

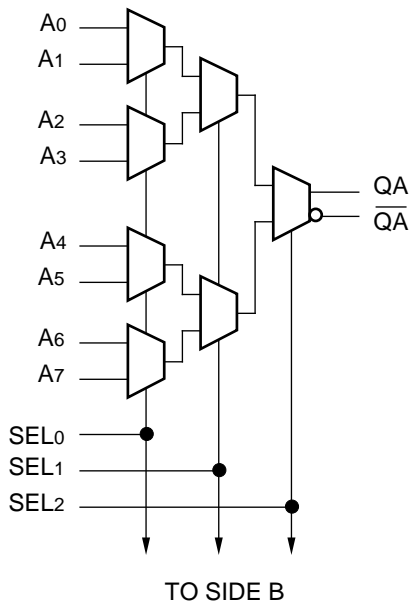
**FEATURES**

- 850ps max. propagation delay
- Extended 100E VEE range of -4.2V to -5.5V
- Differential outputs
- Internal 75KΩ input pulldown resistors
- Fully compatible with industry standard 10KH, 100K ECL levels
- Fully compatible with Motorola MC10E/100E163
- Available in 28-pin PLCC package

**DESCRIPTION**

The SY10/100E163 offer two 8:1 multiplexers designed for use in new, high-performance ECL systems. The E163 has differential outputs and common select inputs. The select inputs (SEL0, SEL1, SEL2) determine which one of the eight data inputs (A0-A7, B0-B7) is propagated to the output.

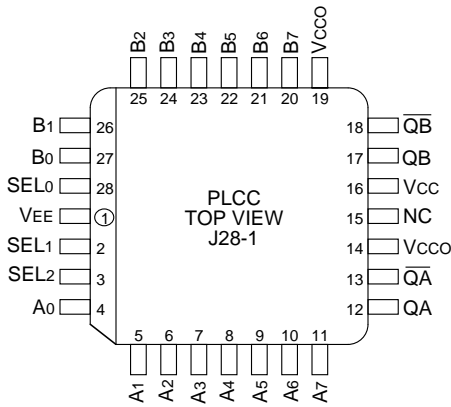
**BLOCK DIAGRAM**



**PIN NAMES**

Pin	Function
A0-A7	A Data Inputs (D)
B0-B7	B Data Inputs (D)
SEL0, 1, 2	Select Inputs
QA, QB	True Outputs
$\overline{QA}$ , $\overline{QB}$	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
SY10E163JC	J28-1	Commercial	SY10E163JC	Sn-Pb
SY10E163JCTR <sup>(2)</sup>	J28-1	Commercial	SY10E163JC	Sn-Pb
SY100E163JC	J28-1	Commercial	SY100E163JC	Sn-Pb
SY100E163JCTR <sup>(2)</sup>	J28-1	Commercial	SY100E163JC	Sn-Pb
SY10E163JZ <sup>(3)</sup>	J28-1	Commercial	SY10E163JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E163JZTR <sup>(2, 3)</sup>	J28-1	Commercial	SY10E163JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E163JZ <sup>(3)</sup>	J28-1	Commercial	SY100E163JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E163JZTR <sup>(2, 3)</sup>	J28-1	Commercial	SY100E163JZ 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**

SEL <sub>2</sub>	SEL <sub>1</sub>	SEL <sub>0</sub>	A/B Data
L	L	L	0
L	L	H	1
L	H	L	2
L	H	H	3
H	L	L	4
H	L	H	5
H	H	L	6
H	H	H	7

**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	—	—	150	—	—	150	—	—	150	μA	—	
I <sub>EE</sub>	Power Supply Current	—	73	88	—	73	88	—	73	88	mA	—	
		10E	—	73	88	—	73	88	—	73			88
		100E	—	73	88	—	73	88	—	83			100

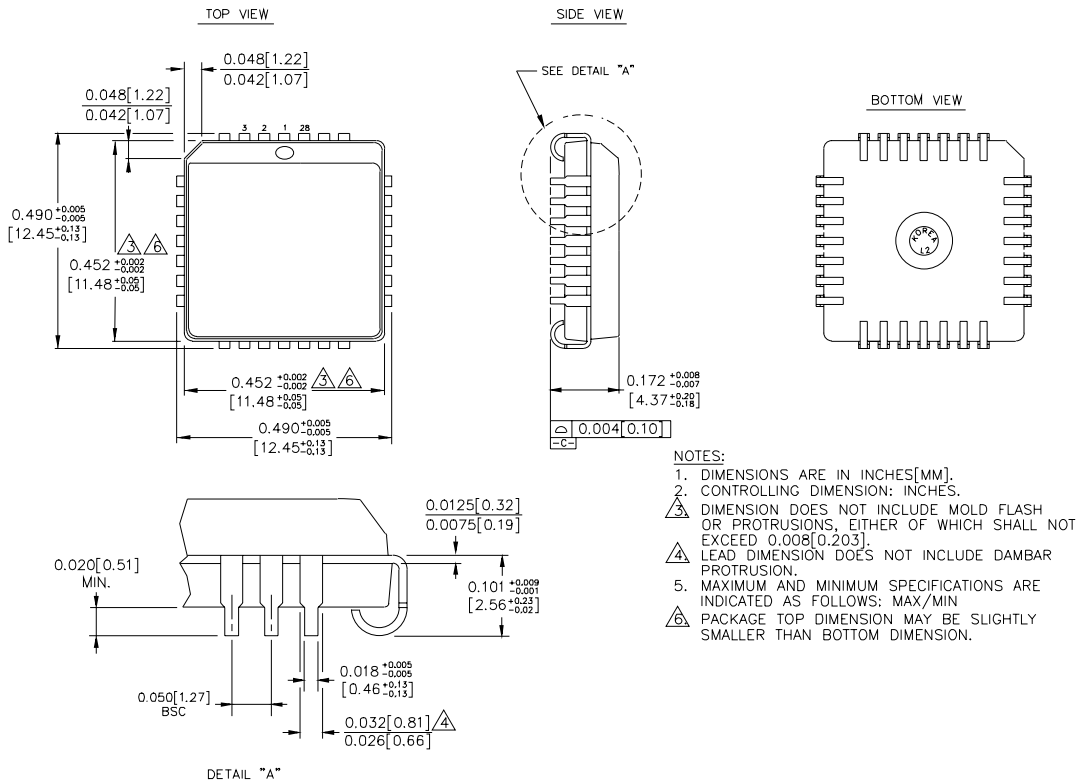
**AC ELECTRICAL CHARACTERISTICS**V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = V<sub>CCO</sub> = GND

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	400	550	800	400	550	800	400	550	800	ps	—
	SEL <sub>0</sub>	525	725	950	525	725	950	525	725	950		
	SEL <sub>1</sub>	425	625	850	425	625	850	425	625	850		
	SEL <sub>2</sub>	350	525	725	350	525	725	350	525	725		
t <sub>skew</sub>	Within-Device Skew	—	40	—	—	40	—	—	40	—	ps	1
	An, B <sub>n</sub> to Q	—	30	—	—	30	—	—	30	—		
	An, Am to QA B <sub>n</sub> , B <sub>m</sub> to QB	—	30	—	—	30	—	—	30	—		
t <sub>r</sub> t <sub>f</sub>	Rise/Fall Time 20% to 80%	275	375	575	275	375	575	275	375	575	ps	—

**Note:**

1. Within-device skew is defined as identical transition on similar paths through a device; n = 0-7, m ≠ n, m = 0-7.

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



Rev. 03

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