

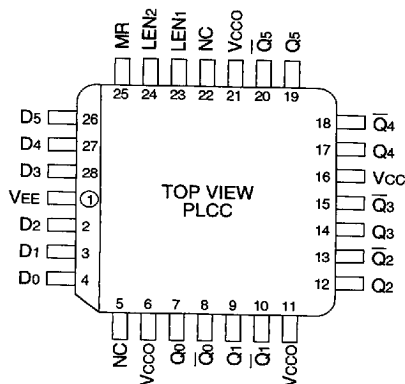
FEATURES

- 700ps max. propagation delay
- Extended 100E V_{EE} range of -4.2V to -5.5V
- Differential outputs
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75K Ω input pulldown resistors
- ESD protection of 2000V
- Fully compatible with Motorola MC10E/100E150

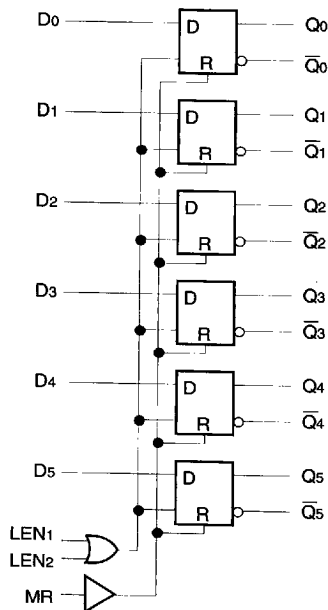
DESCRIPTION

The SY10/100E150 are 6-bit D latches with differential outputs designed for use in new, high- performance ECL systems. When both Latch Enables (LEN₁, LEN₂) are at a logic LOW, the latch is in the transparent mode and input data propagates through to the output. A logic HIGH on either LEN₁ or LEN₂ (or both) latches the input data. The Master Reset (MR) overrides all other signals to set the Q outputs to a logic LOW.

PIN CONFIGURATION



BLOCK DIAGRAM



PIN NAMES

Pin	Function
D0-D5	Data Inputs
LEN ₁ , LEN ₂	Latch Enables
MR	Master Reset
Q0-Q5	True Outputs
Q0-Q5	Inverting Outputs
V _{CC}	V _{CC} to Output

TRUTH TABLE⁽¹⁾

(Each Latch)

INPUTS			MR	OUTPUTS		OPERATING MODE
D _n	LEN ₁	LEN ₂		Q _n	$\bar{Q}_n$	
H	L	L	L	H	L	Latch
L	L	L	L	L	H	
X	X	H	L	Latched ⁽²⁾	Latched ⁽²⁾	
X	H	X	L	Latched ⁽²⁾	Latched ⁽²⁾	
X	X	X	H	L	H	Asynchronous

NOTES:

- H = HIGH state
L = LOW state
X = Don't care
- Retains Data that is present before the LEN positive transition.

DC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

Symbol	Parameter	T _A = 0°C			T _A = +25°C			T _A = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
I _{IH}	Input HIGH Current D LEN MR	—	—	200	—	—	200	—	—	200	μA	—
I _{EE}	Power Supply Current 10E 100E	—	52	62	—	52	62	—	52	62	mA	—
		—	52	62	—	52	62	—	60	72		

AC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = V_{CCO} = GND

Symbol	Parameter	TA = 0°C			TA = +25°C			TA = +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	Se-tup 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	—
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 Time 20% to 80%	300	450	650	300	450	650	300	450	650	ps	—

NOTE:

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

4

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10E150JC	J28-1	Commercial
SY10E150JCTR	J28-1	Commercial
SY100E150JC	J28-1	Commercial
SY100E150JCTR	J28-1	Commercial