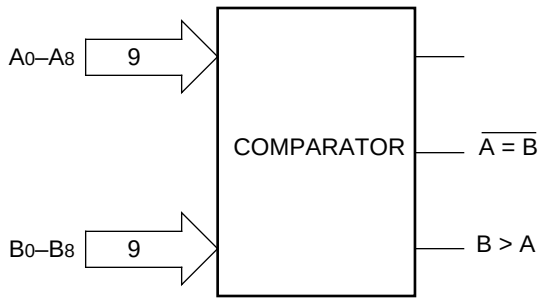
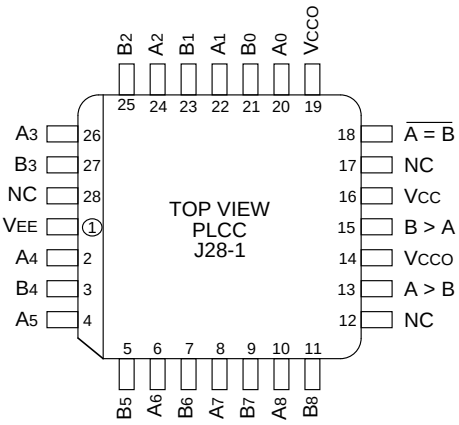
- **1100ps max. Propagation Delay $\overline{A = B}$**
- **Extended 100E V_{EE} range of –4.2V to –5.5V**
- **Fully compatible with industry standard 10KH, 100K ECL levels**
- **Internal 75KΩ input pulldown resistors**
- **Fully compatible with Motorola MC10E/100E166**
- **Available in 28-pin PLCC package**

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.



A_0–A_8	A Data Inputs
B_0–B_8	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)
V_{CCO}	V_{CC} to Output



28-Pin PLCC (J28-1)

(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.

10E

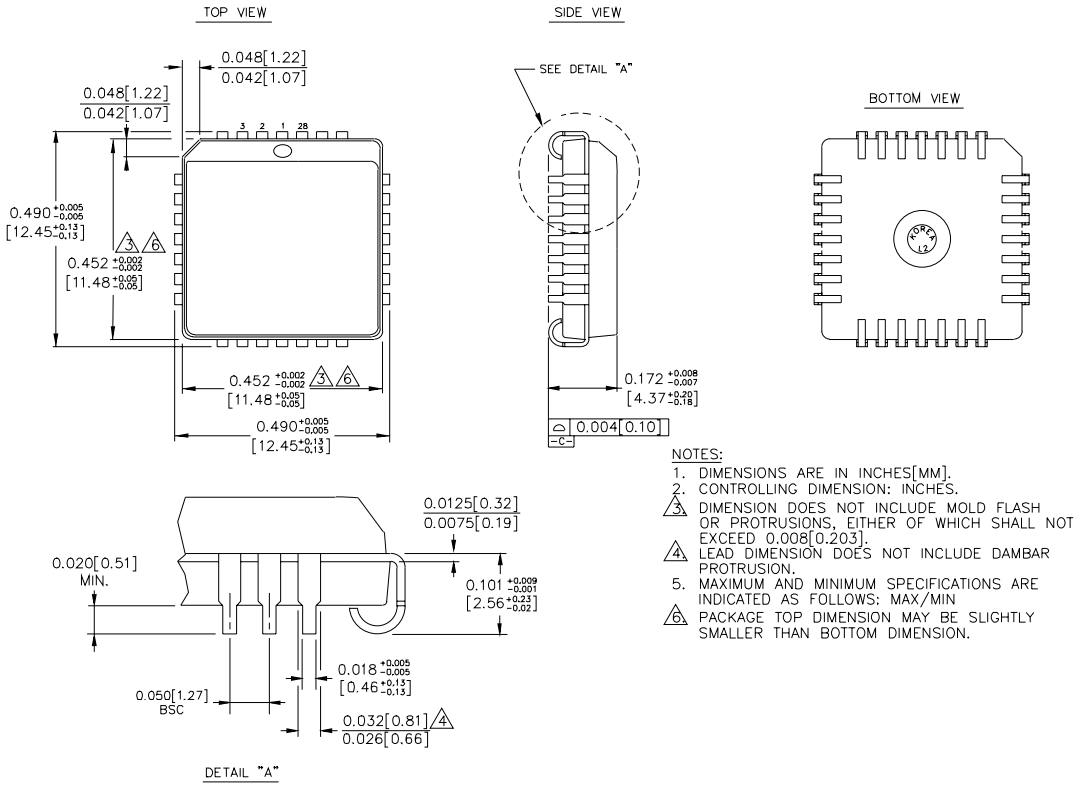
V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

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		

100E

V_{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 t_f	Rise/Fall Time 20% to 80%	300	450	800	300	450	800	300	450	800	ps	—



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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