

MOTOROLA SEMICONDUCTOR TECHNICAL DATA

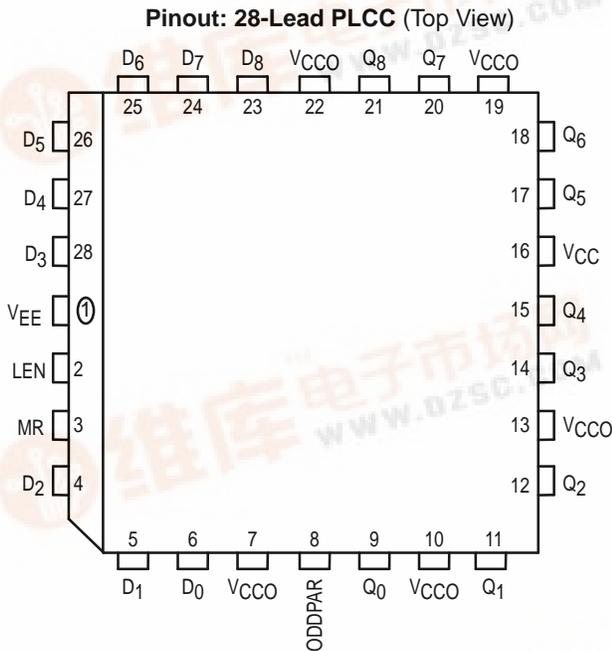
9-Bit Latch With Parity

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 75k Ω Input Pulldown Resistors



* All VCC and VCCO pins are tied together on the die.

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

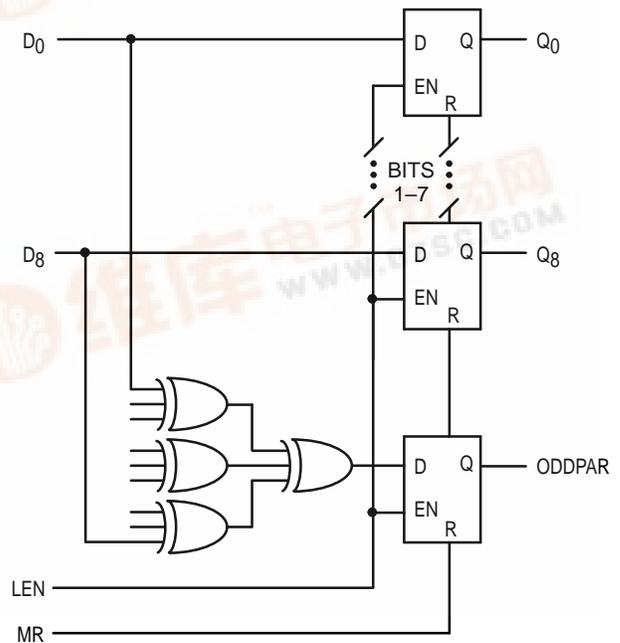
MC10E175 MC100E175

9-BIT LATCH WITH PARITY



FN SUFFIX
PLASTIC PACKAGE
CASE 776-02

LOGIC DIAGRAM



MC10E175 MC100E175

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

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 $V_{EE}(\max)$; $V_{CC} = V_{CCO} = \text{GND}$)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Cond
		min	typ	max	min	typ	max	min	typ	max		
t _{PLH} t _{PHL}	Propagation Delay to Output D to Q D to ODDPAR LEN to Q LEN to ODDPAR MR to Q(t _{PHL}) MR to ODDPAR(t _{PHL})	450	600	800	450	600	800	450	600	800	ps	
		850	1150	1450	850	1150	1450	850	1150	1450		
		525	700	900	525	700	900	525	700	900		
		525	700	900	525	700	900	525	700	900		
		525	700	900	525	700	900	525	700	900		
		525	700	900	525	700	900	525	700	900		
		525	700	900	525	700	900	525	700	900		
t _s	Setup Time D (Q) D (ODDPAR)	275	100		275			275			ps	
		900	700		900			900				
t _h	Hold Time D (Q) D (ODDPAR)	175	-100		175			175			ps	
		-300	-70		-300			-300				
t _{RR}	Reset Recovery Time	850	600		850	600		850	600		ps	
t _{SKEW}	Within-Device Skew LEN, MR D to Q D to ODDPAR		75			75			75		ps	1
			75			75			75			
			200			200			200			
			200			200			200			
t _r t _f	Rise/Fall Times 20 - 80%	300	500	800	300	500	800	300	500	800	ps	

