

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

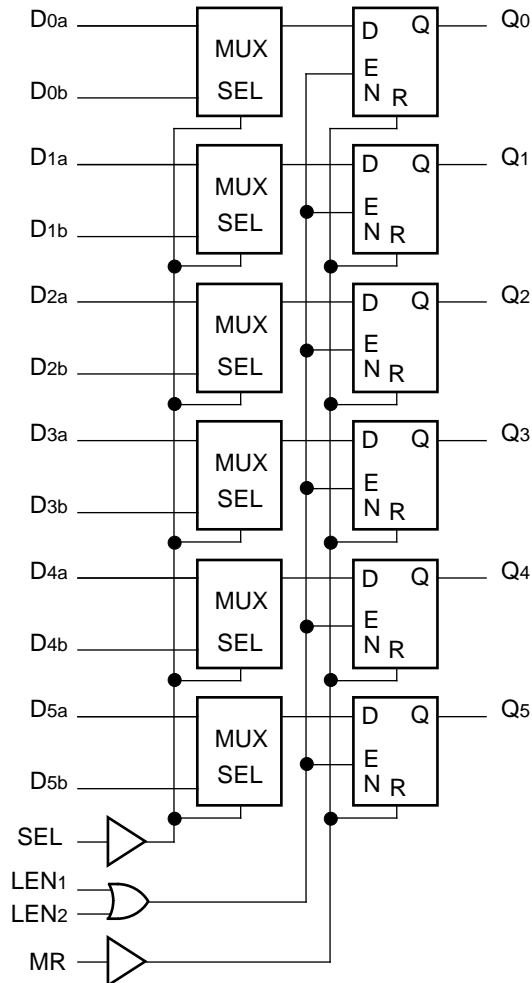
DESCRIPTION

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 (LEN₁ and LEN₂) are gated through a logical OR operation before use as control for the six latches. When both LEN₁ and LEN₂ are at a logic LOW, the latches are transparent, thus presenting the data from the multiplexers at the output pins. If either LEN₁ or LEN₂ (or both) are at a logic HIGH, the outputs are latched.

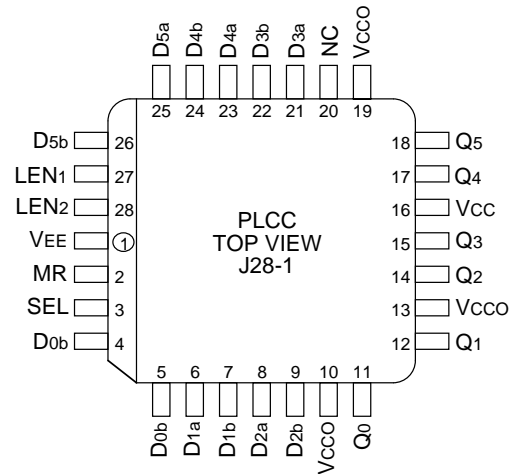
The multiplexer operation is controlled by the SEL (Select) signal which selects one of the two bits of input data at each mux to be passed through.

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_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

| Symbol | Parameter | T _A = 0°C | | | T _A = +25°C | | | T _A = +85°C | | | Unit | Condition | |
|-----------------|----------------------|----------------------|------|------|------------------------|------|------|------------------------|------|------|------|-----------|-----|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | | | |
| I _{IH} | Input HIGH Current | — | — | 150 | — | — | 150 | — | — | 150 | μA | — | |
| I _{EE} | 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_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

| Symbol | Parameter | T _A = 0°C | | | T _A = +25°C | | | T _A = +85°C | | | Unit | Condition |
|--------------------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------|-----------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | | |
| t _{PLH} t _{PHL} | 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 _S | Set-up Time D SEL | 300 500 | 100 250 | — — | 300 500 | 100 250 | — — | 300 500 | 100 250 | — — | ps | — |
| t _H | Hold Time D SEL | 300 0 | -100 -250 | — — | 300 0 | -100 -250 | — — | 300 0 | -100 -250 | — — | ps | — |
| t _{RR} | Reset Recovery Time | 800 | 650 | — | 800 | 650 | — | 800 | 650 | — | ps | — |
| t _{PW} | Minimum Pulse Width, MR | 400 | — | — | 400 | — | — | 400 | — | — | ps | — |
| t _{skew} | Within-Device Skew | — | 75 | — | — | 75 | — | — | 75 | — | ps | 1 |
| t _r t _f | Rise/Fall Time 20% to 80% | 300 | 450 | 800 | 300 | 450 | 800 | 300 | 450 | 800 | ps | — |

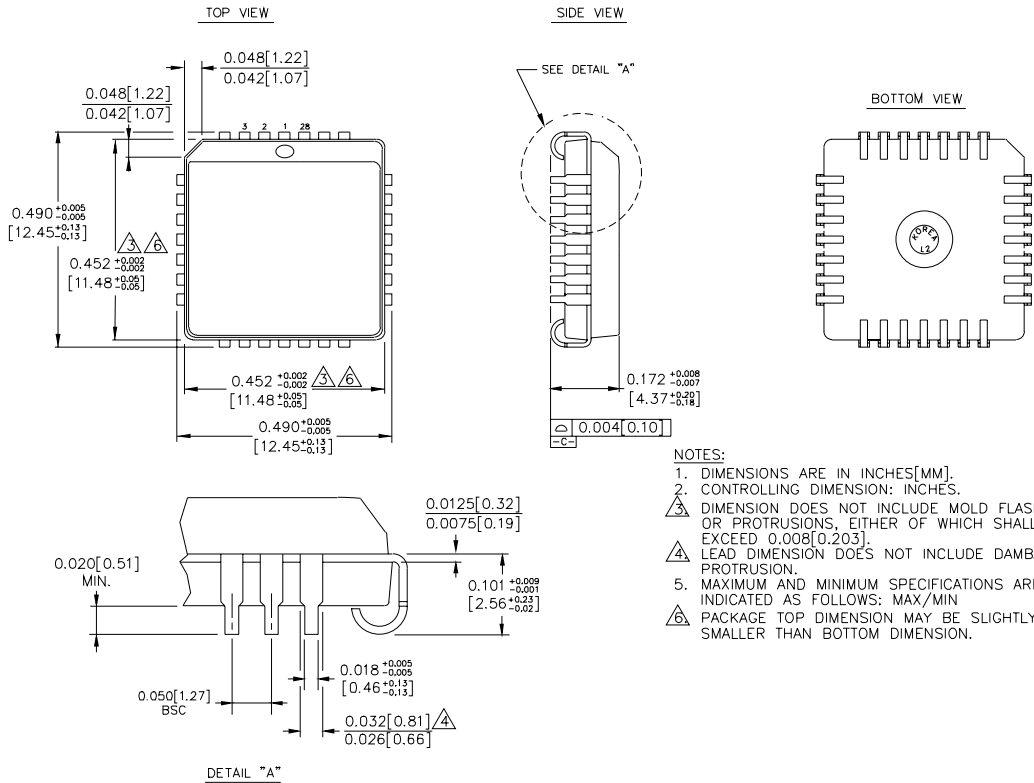
NOTE:

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)



Rev. 03

MICREL-SYNERGY 3250 SCOTT BOULEVARD SANTA CLARA CA 95054 USA

TEL + 1 (408) 980-9191 FAX + 1 (408) 914-7878 WEB <http://www.micrel.com>

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