

FEATURES

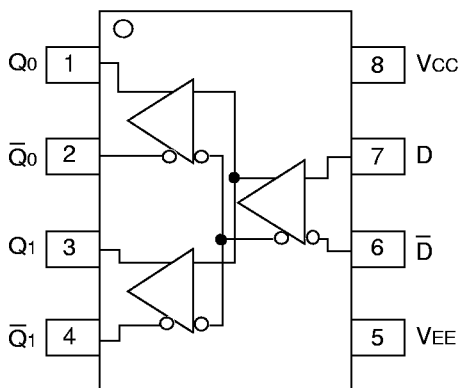
- 265ps propagation delay
- 5ps skew between outputs
- High bandwidth output transitions
- Internal 75KΩ input pull-down resistors
- ESD protection of 2000V

DESCRIPTION

The SY10/100EL11 are 1:2 differential fanout gates. These devices are functionally similar to the E111 devices, with higher performance capabilities. Having within-device skews and output transition times significantly improved over the E111, the EL11 is ideally suited for those applications which require the ultimate in AC performance.

The differential inputs of the EL11 employ clamping circuitry to maintain stability under open input conditions. If the inputs are left open (pulled to VEE), the Q outputs will go LOW.

PIN CONFIGURATION/BLOCK DIAGRAM



SOIC
TOP VIEW

PIN NAMES

Pin	Function
D	Data Inputs
Q0, Q1	Data Outputs

DC ELECTRICAL CHARACTERISTICS

VEE = VEE (Min.) to VEE (Max.); VCC = GND

Symbol	Parameter	-40°C			0°C			+25°C			+85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
IEE	Power Supply Current													mA
	10EL	—	26	31	21	26	31	21	26	31	21	26	31	
	100EL	—	26	31	21	26	31	21	26	31	24	30	36	
VEE	Power Supply Voltage													V
	10EL	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	
	100EL	-4.20	-4.5	-5.5	-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

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

Symbol	Parameter	-40°C			0°C			+25°C			+85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t _{PLH} t _{PHL}	Propagation Delay to Output D	135	260	385	185	260	335	190	265	340	215	290	365	ps
t _{skew}	Within-Device Skew ⁽¹⁾	—	5	—	—	5	20	—	5	20	—	5	20	ps
	Duty Cycle Skew ⁽²⁾	—	5	—	—	5	20	—	5	20	—	5	20	ps
V _{PP}	Minimum Input Swing ⁽³⁾	150	—	—	150	—	—	150	—	—	150	—	—	mV
V _{CMR}	Common Mode Range ⁽⁴⁾	(4)	—	-0.4	(4)	—	-0.4	(4)	—	-0.4	(4)	—	-0.4	V
t _r t _f	Output Rise/Fall Times Q (20% to 80%)	100	225	350	100	225	350	100	225	350	100	225	350	ps

NOTES:

1. Within-device skew defined as identical transitions on similar paths through a device.
2. Duty cycle skew is the difference between a t_{PLH} and t_{PHL} propagation delay through a device.
3. Minimum input swing for which AC parameters are guaranteed. The device has a DC gain of ≈40.
4. The CMR range is referenced to the most positive side of the differential input signal. Normal operation is obtained if the HIGH level falls within the specified range and the peak-to-peak voltage lies between V_{PP} min. and 1V. The lower end of the CMR range is dependant on V_{EE} and is equal to V_{EE} +3.0V.

PRODUCT ORDERING CODE

Ordering Code	Package Type	Operating Range
SY10EL11ZC	Z8-1	Commercial
SY10EL11ZCTR	Z8-1	Commercial
SY100EL11ZC	Z8-1	Commercial
SY100EL11ZCTR	Z8-1	Commercial