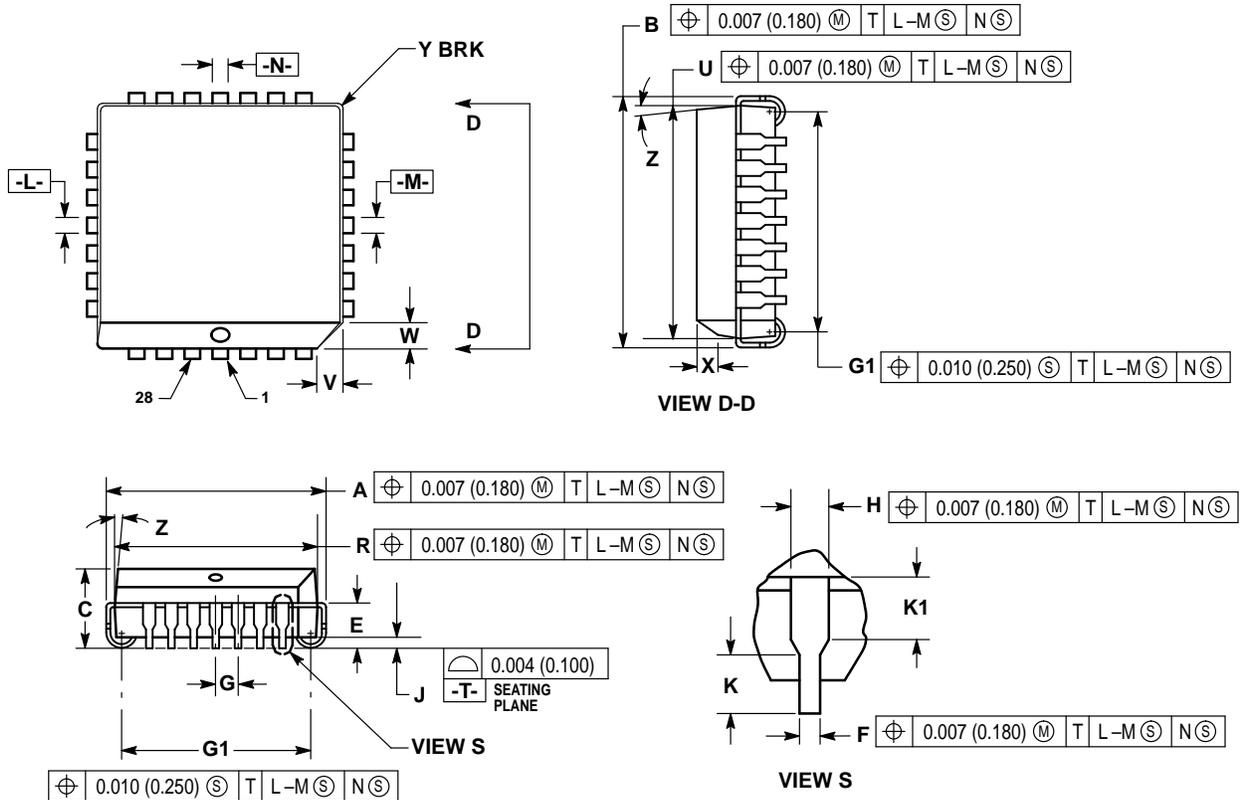
1. Within-device skew is defined as identical transitions on similar paths through a device.

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:

- 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°	2°	10°
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

MC10E175 MC100E175

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