

FEATURES

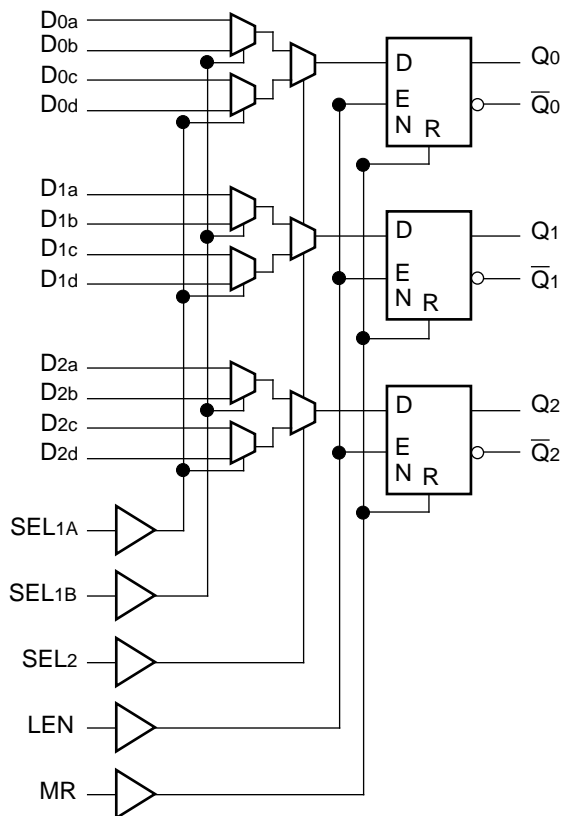
- 950ps max. data to output
- Extended 100E VEE range of -4.2V to -5.5V
- 850ps max. latch enable to output
- Separate select controls
- Differential outputs
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E256
- Available in 28-pin PLCC package

DESCRIPTION

The SY10/100E256 offer three 4:1 multiplexers followed by latches with differential outputs designed for use in new, high-performance ECL systems. Separate Select controls are provided for the leading 2:1 mux pairs (see block diagram).

When the Latch Enable (LEN) is at a logic LOW, the latch is transparent and output data is controlled by the multiplexer select controls. A logic HIGH on LEN latches the outputs. The Master Reset (MR) overrides all other controls to set the Q outputs LOW.

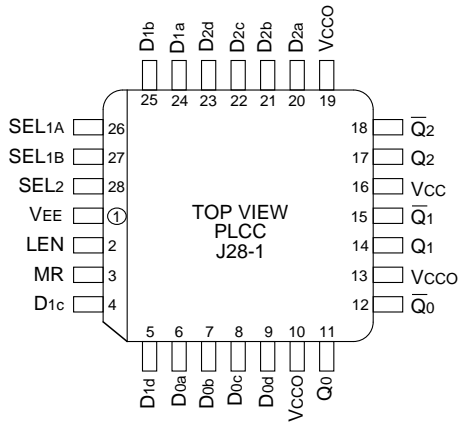
BLOCK DIAGRAM



PIN NAMES

Pin	Function
D0x-D2x	Parallel Data Inputs
SEL1A, SEL1B	First-stage Select Inputs
SEL2	Second-stage Select Input
LEN	Latch Enable
MR	Master Reset
Q0, Q̄0-Q2, Q̄2	Data Outputs
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
SY10E256JC	J28-1	Commercial	SY10E256JC	Sn-Pb
SY10E256JCTR ⁽²⁾	J28-1	Commercial	SY10E256JC	Sn-Pb
SY100E256JC	J28-1	Commercial	SY100E256JC	Sn-Pb
SY100E256JCTR ⁽²⁾	J28-1	Commercial	SY100E256JC	Sn-Pb
SY10E256JZ ⁽³⁾	J28-1	Commercial	SY10E256JZ with Pb-Free bar-line indicator	Matte-Sn
SY10E256JZTR ^(2, 3)	J28-1	Commercial	SY10E256JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E256JZ ⁽³⁾	J28-1	Commercial	SY100E256JZ with Pb-Free bar-line indicator	Matte-Sn
SY100E256JZTR ^(2, 3)	J28-1	Commercial	SY100E256JZ with Pb-Free bar-line indicator	Matte-Sn

Notes:

1. Contact factory for die availability. Dice are guaranteed at T_A = 25°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 CHARACTERISTICS

