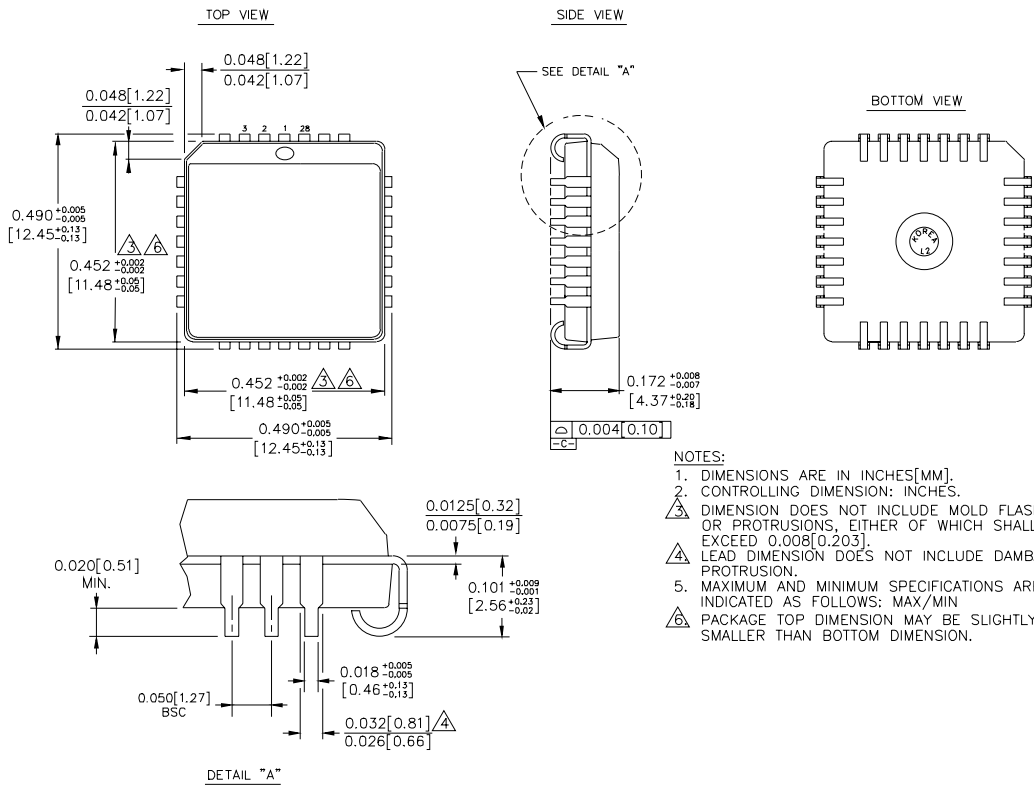
**NOTE:**

1. Within-device skew is defined as identical transitions on similar paths through a device.

**PRODUCT ORDERING CODE**

Ordering Code	Package Type	Operating Range
SY10E155JC	J28-1	Commercial
SY10E155JCTR	J28-1	Commercial
SY100E155JC	J28-1	Commercial
SY100E155JCTR	J28-1	Commercial

**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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**MICREL-SYNERGY 3250 SCOTT BOULEVARD SANTA CLARA CA 95054 USA**

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