

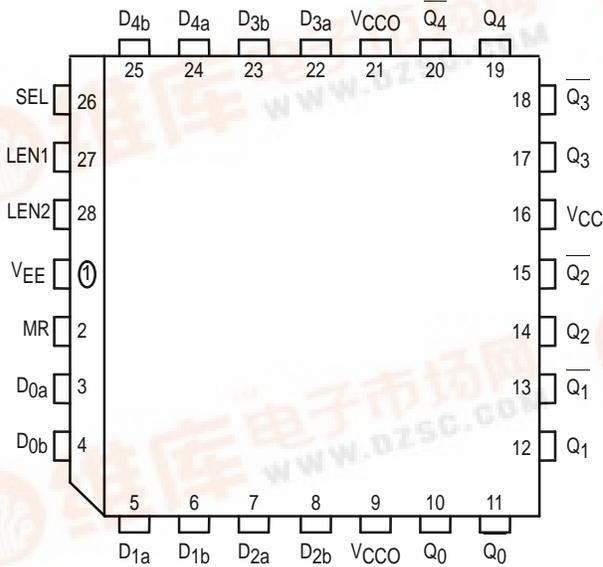
MOTOROLA SEMICONDUCTOR TECHNICAL DATA

5-Bit 2:1 Mux-Latch

The MC10E/100E154 contains five 2:1 multiplexers followed by transparent latches with differential 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
- Differential Outputs
- Asynchronous Master Reset
- Dual Latch-Enables
- Extended 100E V_{EE} Range of -4.2V to -5.46V
- 75k Ω Input Pulldown Resistors

Pinout: 28-Lead PLCC (Top View)



* All VCC and VCC0 pins are tied together on the die.

PIN NAMES

Pin	Function
D0a - D4a	Input Data a
D0b - D4b	Input Data b
SEL	Data Select Input
LEN1, LEN2	Latch Enables
MR	Master Reset
$\overline{Q_0} - \overline{Q_4}$	True Outputs
Q0 - Q4	Inverted Outputs

TRUTH TABLE

SEL	Data
H	a
L	b

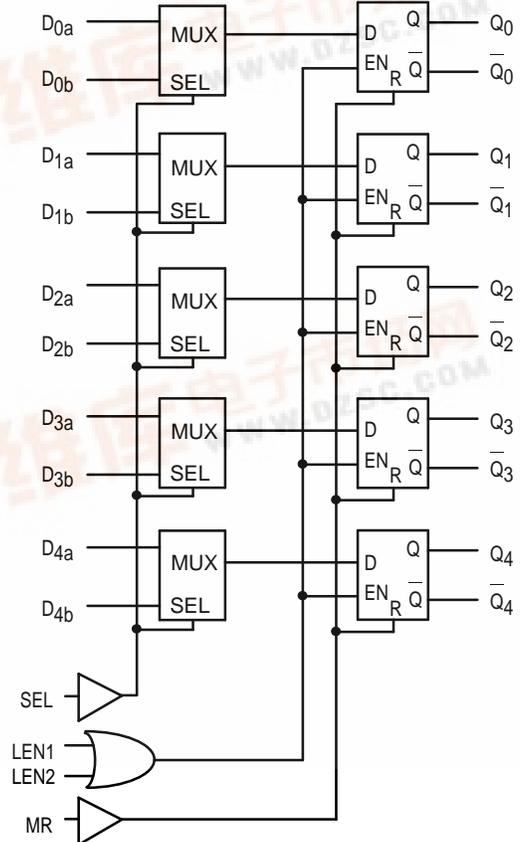
MC10E154 MC100E154

5-BIT 2:1 MUX-LATCH



FN SUFFIX PLASTIC PACKAGE CASE 776-02

LOGIC DIAGRAM



MC10E154 MC100E154

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	Condition
		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		76	91		76	91		76	91		
	100E		76	91		76	91		87	105		

