FEATURES

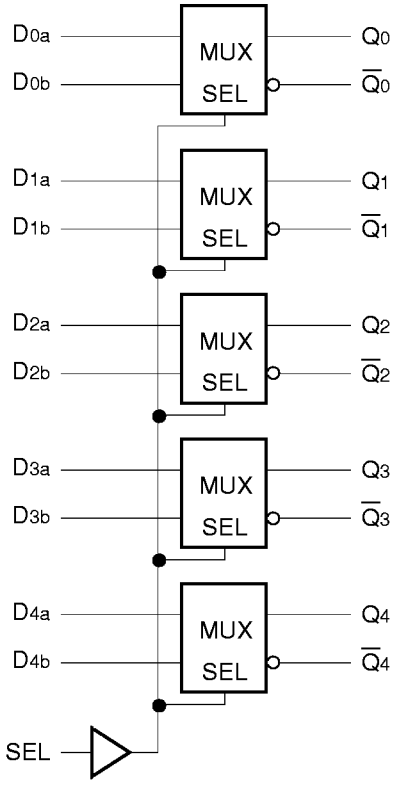
- **550ps max. D to output**
- **Extended 100E V_{EE} range of –4.2V to –5.5V**
- **775ps max. SEL to output**
- **Differential outputs**
- **Fully compatible with industry standard 10KH, 100K ECL levels**
- **Internal 75KΩ input pulldown resistors**
- **ESD protection of 2000V**
- **Fully compatible with Motorola MC10E/100E158**
- **Available in 28-pin PLCC package**

DESCRIPTION

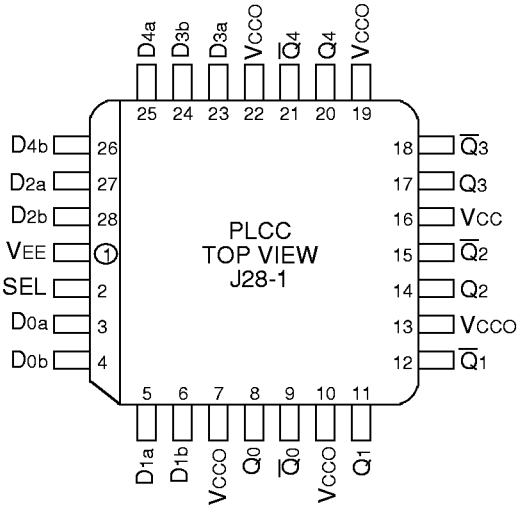
The SY10/100E158 offer five 2:1 multiplexers with differential outputs, designed for use in new, high-performance ECL systems.

The multiplexer operation is controlled by the SEL (Select) signal which selects one of the two bits of input data at each mux to be passed through.

BLOCK DIAGRAM



PIN CONFIGURATION



PIN NAMES

Pin	Function
D_{0a}–D_{4a}	Input Data a
D_{0b}–D_{4b}	Input Data b
SEL	Select Input
Q_0–Q_4	True Outputs
$\overline{Q}_0$–$\overline{Q}_4$	Inverted Outputs
V_{CCO}	V_{CC} to Outputt

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TRUTH TABLE

SEL	Data
H	a
L	b

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										µA	—
	D	—	—	200	—	—	200	—	—	200		
	SEL	—	—	150	—	—	150	—	—	150		
I_{EE}	Power Supply Current										mA	—
	10E	—	33	40	—	33	40	—	33	40		
	100E	—	33	40	—	33	40	—	38	46		

AC 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.		
t_{PLH} t_{PHL}	Propagation Delay to Output										ps	—
	D	225	385	550	225	385	550	225	385	550		
	SEL	400	600	775	400	600	775	400	600	775		
t_{skew}	Within-Device Skew	—	60	—	—	60	—	—	60	—	ps	1
t_r t_f	Rise/Fall Time 20% to 80%	275	425	650	275	425	650	275	425	650	ps	—

NOTE:

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

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10E158JC	J28-1	Commercial
SY10E158JCTR	J28-1	Commercial
SY100E158JC	J28-1	Commercial
SY100E158JCTR	J28-1	Commercial

28 LEAD PLASTIC LEADED CHIP CARRIER (J28-1)