

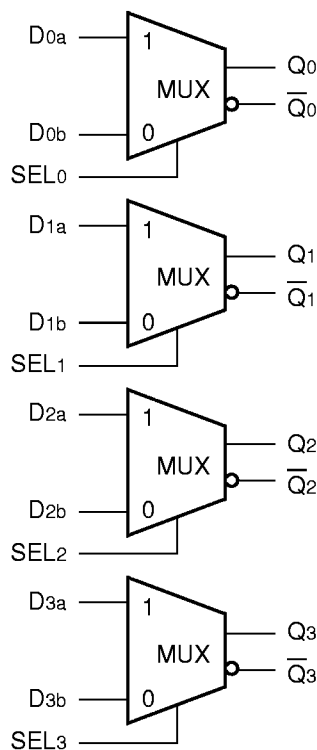
FEATURES

- 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
- ESD protection of 2000V
- Fully compatible with industry standard 10KH, 100K ECL levels
- Available in 28-pin PLCC package

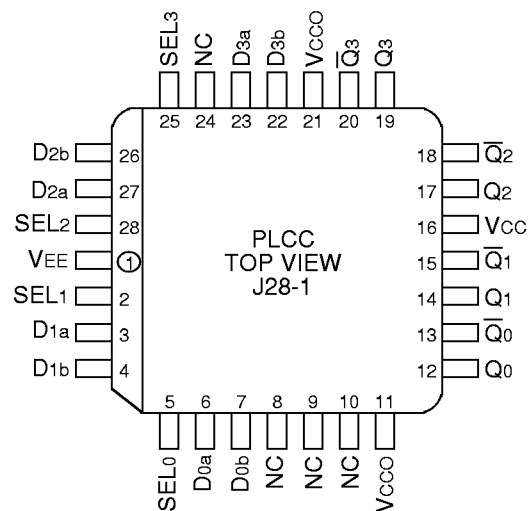
DESCRIPTION

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 |
| $\bar{Q}0 - \bar{Q}3$ | Inverted Outputs |
| VCCO | Vcc to Output |

TRUTH TABLE

| SEL | Data |
|-----|------|
| H | a |
| L | b |

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

| Symbol | Parameter | TA = -40°C | | | TA = 0°C | | | TA = +25°C | | | TA = +85°C | | | Unit |
|--------|----------------------|------------|------|------|----------|------|------|------------|------|------|------------|------|------|------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| IIH | Input HIGH Current | — | — | 200 | — | — | 200 | — | — | 200 | — | — | 200 | μA |
| | D SEL | — | — | 150 | — | — | 150 | — | — | 150 | — | — | 150 | |
| IEE | 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 | |

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

| Symbol | Parameter | TA = -40°C | | | TA = 0°C | | | TA = +25°C | | | TA = +85°C | | | Unit |
|----------------------------------|-----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| tPLH tPHL | 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 | ps |
| t _{skew} | Within-Device Skew ⁽¹⁾ | — | 70 | — | — | 70 | — | — | 70 | — | — | 70 | — | |
| t _r t _f | Rise/Fall Time 20% to 80% | 275 | 400 | 650 | 275 | 400 | 650 | 275 | 400 | 650 | 275 | 400 | 650 | 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 |
|---------------|--------------|-----------------|
| SY10E157JC | J28-1 | Commercial |
| SY10E157JCTR | J28-1 | Commercial |
| SY100E157JC | J28-1 | Commercial |
| SY100E157JCTR | J28-1 | Commercial |

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

28 LEAD PLASTIC LEADED CHIP CARRIER (J28-1)

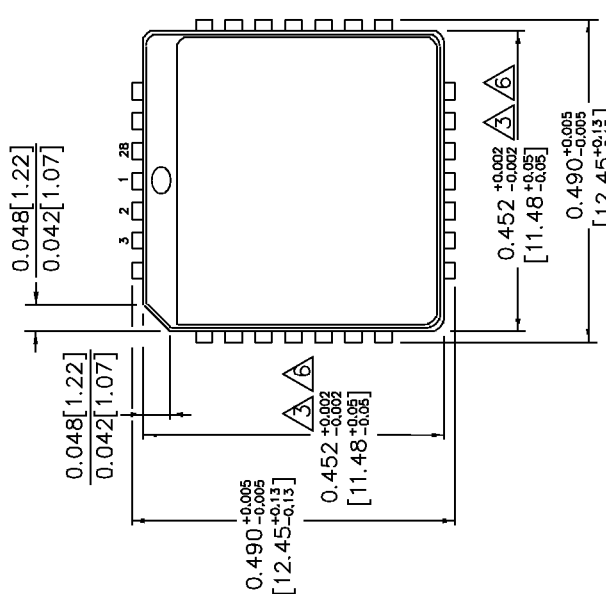
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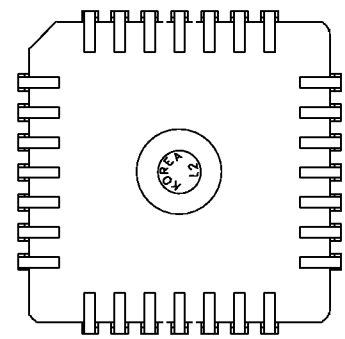
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| REV | REVISION DESCRIPTION | DATE |
|-----|--|----------|
| 01 | CONVERT TO DESIGNER VERSION A.0. FORMAT. ADD COVER PAGE TO SPEC. CHANGE BODY WIDTH DIMENSION FROM 0.450[11.43] TO 0.443[11.25]. TYPOGRAPHICAL ERROR. | 08/18/94 |
| 02 | CONVERT DWG FROM DESIGNER TO AUTOCAD. REL. 12. REFERENCE AMKOR DWG. NO. 34853 REV. 00. | 02/22/96 |
| 03 | CONVERT DWG TO REL. 13 AND ONE PAGE DOCUMENT. | 02/18/98 |

TOP VIEW



BOTTOM VIEW



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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| APPROVALS | DATE | APPROVALS | DATE | SIZE | SCALE |
|---------------------------------|----------|---------------------------------------|------|------|---|
| ORIGINATOR: ERMIN G. URRUTIA | 02/23/98 | QUALITY: MARSHALL WILDER | | A | 28 LEAD PLCC |
| CHK'D: WON CHANG | | DOCUMENT CONTROL: BRIAN SANFILIPPO | | | PACKAGE OUTLINE |
| RELEASE DATE: | | | | | THESE SPECIFICATIONS ARE THE PROPERTY OF SYNERGY SEMICONDUCTOR. ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR THE CONSTRUCTION OR SALE OF APPARATUS WITHOUT WRITTEN PERMISSION. |
| | | | | | N/A |
| | | | | | REVISION |
| | | | | | 03 |

DETAIL "A"