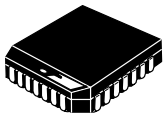
9-Bit Magnitude Comparator

MC10E166
MC100E166

The MC10E/100E166 is a 9-bit magnitude comparator which compares the binary value of two 9-bit words and indicates whether one word is greater than, or equal to, the other.

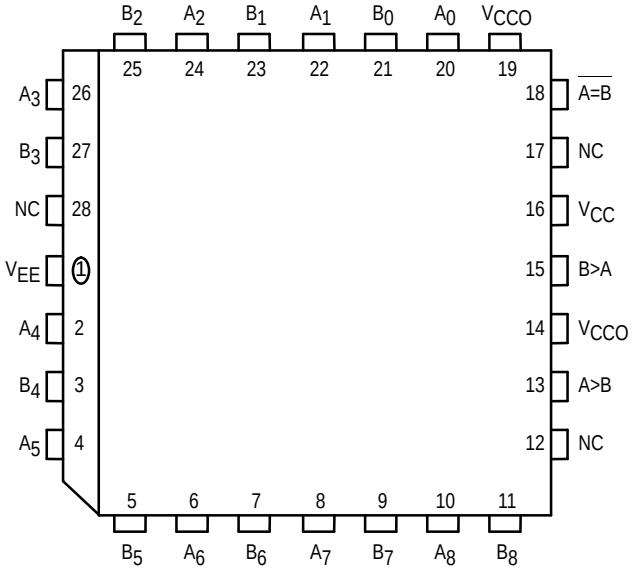
- 1100ps Max. $\overline{A=B}$
- Extended 100E V_{EE} Range of – 4.2V to – 5.46V
- 75kΩ Input Pulldown Resistors

9-BIT MAGNITUDE COMPARATOR



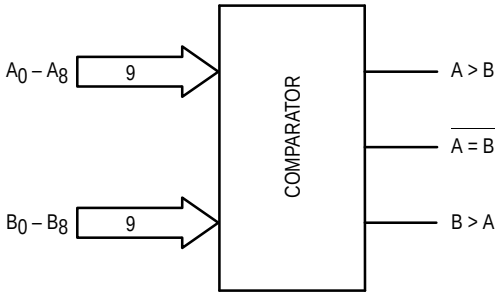
FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

Pinout: 28-Lead PLCC (Top View)



* All V_{CC} and V_{CCO} pins are tied together on the die.

LOGIC DIAGRAM



PIN NAMES

Pin	Function
$A_0 – A_8$	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)

DC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = V_{CCO} = GND)