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

Symbol	Parameter	$T_A = 0^\circ\text{C}$			$T_A = +25^\circ\text{C}$			$T_A = +85^\circ\text{C}$			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	10E	—	69	83	—	69	83	—	69	83	mA	—
		100E	—	69	83	—	69	83	—	79	96		

AC ELECTRICAL CHARACTERISTICS

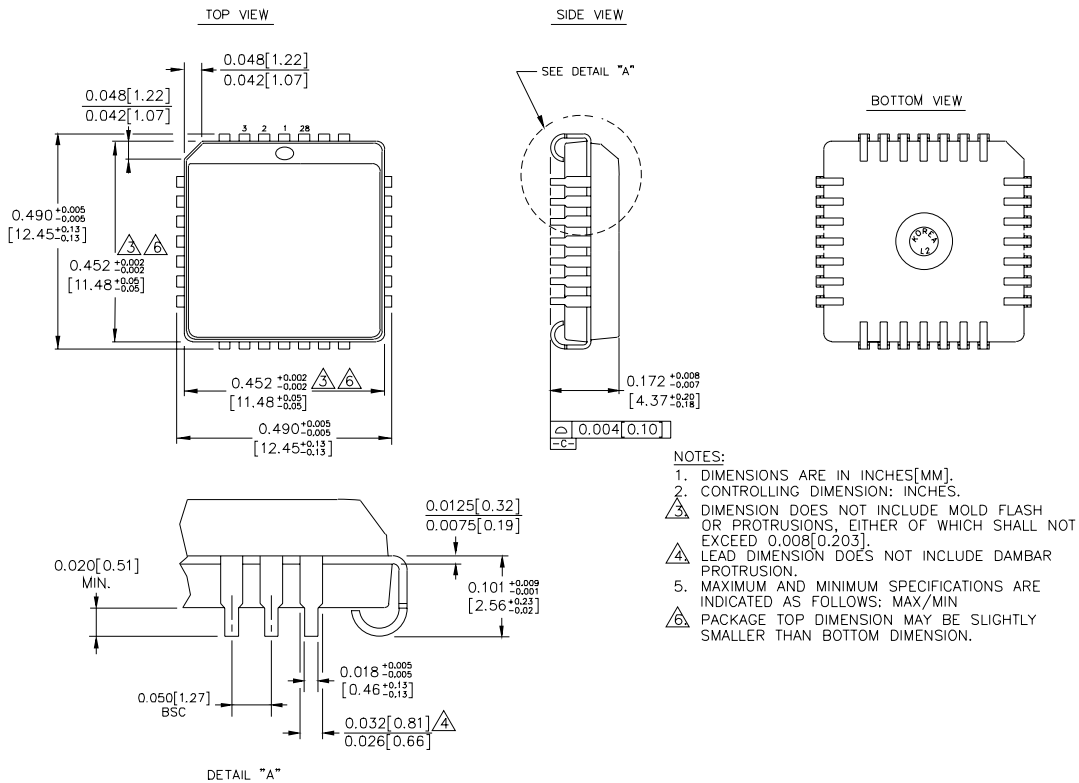
$V_{EE} = V_{EE} (\text{Min.})$ to $V_{EE} (\text{Max.})$; $V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	$T_A = 0^\circ\text{C}$			$T_A = +25^\circ\text{C}$			$T_A = +85^\circ\text{C}$			Unit	Condition
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
t _{PD}	Propagation Delay to Output D	400	600	900	400	600	900	400	600	900	ps	—
	SEL ₁	550	775	1050	550	775	1050	550	775	1050		
	SEL ₂	450	650	900	450	650	900	450	650	900		
	LEN	350	500	800	350	500	800	350	500	800		
	MR	350	600	825	350	600	825	350	600	825		
t _s	Set-up Time D	400	275	—	400	275	—	400	275	—	ps	—
	SEL ₁	600	300	—	600	300	—	600	300	—		
	SEL ₂	500	250	—	500	250	—	500	250	—		
t _H	Hold Time D	300	-275	—	300	-275	—	300	-275	—	ps	—
	SEL ₁	100	-300	—	100	-300	—	100	-300	—		
	SEL ₂	200	-250	—	200	-250	—	100	-250	—		
t _{RR}	Reset Recovery Time	700	600	—	700	600	—	700	600	—	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%	275	475	700	275	475	700	275	475	700	ps	—

Note:

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

28-PIN PLCC (J28-1)



Rev. 03

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