

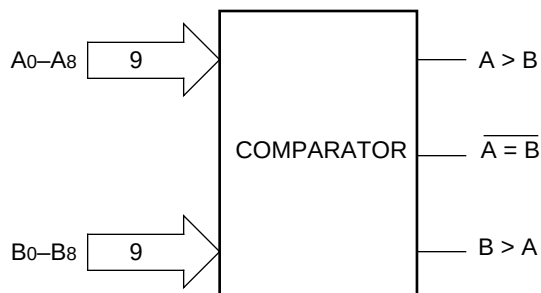
FEATURES

- 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.

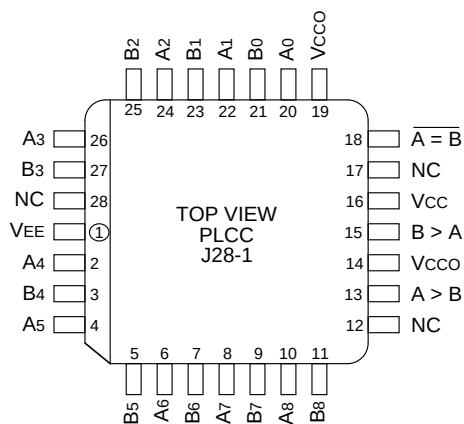
BLOCK DIAGRAM



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



28-Pin PLCC (J28-1)

Ordering Information⁽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:

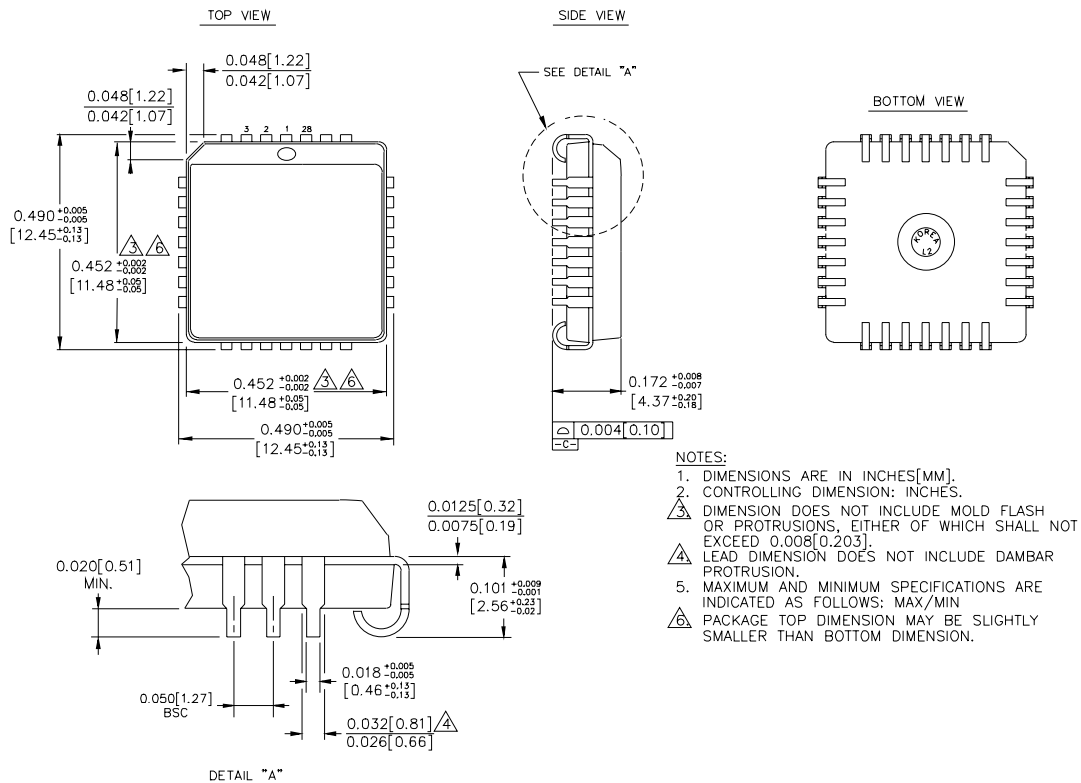
1. Contact factory for die availability. Dice are guaranteed at $T_A = 25^\circ\text{C}$, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

DC ELECTRICAL CHARACTERISTICSV_{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	—	—	—	—	—	—	—	—	—	mA	—
	10E	—	113	136	—	113	136	—	113	136		
	100E	—	113	136	—	113	136	—	130	156		

AC ELECTRICAL CHARACTERISTICSV_{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 _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

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