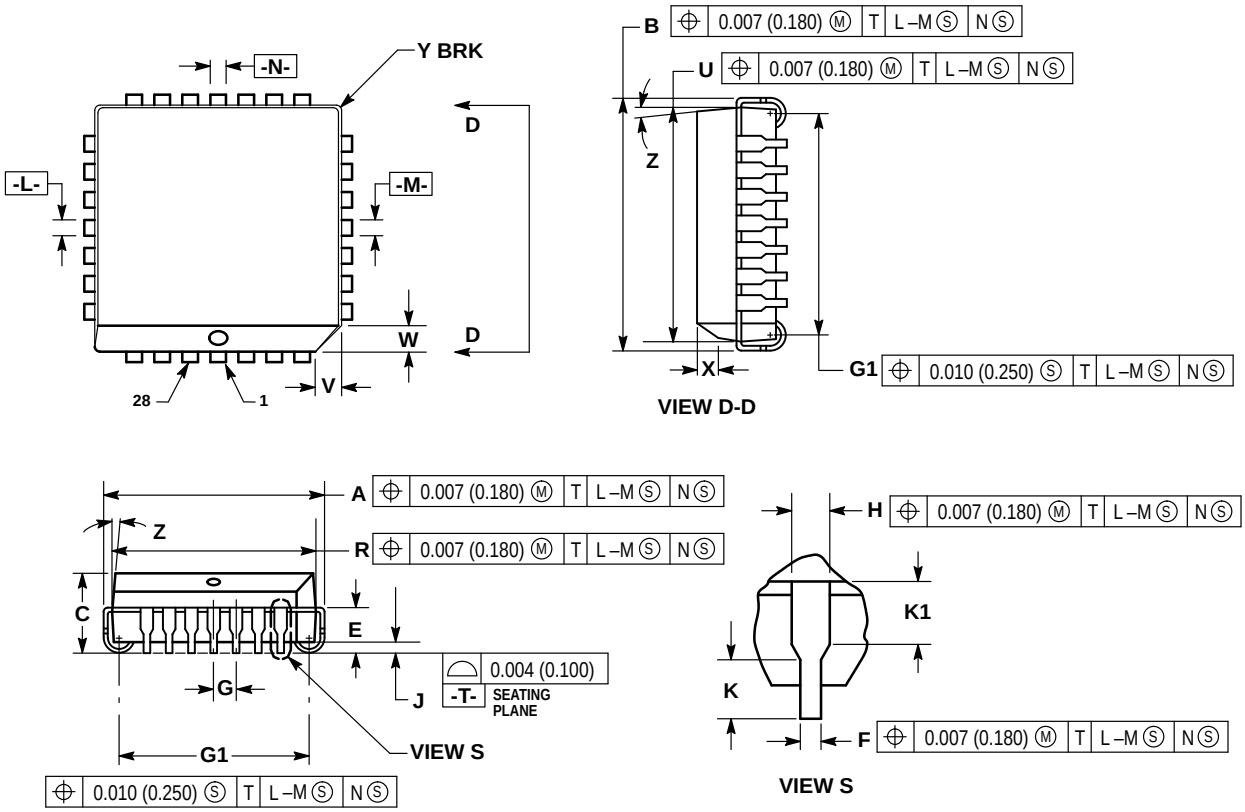
		0°C			25°C			85°C				
Symbol	**Characteristic**	**min**	**typ**	**max**	**min**	**typ**	**max**	**min**	**typ**	**max**	**Unit**	**Condition**
I_{IH}	Input HIGH Current			150			150			150	μA	
I_{EE}	Power Supply Current										mA	
	10E		113	156		113	156		113	156		
	100E		113	156		113	156		130	156		

AC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = V_{CCO} = GND)

		0°C			25°C			85°C				
Symbol	**Characteristic**	**min**	**typ**	**max**	**min**	**typ**	**max**	**min**	**typ**	**max**	**Unit**	**Condition**
t_{PLH}	Propagation Delay to Output										ps	
t_{PHL}	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										ps	
t_f	20 - 80%	300	450	800	300	450	800	300	450	800		

OUTLINE DIMENSIONS

FN SUFFIX
PLASTIC PLCC PACKAGE
CASE 776–02
ISSUE D



NOTES:
1. DATUMS -L-, -M-, AND -N- DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
2. DIM G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
3. DIM R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
5. CONTROLLING DIMENSION: INCH.
6. THE PACKAGE TOP MAY BE SMALLER THAN THE PACKAGE BOTTOM BY UP TO 0.012 (0.300). DIMENSIONS R AND U ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.
7. DIMENSION H DOES NOT INCLUDE DAMBAR PROTRUSION OR INTRUSION. THE DAMBAR PROTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE GREATER THAN 0.037 (0.940). THE DAMBAR INTRUSION(S) SHALL NOT CAUSE THE H DIMENSION TO BE SMALLER THAN 0.025 (0.635).

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.485	0.495	12.32	12.57
B	0.485	0.495	12.32	12.57
C	0.165	0.180	4.20	4.57
E	0.090	0.110	2.29	2.79
F	0.013	0.019	0.33	0.48
G	0.050 BSC		1.27 BSC	
H	0.026	0.032	0.66	0.81
J	0.020	—	0.51	—
K	0.025	—	0.64	—
R	0.450	0.456	11.43	11.58
U	0.450	0.456	11.43	11.58
V	0.042	0.048	1.07	1.21
W	0.042	0.048	1.07	1.21
X	0.042	0.056	1.07	1.42
Y	—	0.020	—	0.50
Z	2°	10°	2°	10°
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

How to reach us:
USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447 or 602–303–5454

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE 602–244–6609
INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, 6F Seibu–Butsuryu–Center,
3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–81–3521–8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park,
51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298