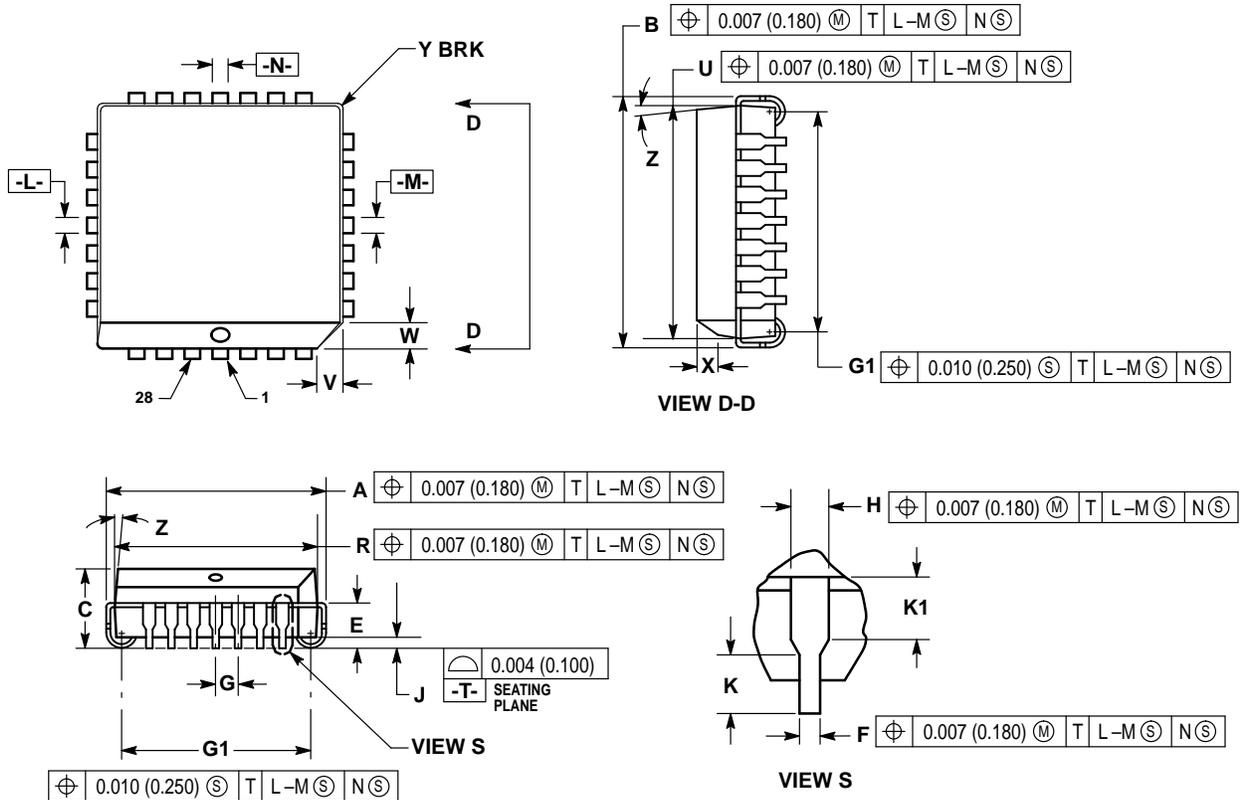
AC CHARACTERISTICS ($V_{EE} = V_{EE}(\min)$ to $V_{EE}(\max)$; $V_{CC} = V_{CCO} = \text{GND}$)

Symbol	Characteristic	0°C			25°C			85°C			Unit	Condition
		min	typ	max	min	typ	max	min	typ	max		
t_{PLH} t_{PHL}	Propagation Delay to Output										ps	
	D	325	500	700	325	500	700	325	500	700		
	SEL	475	650	925	475	650	925	475	650	925		
	LEN MR	350 450	500 600	750 800	350 450	500 600	750 800	350 450	500 600	750 800		
t_s	Setup Time										ps	
	D SEL	300 500	100 250		300 500	100 250		300 500	100 250			
t_h	Hold Time										ps	
	D SEL	300 200	-100 -250		300 200	-100 -250		300 200	-100 -250			
t_{RR}	Reset Recovery Time	800	600		800	600		800	600		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	475	800	300	475	800	300	475	800	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°	2°	10°
G1	0.410	0.430	10.42	10.92
K1	0.040	—	1.02	—

MC10E154 MC100E154

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