

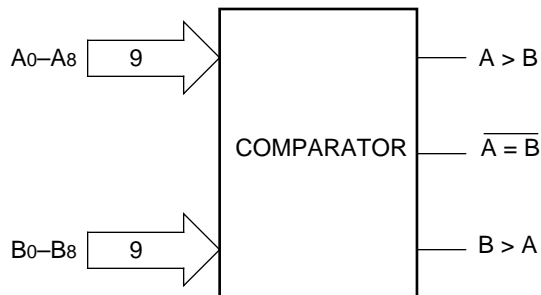
FEATURES

- 1100ps max. Propagation Delay $\overline{A = B}$
- Extended 100E VEE range of -4.2V to -5.5V
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75K Ω input pulldown resistors
- Fully compatible with Motorola MC10E/100E166
- Available in 28-pin PLCC package

DESCRIPTION

The SY10/100E166 are 9-bit magnitude comparators designed for use in new, high-performance ECL systems. The E166 compares the binary value of two 9-bit words and indicates whether one word is greater than or equal to the other.

BLOCK DIAGRAM

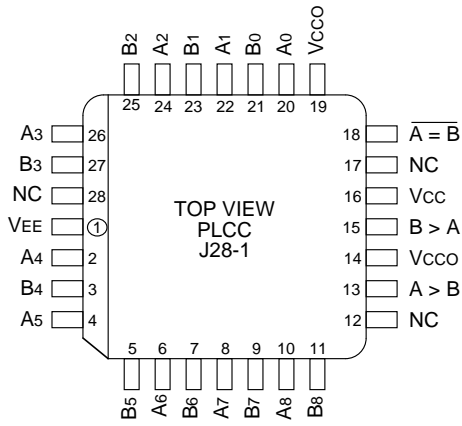


PIN NAMES

Pin	Function
A0-A8	A Data Inputs
B0-B8	B Data Inputs
A > B	A Greater than B Output
B > A	B Greater than A Output
$\overline{A = B}$	A Equal to B Output (active-LOW)
VCCO	VCC to Output

PACKAGE/ORDERING INFORMATION

Ordering Information⁽¹⁾



28-Pin PLCC (J28-1)

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E166JC	J28-1	Commercial	SY10E166JC	Sn-Pb
SY10E166JCTR ⁽²⁾	J28-1	Commercial	SY10E166JC	Sn-Pb
SY100E166JC	J28-1	Commercial	SY100E166JC	Sn-Pb
SY100E166JCTR ⁽²⁾	J28-1	Commercial	SY100E166JC	Sn-Pb
SY10E166JZ ⁽³⁾	J28-1	Commercial	SY10E166JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E166JZTR ^(2, 3)	J28-1	Commercial	SY10E166JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E166JZ ⁽³⁾	J28-1	Commercial	SY100E166JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E166JZTR ^(2, 3)	J28-1	Commercial	SY100E166JZ 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.

