FEATURES

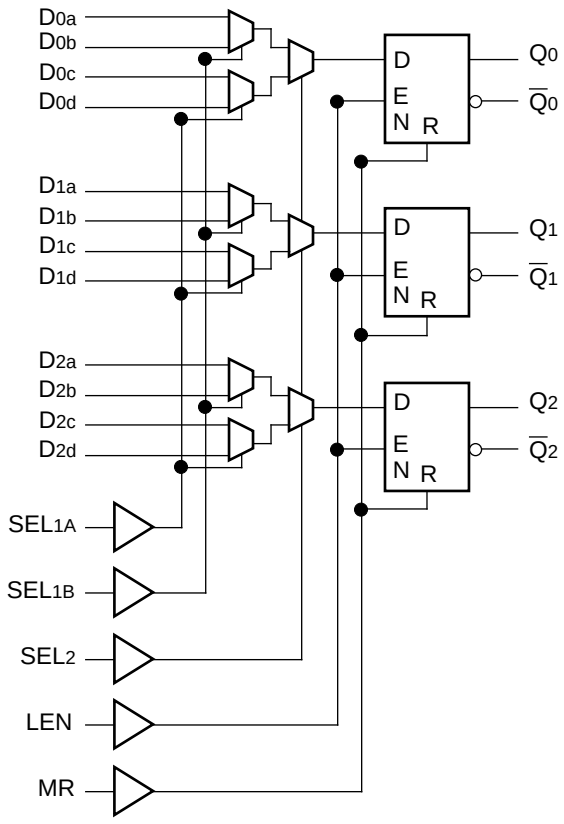
- 950ps max. data to output
- Extended 100E V_{EE} range of –4.2V to –5.5V
- 850ps max. latch enable to output
- Separate select controls
- Differential outputs
- Fully compatible with industry standard 10KH, 100K ECL levels
- Internal 75KΩ input pulldown resistors
- Fully compatible with Motorola MC10E/100E256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

DESCRIPTION

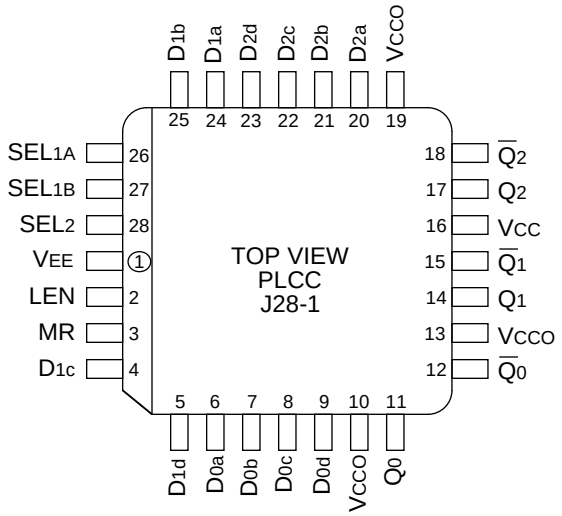
The SY10/100E256 offer three 4:1 multiplexers followed by latches with differential outputs designed for use in new, high-performance ECL systems. Separate Select controls are provided for the leading 2:1 mux pairs (see block diagram).

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 CONFIGURATION



PIN NAMES

Pin	Function
D_{0x}–D_{2x}	Parallel Data Inputs
SEL_{1A}, SEL_{1B}	First-stage Select Inputs
SEL_2	Second-stage Select Input
LEN	Latch Enable
MR	Master Reset
Q_0, $\overline{Q}_0$–Q_2, $\overline{Q}_2$	Data Outputs
V_{CCO}	V_{CC} to Output

TRUTH TABLE

Pin	State	Operation
SEL_2	H	Output c/d Data
SEL_{1A}	H	Input d Data
SEL_{1B}	H	Input b Data

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	—	—	150	—	—	150	—	—	150	µA	—
I_{EE}	Power Supply Current										mA	—
	10E	—	69	83	—	69	83	—	69	83		
	100E	—	69	83	—	69	83	—	79	96		

