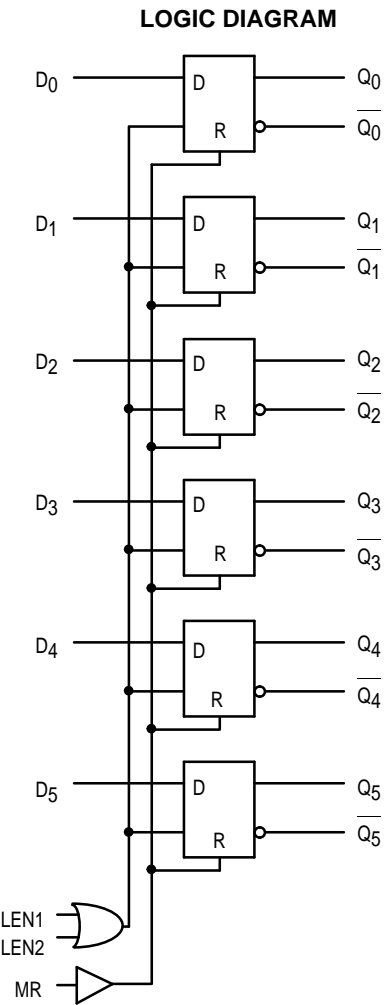


6-Bit D Latch

The MC10E100E150 contains six D-type latches with differential outputs. When both Latch Enables (LEN1, LEN2) are LOW, the latch is transparent and input data transitions propagate through to the output. A logic HIGH on either LEN1 or LEN2 (or both) latches the data. The Master Reset (MR) overrides all other controls to set the Q outputs low.

- 800ps Max. Propagation Delay
- Extended 100E V<sub>EE</sub> Range of – 4.2V to – 5.46V
- 75kΩ Input Pulldown Resistors

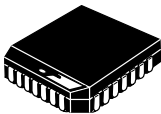


PIN NAMES

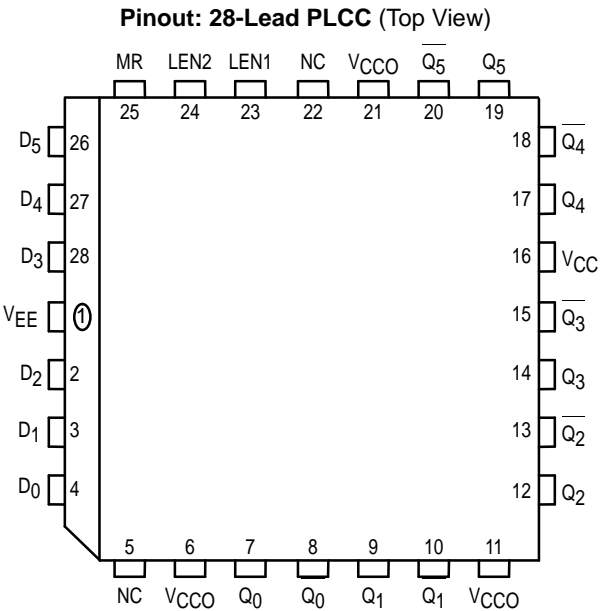
Pin	Function
D <sub>0</sub> – D <sub>5</sub>	Data Inputs
LEN1, LEN2	Latch Enables
MR	Master Reset
Q <sub>0</sub> – Q <sub>5</sub>	True Outputs
Q <sub>0</sub> – Q <sub>5</sub>	Inverting Outputs

MC10E150  
MC100E150

6-BIT D LATCH



FN SUFFIX  
PLASTIC PACKAGE  
CASE 776-02



\* All V<sub>CC</sub> and V<sub>CCO</sub> pins are tied together on the die.



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

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
$I_{IH}$	Input HIGH Current D LEN, MR			200 150			200 150			200 150	$\mu A$	
$I_{EE}$	Power Supply Current 10E 100E		52 52	62 62		52 52	62 62		52 60	62 72	mA	

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

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
$t_{PLH}$ $t_{PHL}$	Propagation Delay to Output D LEN MR	250 375 450	375 500 625	550 700 750	250 375 450	375 500 625	550 700 750	250 375 450	375 500 625	550 700 750	ps	
$t_s$	Setup Time D	200	50		200	50		200	50		ps	
$t_h$	Hold Time D	200	– 50		200	– 50		200	– 50		ps	
$t_{RR}$	Reset Recovery Time	750	650		750	650		750	650		ps	ps
$t_{PW}$	Minimum Pulse Width MR	400			400			400			ps	
$t_{SKEW}$	Within-Device Skew		50			50			50		ps	1
$t_r$ $t_f$	Rise/Fall Times 20 - 80%	300	450	650	300	450	650	300	450	650	ps	

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:

- DATUMS -L-, -M-, AND -N- DETERMINED WHERE TOP OF LEAD SHOULDER EXITS PLASTIC BODY AT MOLD PARTING LINE.
- DIM G1, TRUE POSITION TO BE MEASURED AT DATUM -T-, SEATING PLANE.
- DIM R AND U DO NOT INCLUDE MOLD FLASH. ALLOWABLE MOLD FLASH IS 0.010 (0.250) PER SIDE.
- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: INCH.
- 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.
- 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).

DIM	INCHES		MILLIMETERS	
	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°	
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

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