9-Bit Latch With Parity

MC10E175
MC100E175

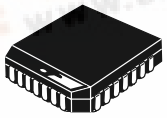
9-BIT LATCH WITH PARITY

The MC10E/100E175 is a 9-bit latch. It also features a tenth latched output, ODDPAR, which is formed as the odd parity of the nine data inputs (ODDPAR is HIGH if an odd number of the inputs are HIGH).

The E175 can also be used to generate byte parity by using D8 as the parity-type select (L = even parity, H = odd parity), and using ODDPAR as the byte parity output.

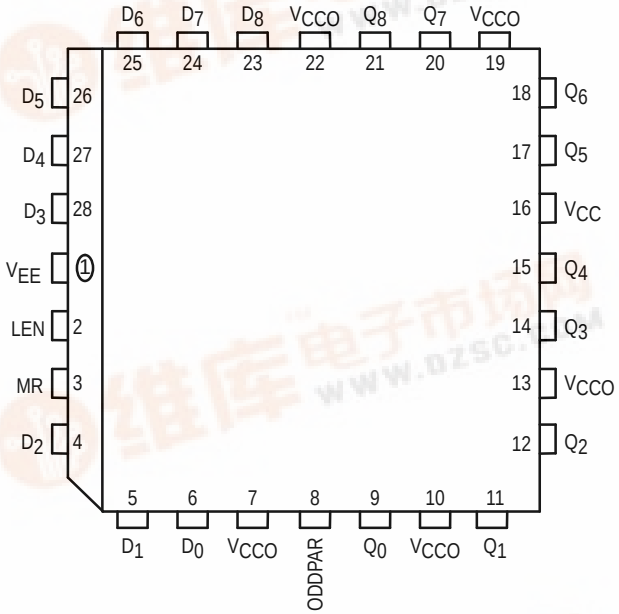
The LEN pin latches the data when asserted with a logical high and makes the latch transparent when placed at a logic low level.

- 9-Bit Latch
- Parity Detection/Generation
- 800ps Max. D to Output
- Reset
- Extended 100E V_{EE} Range of – 4.2V to – 5.46V
- Internal 75kΩ Input Pulldown Resistors



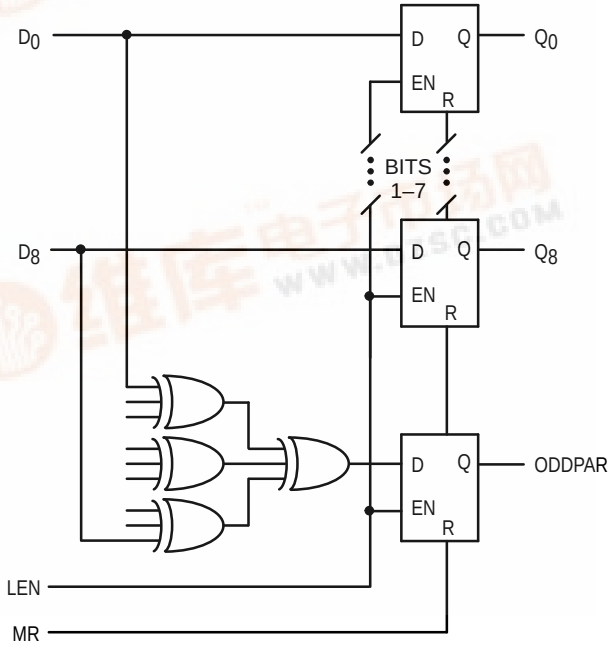
FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

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
$D_0 – D_8$	Data Inputs
LEN	Latch Enable
MR	Master Reset
$Q_0 – Q_8$	Data Outputs
ODDPAR	Parity Output

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	Cond
		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		110	132		110	132		110	132		
	100E		110	132		110	132		127	152		

