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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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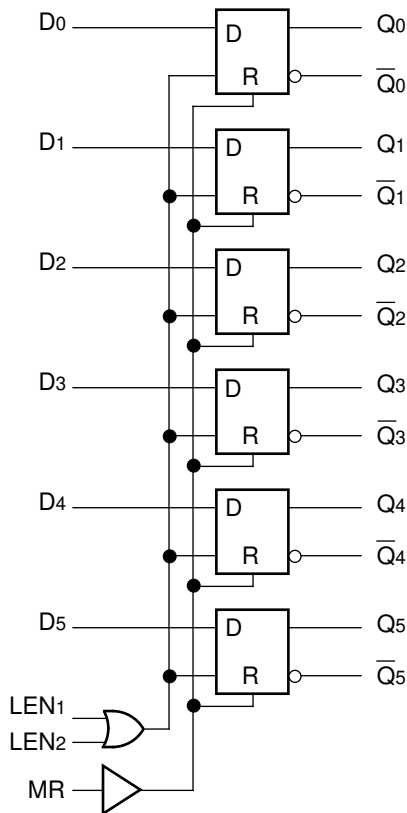
### FEATURES

- 700ps max. propagation delay
- Extended 100E VEE range of -4.2V to -5.5V
- Differential outputs
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E150
- Available in 28-pin PLCC package

### 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.

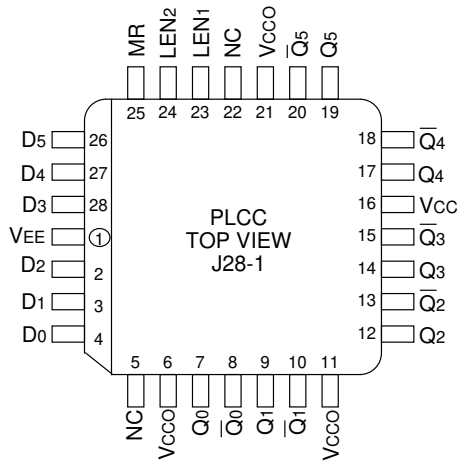
### BLOCK DIAGRAM



### PIN NAMES

Pin	Function
D0-D5	Data Inputs
LEN1, LEN2	Latch Enables
MR	Master Reset
Q0-Q5	True Outputs
$\overline{Q0-Q5}$	Inverting Outputs
Vcco	Vcc to Output

**PACKAGE/ORDERING INFORMATION**



**28-Pin PLCC (J28-1)**

**Ordering Information<sup>(1)</sup>**

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E150JC	J28-1	Commercial	SY10E150JC	Sn-Pb
SY10E150JCTR <sup>(2)</sup>	J28-1	Commercial	SY10E150JC	Sn-Pb
SY100E150JC	J28-1	Commercial	SY100E150JC	Sn-Pb
SY100E150JCTR <sup>(2)</sup>	J28-1	Commercial	SY100E150JC	Sn-Pb
SY10E150JZ <sup>(3)</sup>	J28-1	Commercial	SY10E150JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E150JZTR <sup>(2, 3)</sup>	J28-1	Commercial	SY10E150JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E150JZ <sup>(3)</sup>	J28-1	Commercial	SY100E150JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E150JZTR <sup>(2, 3)</sup>	J28-1	Commercial	SY100E150JZ with Pb-Free bar-line indicator	Matte-Sn

**Notes:**

1. Contact factory for die availability. Dice are guaranteed at T<sub>A</sub> = 25°C, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

**TRUTH TABLE<sup>(1)</sup>**

(Each Latch)

INPUTS			MR	OUTPUTS		Operating Mode
D <sub>n</sub>	LEN <sub>1</sub>	LEN <sub>2</sub>		Q <sub>n</sub>	$\bar{Q}_n$	
H	L	L	L	H	L	Latch
L	L	L	L	L	H	
X	X	H	L	Latched <sup>(2)</sup>	Latched <sup>(2)</sup>	
X	H	X	L	Latched <sup>(2)</sup>	Latched <sup>(2)</sup>	
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<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = V<sub>CCO</sub> = GND

