

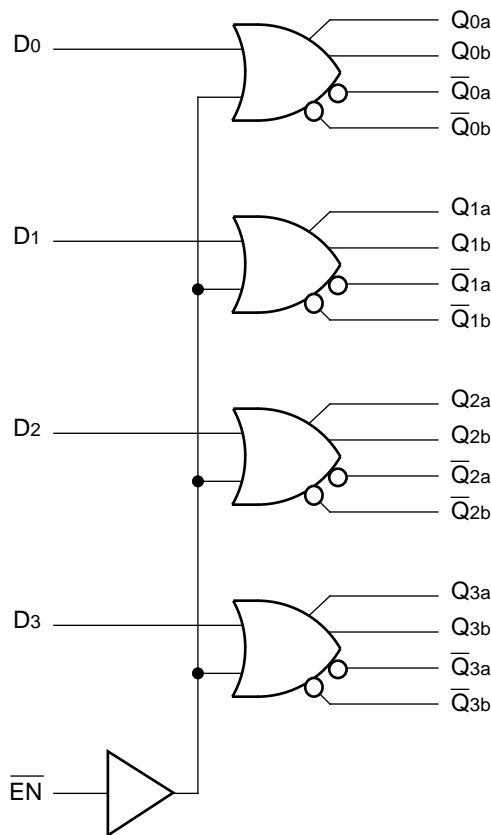
**FEATURES**

- 600ps max. propagation delay
- Extended 100E VEE range of -4.2V to -5.5V
- Common enable input
- Fully compatible with industry standard 10KH, 100K I/O levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E112
- Available in 28-pin PLCC package

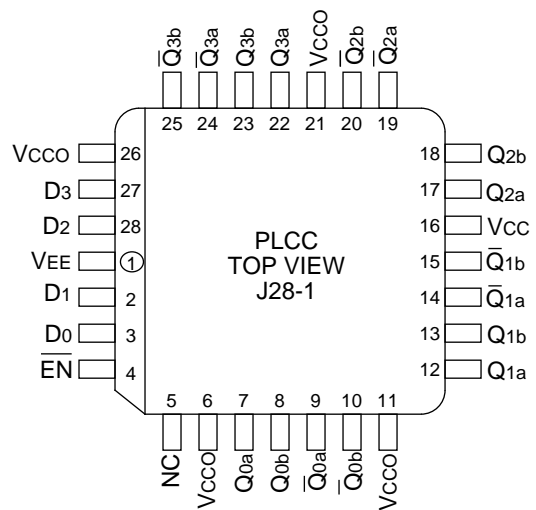
**DESCRIPTION**

The SY10/100E112 are quad drivers designed for use in new, high-performance ECL systems. The E112 has two pairs of OR/NOR outputs from each gate and a common, buffered enable input. The data input can also be used as an ECL memory address fan-out driver, although the E111 is designed specifically for this purpose, and offers lower skew than the E112. For memory address driver applications where scan capabilities are required, please refer to the SY10/100E212 device.

**BLOCK DIAGRAM**



**PIN CONFIGURATION**



**PIN NAMES**

Pin	Function
D0-D3	Data Inputs
$\overline{EN}$	Enable Input
Qna, Qnb	True Outputs
$\overline{Qna}, \overline{Qnb}$	Inverting Outputs
VCCO	Vcc to Output

**TRUTH TABLE**

$\overline{EN}$	$Q_n$	$\overline{Q_n}$
L	$D_n$	$\overline{D_n}$
H	H	L

**DC ELECTRICAL CHARACTERISTICS**

$V_{EE} = V_{EE} (\text{Min.})$  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 <sub>IH</sub>	Input HIGH Current	—	—	150	—	—	150	—	—	150	—	—	150	$\mu\text{A}$
	$\overline{EN}$ D	—	—	200	—	—	200	—	—	200	—	—	200	
I <sub>EE</sub>	Power Supply Current	—	—	—	—	—	—	—	—	—	—	—	—	mA
	10E	—	47	56	—	47	56	—	47	56	—	47	56	
	100E	—	47	56	—	47	56	—	47	56	—	54	65	