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	Cond
		min	typ	max	min	typ	max	min	typ	max		
t_{PLH}	Propagation Delay to Output										ps	
t_{PHL}	D to Q	450	600	800	450	600	800	450	600	800		
	D to ODDPAR	850	1150	1450	850	1150	1450	850	1150	1450		
	LEN to Q	525	700	900	525	700	900	525	700	900		
	LEN to ODDPAR	525	700	900	525	700	900	525	700	900		
	MR to Q(t_{PHL})	525	700	900	525	700	900	525	700	900		
	MR to ODDPAR(t_{PHL})	525	700	900	525	700	900	525	700	900		
t_S	Setup Time										ps	
	D (Q)	275	100		275			275				
	D (ODDPAR)	900	700		900			900				
t_h	Hold Time										ps	
	D (Q)	175	–100		175			175				
	D (ODDPAR)	– 300	– 70		– 300			– 300				
t_{RR}	Reset Recovery Time	850	600		850	600		850	600		ps	
t_{SKEW}	Within-Device Skew										ps	1
	LEN, MR		75			75			75			
	D to Q		75			75			75			
	D to ODDPAR		200			200			200			
t_r	Rise/Fall Times										ps	
t_f	20 - 80%	300	500	800	300	500	800	300	500	800		

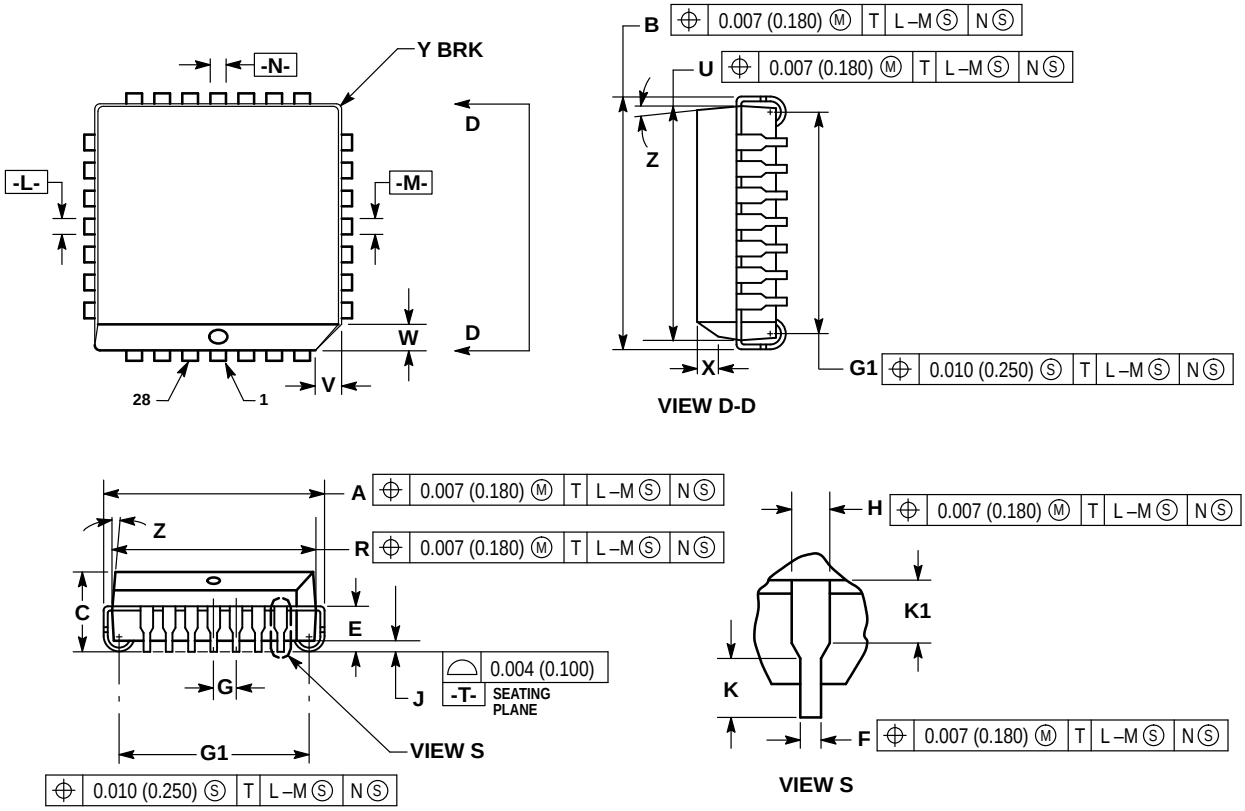
1. Within-device skew is defined as identical transitions on similar paths through a device.

FUNCTION TABLE

D	EN	MR	Q	ODDPAR
H	L	L	H	H if odd no. of Dn HIGH
L	L	L	L	H if odd no. of Dn HIGH
X	H	L	Q_0	Q_0
X	X	H	L	L

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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