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}	Propagation Delay to Output										ps	—
t_{PHL}	D	400	600	900	400	600	900	400	600	900		
	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										ps	—
	D	400	275	—	400	275	—	400	275	—		
	SEL_1	600	300	—	600	300	—	600	300	—		
	SEL_2	500	250	—	500	250	—	500	250	—		
t_H	Hold Time										ps	—
	D	300	–275	—	300	–275	—	300	–275	—		
	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	Rise/Fall Time	275	475	700	275	475	700	275	475	700	ps	—
t_f	20% to 80%											

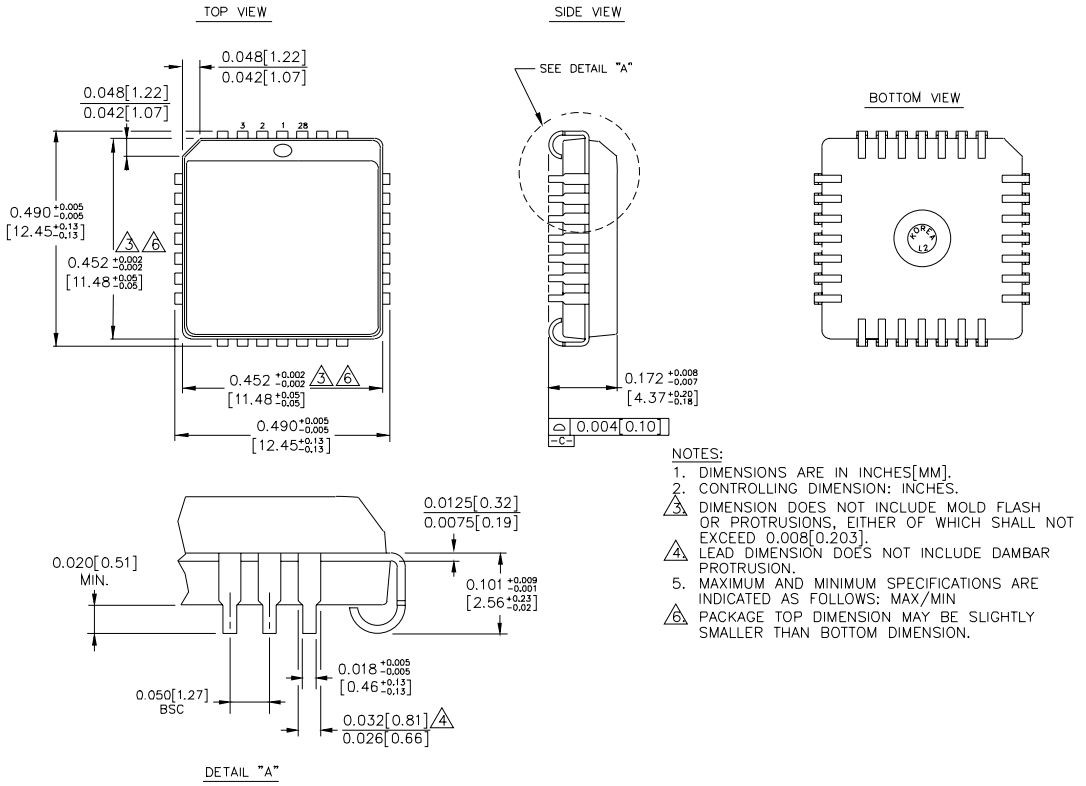
NOTE:

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

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10E256JC	J28-1	Commercial
SY10E256JCTR	J28-1	Commercial
SY100E256JC	J28-1	Commercial
SY100E256JCTR	J28-1	Commercial

28 LEAD 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

MICREL-SYNERGY 3250 SCOTT BOULEVARD SANTA CLARA CA 95054 USA
TEL + 1 (408) 980-9191 FAX + 1 (408) 914-7878 WEB http://www.micrel.com