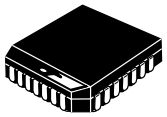
6-Bit 2:1 Mux-Latch

MC10E155
MC100E155

6-BIT 2:1
MUX-LATCH

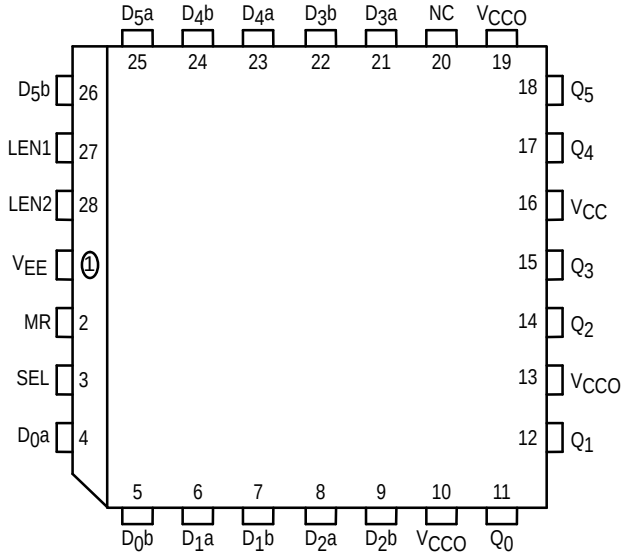
The MC10E/100E155 contains six 2:1 multiplexers followed by transparent latches with single-ended outputs. When both Latch Enables (LEN1, LEN2) are LOW, the latch is transparent, and output data is controlled by the multiplexer select control, SEL. A logic HIGH on either LEN1 or LEN2 (or both) latches the outputs. The Master Reset (MR) overrides all other controls to set the Q outputs LOW.

- 850ps Max. LEN to Output
- 825ps Max. D to Output
- Single-Ended Outputs
- Asynchronous Master Reset
- Dual Latch-Enables
- Extended 100E V_{EE} Range of – 4.2V to – 5.46V
- 75kΩ Input Pulldown Resistors



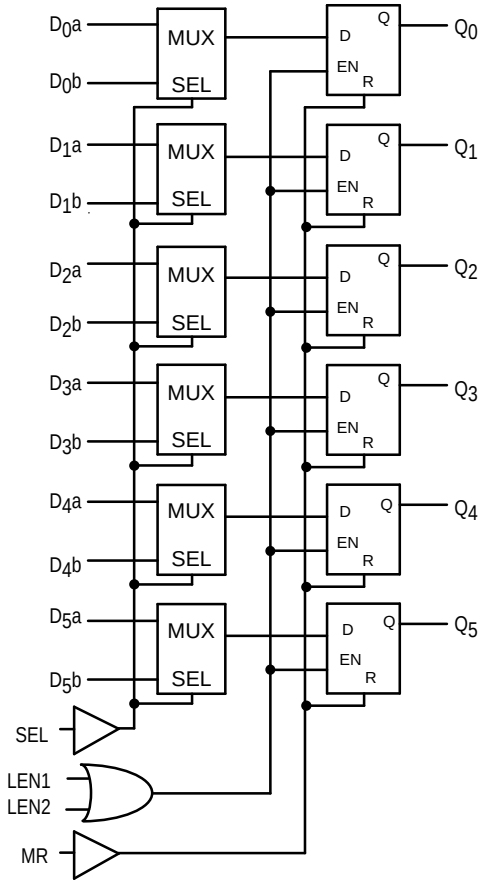
FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

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
D_0a – D_04	Input Data a
D_0b – D_4b	Input Data b
SEL	Data Select Input
LEN1, LEN2	Latch Enables
MR	Master Reset
Q_0 – Q_4	Outputs

TRUTH TABLE

SEL	Data
H	a
L	b

MOTOROLA

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		85	102		85	102		85	102		
	100E		85	102		85	102		98	117		