**AC ELECTRICAL CHARACTERISTICS**

$V_{EE} = V_{EE} (\text{Min.})$  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 <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay to Output D $\overline{EN}$	200 275	400 450	600 675	200 275	400 450	600 675	200 275	400 450	600 675	200 275	400 450	600 675	$\text{ps}$
t <sub>skew</sub>	Within-Device Skew D <sub>n</sub> to Q <sub>n</sub> , $\overline{Q_n}^{(1)}$ Q <sub>na</sub> to Q <sub>nb</sub> <sup>(2)</sup>	— —	80 40	— —	— —	80 40	— —	— —	80 40	— —	— —	80 40	— —	
t <sub>r</sub> t <sub>f</sub>	Rise/Fall Time 20% to 80%	275	425	700	275	425	700	275	425	700	275	425	700	$\text{ps}$

**NOTES:**

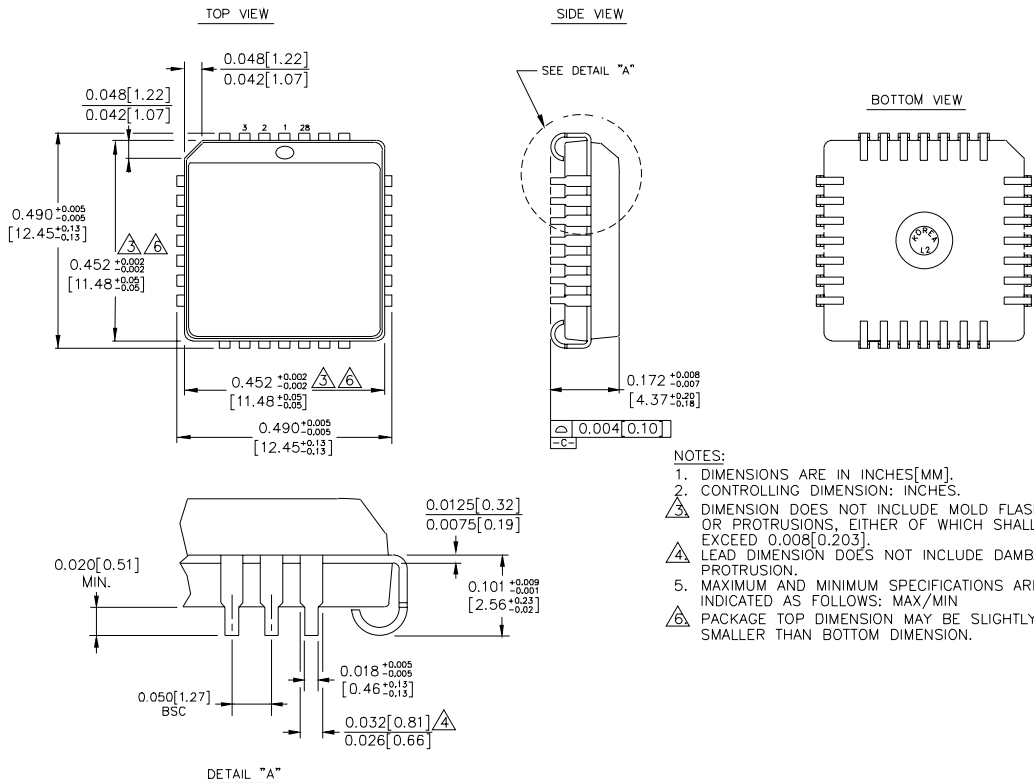
1. Within-device skew is defined as identical transitions on similar paths through a device.
2. Skew defined between common OR or common NOR outputs of a single gate.

**PRODUCT ORDERING CODE**

Ordering Code	Package Type	Operating Range
SY10E112JC	J28-1	Commercial
SY10E112JCTR	J28-1	Commercial
SY100E112JC	J28-1	Commercial
SY100E112JCTR	J28-1	Commercial

Ordering Code	Package Type	Operating Range
SY10E112JI	J28-1	Industrial
SY10E112JITR	J28-1	Industrial
SY100E112JI	J28-1	Industrial
SY100E112JITR	J28-1	Industrial

**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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