



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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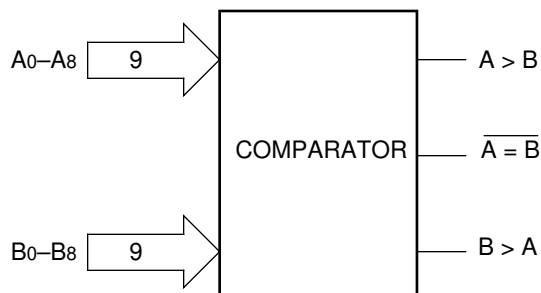
## FEATURES

- 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 $\Omega$  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.

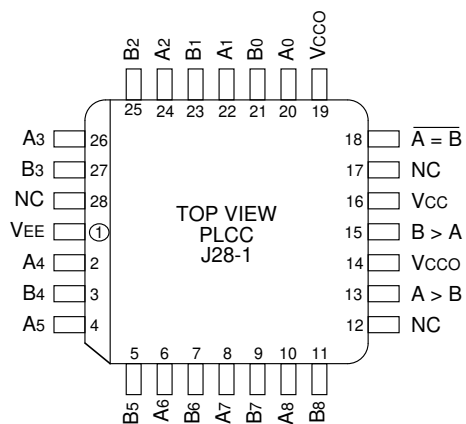
## BLOCK DIAGRAM



## 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
$\overline{A} = \overline{B}$	A Equal to B Output (active-LOW)
VCCO	Vcc to Output

## PACKAGE/ORDERING INFORMATION



**28-Pin PLCC (J28-1)**

### Ordering Information<sup>(1)</sup>

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

**Notes:**

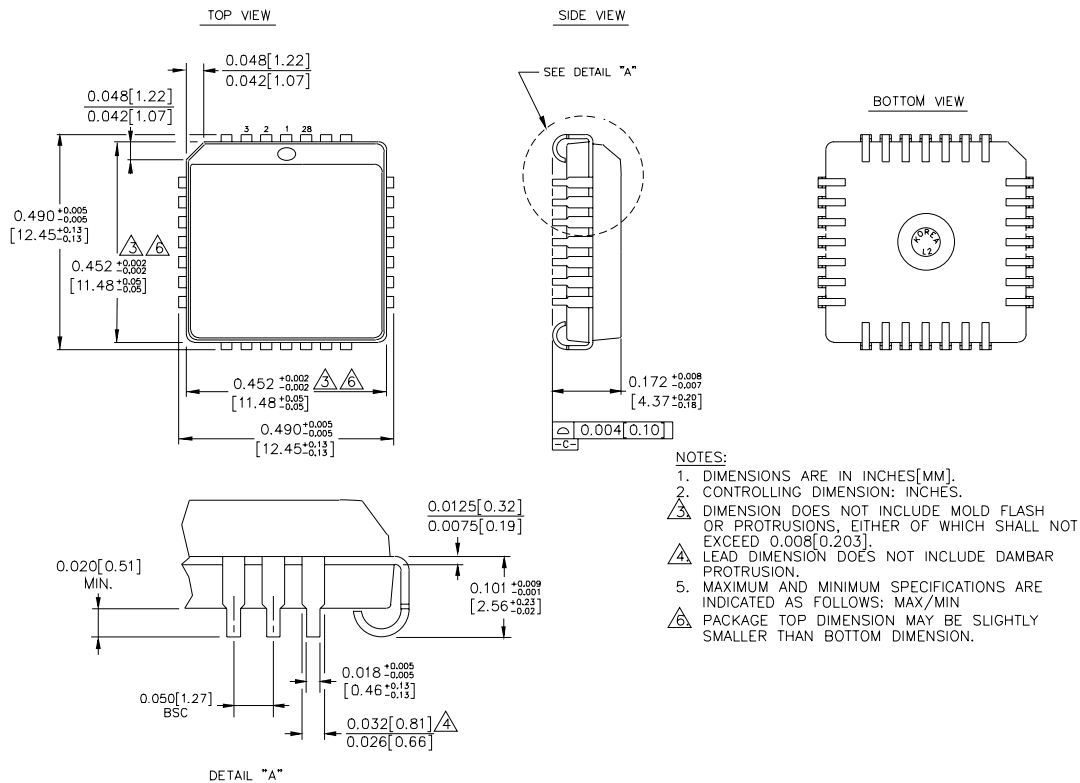
1. Contact factory for die availability. Dice are guaranteed at  $T_A = 25^\circ\text{C}$ , DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

**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	—	—	—	—	—	—	—	—	—	mA	—
	10E	—	113	136	—	113	136	—	113	136		
	100E	—	113	136	—	113	136	—	130	156		

**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>P</sub>	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 <sub>r</sub>	Rise/Fall Time	300	450	800	300	450	800	300	450	800	ps	—
t <sub>f</sub>	20% to 80%	—	—	—	—	—	—	—	—	—		

**28-PIN PLCC (J28-1)**

Rev. 03

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