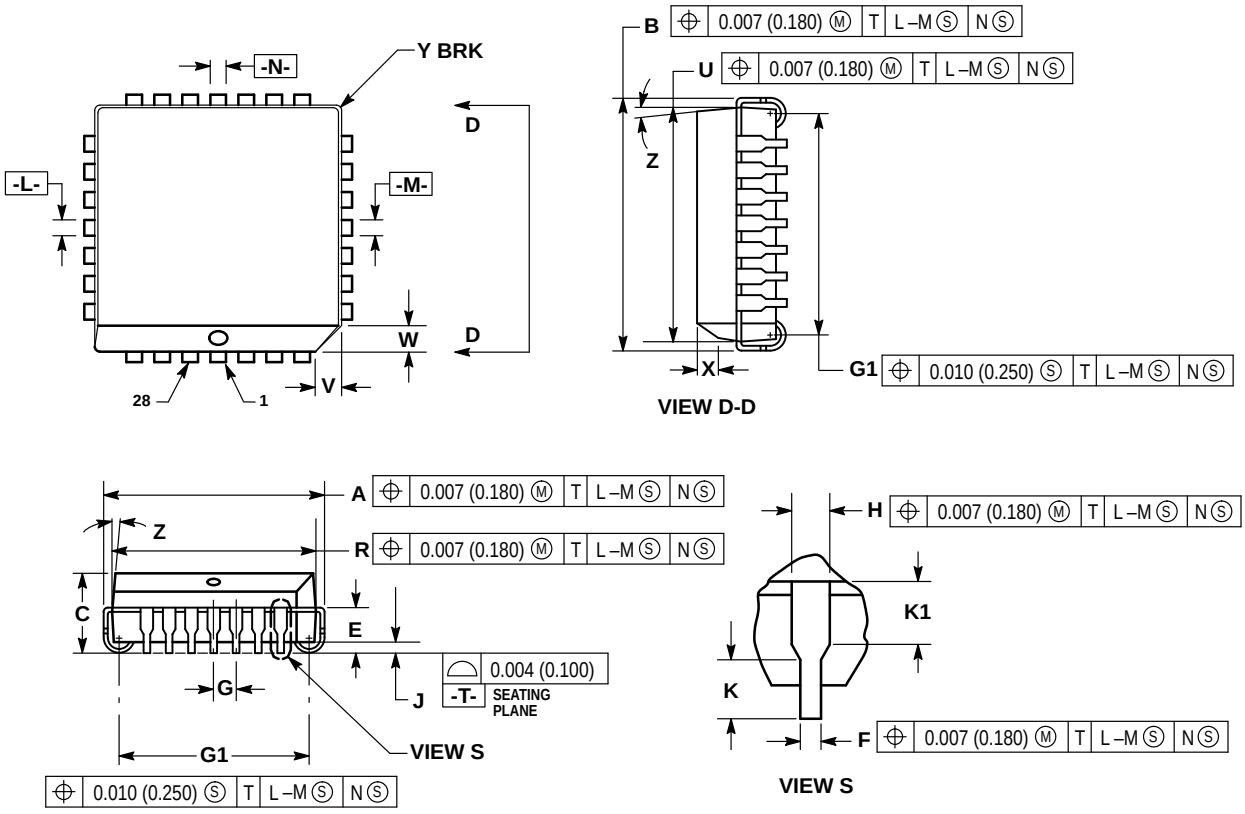
AC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = V_{CCO} = GND)

		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	325	500	700	325	500	700	325	500	700		
	SEL	475	675	925	475	675	925	475	675	925		
	LEN	350	500	750	350	500	750	350	500	750		
	MR	450	600	850	450	600	850	450	600	850		
t_S	Setup Time										ps	
	D	300	100		300	100		300	100			
	SEL	500	250		500	250		500	250			
t_h	Hold TIme										ps	
	D	300	–100		300	–100		300	–100			
	SEL	0	– 250		0	– 250		0	– 250			
t_{RR}	Reset Recovery Time	800	650		800	650		800	650		ps	
t_{PW}	Minimum Pulse Width										ps	
	MR	400			400			400				
t_{SKEW}	Within-Device Skew		75			75			75		ps	1
t_r	Rise/Fall Times										ps	
t_f	20 - 80%	300	450	800	300	450	800	300	450	800		

1. Within-device skew is defined as identical transitions on similar paths through a device.

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	—

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