

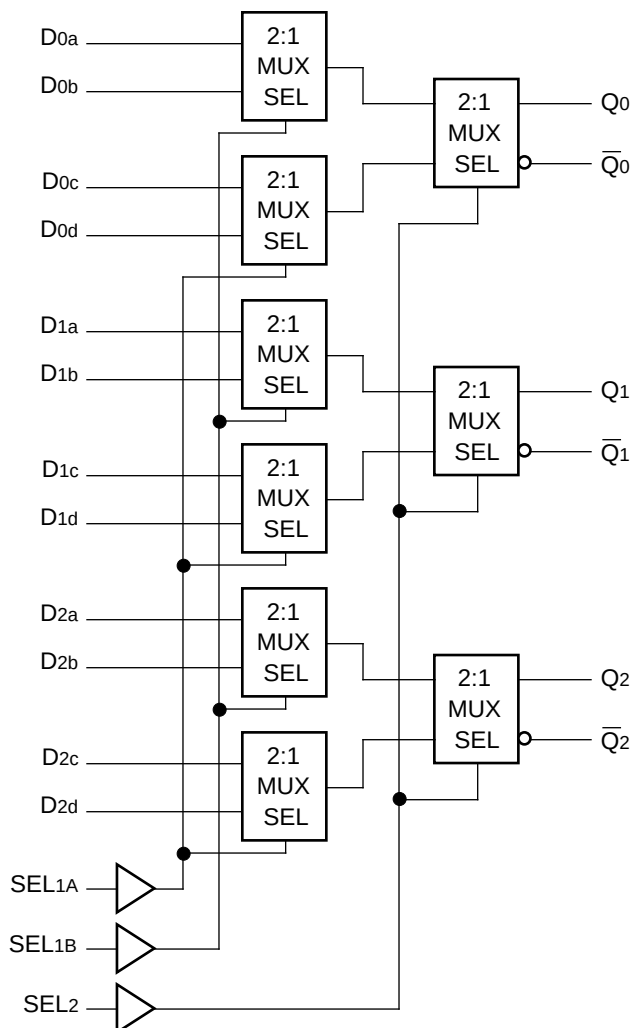
FEATURES

- 725ps max. D to output
- Extended 100E VEE range of -4.2V to -5.5V
- Differential outputs
- Split select architecture
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75K Ω input pulldown resistors
- Fully compatible with Motorola MC10E/100E171
- Available in 28-pin PLCC package

DESCRIPTION

The SY10/100E171 offer three 4:1 multiplexers with differential outputs, designed for use in new, high-performance ECL systems. The leading 4-bit multiplexer operation is organized pairwise, with each pair being a 2-bit multiplexer. Separate select (SEL1A, SEL1B) controls are provided within each pair. The SEL1A and SEL1B signals control the leading multiplexers, while the SEL2 signal controls the output multiplexer. The three select signals can be used to determine which of the four data inputs will be propagated to the corresponding outputs.

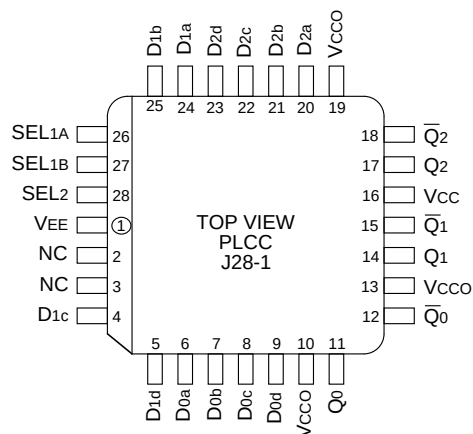
BLOCK DIAGRAM



PIN NAMES

Pin	Function
D0x-D2x	Data Inputs
SEL1A, SEL1B	First-stage Select Inputs
SEL2	Second-stage Select Input
Q0-Q2	True Output
$\bar{Q}0-\bar{Q}2$	Inverted Output
VCCO	Vcc to Output

PACKAGE/ORDERING INFORMATION



28-Pin PLCC (J28-1)

Ordering Information⁽¹⁾

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10E171JC	J28-1	Commercial	SY10E171JC	Sn-Pb
SY10E171JCTR ⁽²⁾	J28-1	Commercial	SY10E171JC	Sn-Pb
SY100E171JC	J28-1	Commercial	SY100E171JC	Sn-Pb
SY100E171JCTR ⁽²⁾	J28-1	Commercial	SY100E171JC	Sn-Pb
SY10E171JZ ⁽³⁾	J28-1	Commercial	SY10E171JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E171JZTR ^(2, 3)	J28-1	Commercial	SY10E171JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E171JZ ⁽³⁾	J28-1	Commercial	SY100E171JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E171JZTR ^(2, 3)	J28-1	Commercial	SY100E171JZ with Pb-Free bar-line indicator	Matte-Sn

