

FEATURES

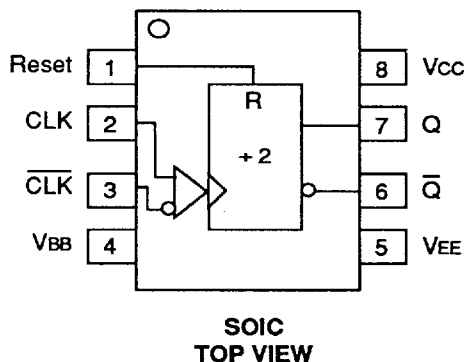
- 510ps propagation delay
- 3.0GHz toggle frequency
- High bandwidth output transistors
- Internal 75KΩ Input pull-down resistors
- ESD protection of 2000V

DESCRIPTION

The SY10EL/100EL32 are integrated +2 dividers. The differential clock inputs and the VBB allow a differential, single-ended or AC-coupled interface to the device. If used, the VBB output should be bypassed to ground with a 0.01μF capacitor. Also note that the VBB is designed to be used as an input bias on the EL32 only; the VBB output has limited current sink and source capability.

The reset pin is asynchronous and is asserted on the rising edge. Upon power-on, the internal flip-flop will attain a random state; the reset allows for the synchronization of multiple EL32s in a system.

PIN CONFIGURATION/BLOCK DIAGRAM



PIN NAMES

Pin	Function
CLK	Clock Inputs
Reset	Asynchronous Reset
VBB	Reference Voltage Output
Q	Data Outputs

DC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = GND

Symbol	Parameter	-40°C			0°C			+25°C			+85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I _{EE}	Power Supply Current													mA
	10EL	—	25	—	—	25	30	—	25	30	—	25	30	
	100EL	—	25	—	—	25	30	—	25	30	—	29	35	
V _{BB}	Output Reference Voltage													V
	10EL	-1.43	—	-1.30	-1.38	—	-1.27	-1.35	—	-1.25	-1.31	—	-1.19	
	100EL	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	
V _{EE}	Power Supply Voltage													V
	10EL	—	-5.2	—	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	
	100EL	—	-4.5	—	-4.20	-4.5	-5.5	-4.20	-4.5	-5.5	-4.20	-4.5	-5.5	
I _{IH}	Input HIGH Current	—	—	150	—	—	150	—	—	150	—	—	150	μA

AC ELECTRICAL CHARACTERISTICS

V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = GND

Symbol	Parameter	-40°C			0°C			+25°C			+85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
f _{MAX}	Maximum Toggle Frequency	—	3.0	—	2.6	3.0	—	2.6	3.0	—	2.6	3.0	—	GHz
t _{PLH}	Prop Delay to Output D	—	500	—	410	500	590	420	510	600	450	540	630	ps
t _{PHL}	Reset to Q	—	540	—	440	540	640	440	540	640	450	550	650	ps
V _{PP}	Minimum Input Swing ⁽¹⁾	150	—	—	150	—	—	150	—	—	150	—	—	mV
t _r t _f	Output Rise/Fall Times Q (20% to 80%)	—	225	—	100	225	350	100	225	350	100	225	350	ps

NOTE:

1. Minimum input swing for which AC parameters are guaranteed.

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10EL32ZC	Z8-1	Commercial
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