PRELIMINARY

DATA SHEET

AZ10EL11
AZ100EL11
(3.3 V operation)

ARIZONA MICROTEK, INC.

1:2 Differential Fanout Buffer

FEATURES

- 265ps Propagation Delay
- 5ps Skew Between Outputs
- High Bandwidth Output Transitions
- 75kΩ Internal Input Pulldown Resistors
- Direct Replacement for Motorola MC10EL11 & MC100EL11
- Manufactured Under License By Lucent Technologies

PACKAGE AVAILABILITY

SUFFIX	DESCRIPTION
D	Plastic 8 SOIC
X	DIE

DESCRIPTION

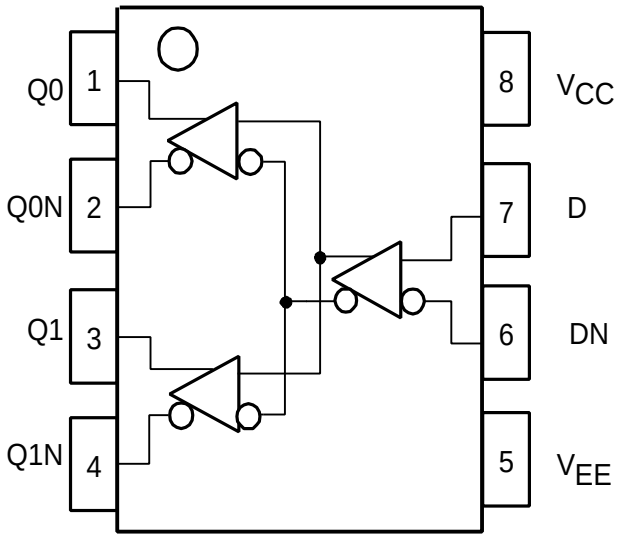
The AZ10EL/100EL11 is a differential 1:2 fanout gate. The device is functionally similar to the E111 device but with higher performance capabilities. Having within-device skews and output transition times significantly improved over the E111, the EL11 is ideally suited for those applications which require 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 V_{EE}) the Q outputs will go LOW.

PIN DESCRIPTION

PIN	FUNCTION
D	Data Inputs
Q0, Q1	Data Outputs

LOGIC DIAGRAM AND PINOUT ASSIGNMENT



AZ10EL11
AZ100EL11

DC Characteristics (V_{EE} = 10E(-3.0V to –3.6V),100E(-3.0V to –3.6V); V_{CC} = GND)

		0 ℃			25 ℃			85 ℃			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
I_{EE}	Power Supply 10EL Current 100EL		26 26	31 31		26 26	31 31		26 30	31 36	mA
V_{EE}	Power Supply 10EL Voltage 100EL	-4.75 -4.20	-5.2 -4.5	-5.5 -5.5	-4.75 -4.20	-5.2 -4.5	-5.5 -5.5	-4.75 -4.20	-5.2 -4.5	-5.5 -5.5	V
I_{IH}	Input HIGH Current			150			150			150	µA

AC Characteristics (V_{EE} = 10E(-3.0V to –3.6V),100E(-3.0V to –3.6V); V_{CC} = GND)

		0 ℃			25 ℃			85 ℃			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
t_{PLH} t_{PHL}	Propagation Delay to Output	185	260	335	190	265	340	215	290	365	ps
t_{SKEW}	Within-Device Skew [1] Duty Cycle Skew[2]		5 5	20 20		5 5	20 20		5 5	20 20	ps
V_{PP}	Minimum Input Swing[3]	150			150			150			mV
V_{CMR}	Common Mode Range[4]	-0.4		See[4]	-0.4		See[4]	-0.4		See[4]	V
t_r t_f	Output Rise/Fall Times Q (20% - 80%)	100	225	350	100	225	350	100	225	350	ps

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 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 Vppmin and 1V. The lower end of the CMR range is dependent on V_{EE} and is equal to V_{EE} + 1.8V.