DC ELECTRICAL CHARACTERISTICS

VEE = VEE (Min.) to VEE (Max.); VCC = VCCO = GND

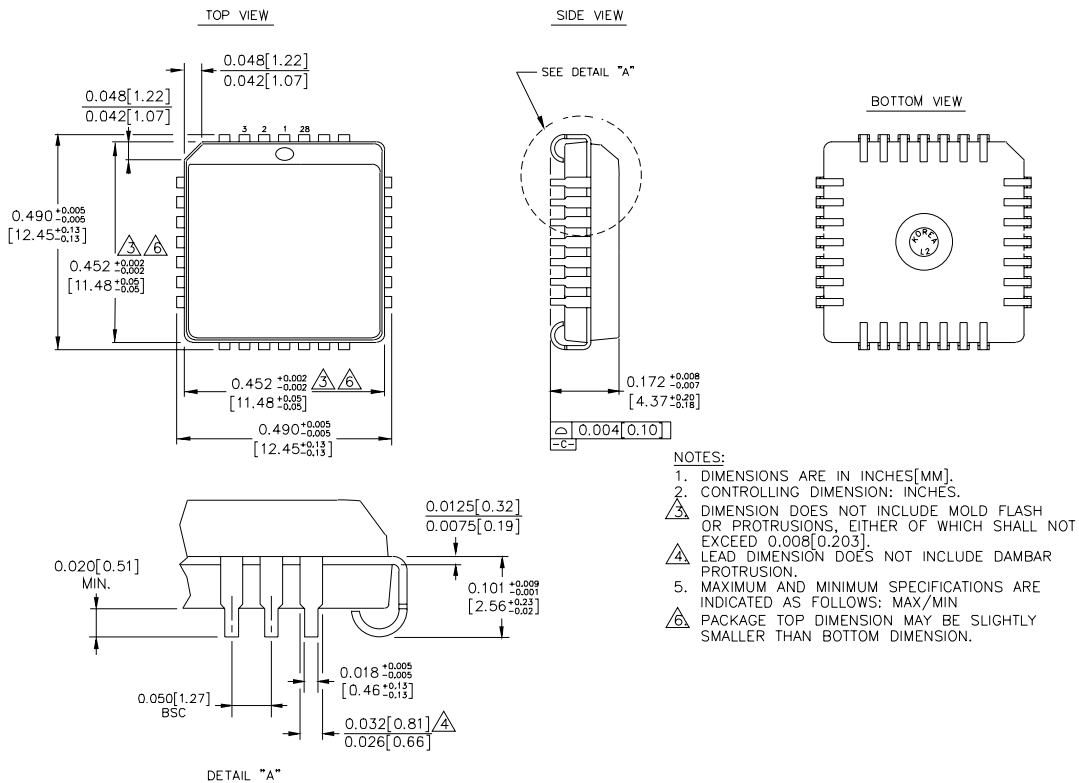
Symbol	Parameter	TA = 0°C			TA = +25°C			TA = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
I _{IH}	Input HIGH Current	—	—	150	—	—	150	—	—	150	μA	—
I _{EE}	Power Supply Current	—	—	—	—	—	—	—	—	—	mA	—
	10E	—	113	136	—	113	136	—	113	136		
	100E	—	113	136	—	113	136	—	130	156		

AC ELECTRICAL CHARACTERISTICS

VEE = VEE (Min.) to VEE (Max.); VCC = VCCO = GND

Symbol	Parameter	TA = 0°C			TA = +25°C			TA = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t _P	Propagation Delay to Output	—	—	—	—	—	—	—	—	—	ps	—
	D to A = B	500	750	1100	500	750	1100	500	750	1100		
	D to A < B, A > B	500	850	1400	500	850	1400	500	850	1400		
t _r	Rise/Fall Time	300	450	800	300	450	800	300	450	800	ps	—
t _f	20% to 80%											

28-PIN PLCC (J28-1)



Rev. 03

MICREL, INC. 2180 FORTUNE DRIVE SAN JOSE, CA 95131 USA

TEL + 1 (408) 944-0800 FAX + 1 (408) 474-1000 WEB <http://www.micrel.com>

The information furnished by Micrel in this data sheet is believed to be accurate and reliable. However, no responsibility is assumed by Micrel for its use. Micrel reserves the right to change circuitry and specifications at any time without notification to the customer.

Micrel Products are not designed or authorized for use as components in life support appliances, devices or systems where malfunction of a product can reasonably be expected to result in personal injury. Life support devices or systems are devices or systems that (a) are intended for surgical implant into the body or (b) support or sustain life, and whose failure to perform can be reasonably expected to result in a significant injury to the user. A Purchaser's use or sale of Micrel Products for use in life support appliances, devices or systems is at Purchaser's own risk and Purchaser agrees to fully indemnify Micrel for any damages resulting from such use or sale.

© 2006 Micrel, Incorporated.