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

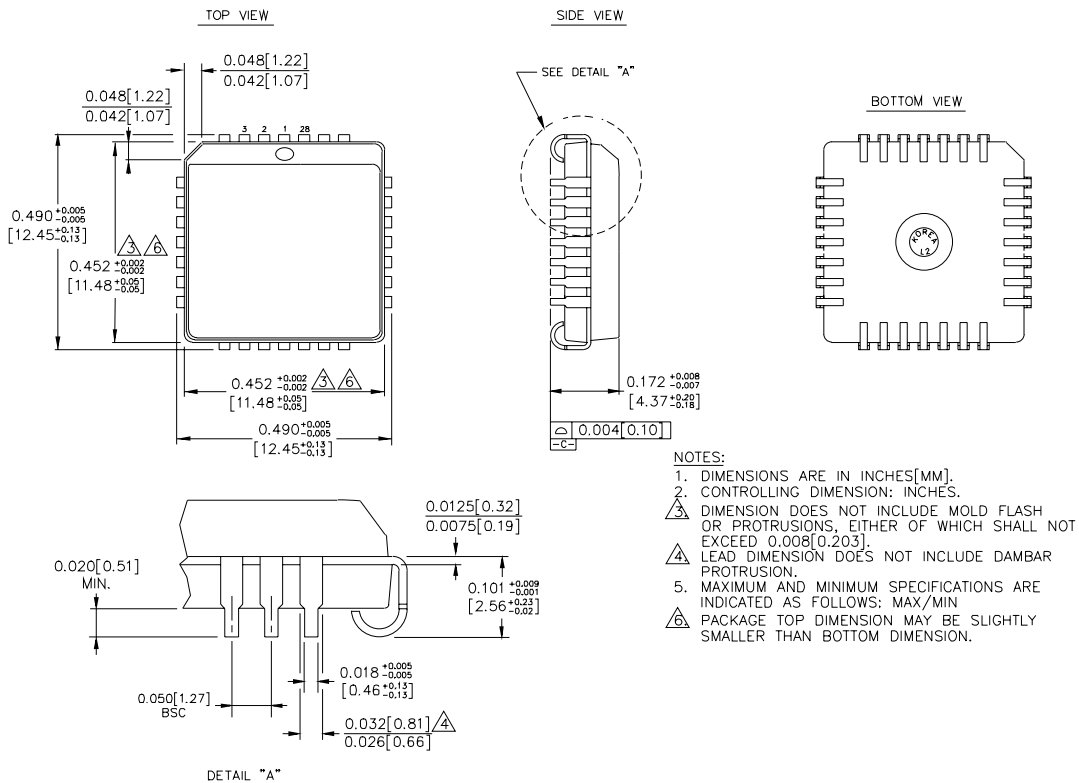
**AC ELECTRICAL CHARACTERISTICS**V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = V<sub>CCO</sub> = GND

Symbol	Parameter	T <sub>A</sub> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t <sub>PD</sub>	Propagation Delay to Output D LEN MR	250	375	550	250	375	550	250	375	550	ps	—
t <sub>s</sub>	Set-up Time, D	200	50	—	200	50	—	200	50	—	ps	—
t <sub>H</sub>	Hold Time, D	200	-50	—	200	-50	—	200	-50	—	ps	—
t <sub>RR</sub>	Reset Recovery Time	750	650	—	750	650	—	750	650	—	ps	—
t <sub>PW</sub>	Minimum Pulse Width, MR	400	—	—	400	—	—	400	—	—	ps	—
t <sub>skew</sub>	Within-Device Skew	—	50	—	—	50	—	—	50	—	ps	1
t <sub>r</sub> t <sub>f</sub>	Rise/Fall Time 20% to 80%	300	450	650	300	450	650	300	450	650	ps	—

**Note:**

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

**28-PIN PLCC (J28-1)**



- NOTES:**
1. DIMENSIONS ARE IN INCHES[MM].
  2. CONTROLLING DIMENSION: INCHES.
  3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.008[0.203].
  4. LEAD DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION.
  5. MAXIMUM AND MINIMUM SPECIFICATIONS ARE INDICATED AS FOLLOWS: MAX/MIN
  6. PACKAGE TOP DIMENSION MAY BE SLIGHTLY SMALLER THAN BOTTOM DIMENSION.

Rev. 03

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