Notes:

1. Contact factory for die availability. Dice are guaranteed at $T_A = 25^\circ\text{C}$, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

TRUTH TABLE

Pin	State	Operation
SEL2	H	Output c/d data
SEL1A	H	Input d data
SEL1B	H	Input b data

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

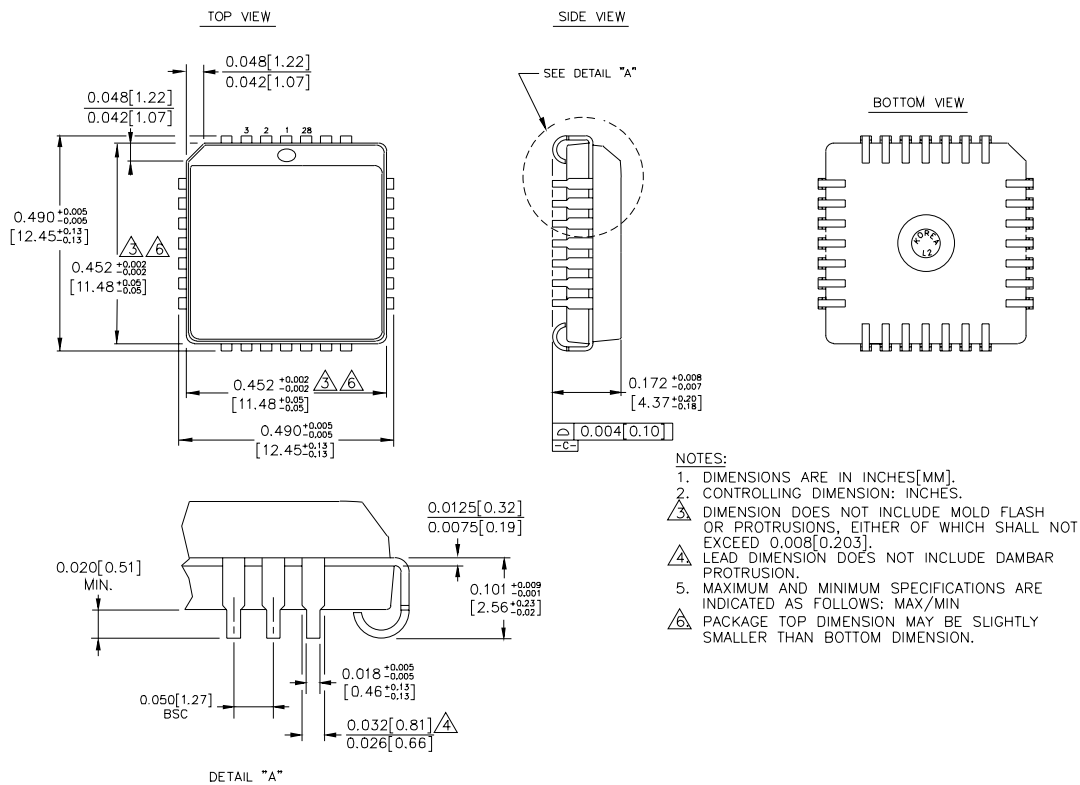
Symbol	Parameter	T _A = 0°C			T _A = +25°C			T _A = +85°C			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
I _{IH}	Input HIGH Current	—	—	150	—	—	150	—	—	150	μA	—
I _{EE}	Power Supply Current	—	—	—	—	—	—	—	—	—	mA	—
		10E	56	67	56	67	67	56	67	67		
		100E	56	67	56	67	67	65	77	77		

AC ELECTRICAL CHARACTERISTICSV_{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.		
t _{PD}	Propagation Delay to Output D	275	480	650	275	480	650	275	480	650	ps	—
		SEL1	450	650	450	650	850	450	650	850		
		SEL2	350	550	350	550	700	350	550	700		
t _{skew}	Within-Device Skew	—	60	—	—	60	—	—	60	—	ps	1
		D _{nm} , D _{nm} to Q _n	40	—	40	—	—	40	—	—		
		D _a , D _b , D _c , D _d to Q	—	—	—	—	—	—	—	—		
t _r t _f	Rise/Fall Time 20% to 80%	300	475	650	300	475	650	300	475	650	ps	—

Note:

1. Within-device skew is defined as identical transitions on similar paths through a device; n = 0, 1, 2 m = a, b, c, d.

28-PIN PLCC (J28-1)

Rev. 03

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