

High Speed Buffer for LVDS and PECL

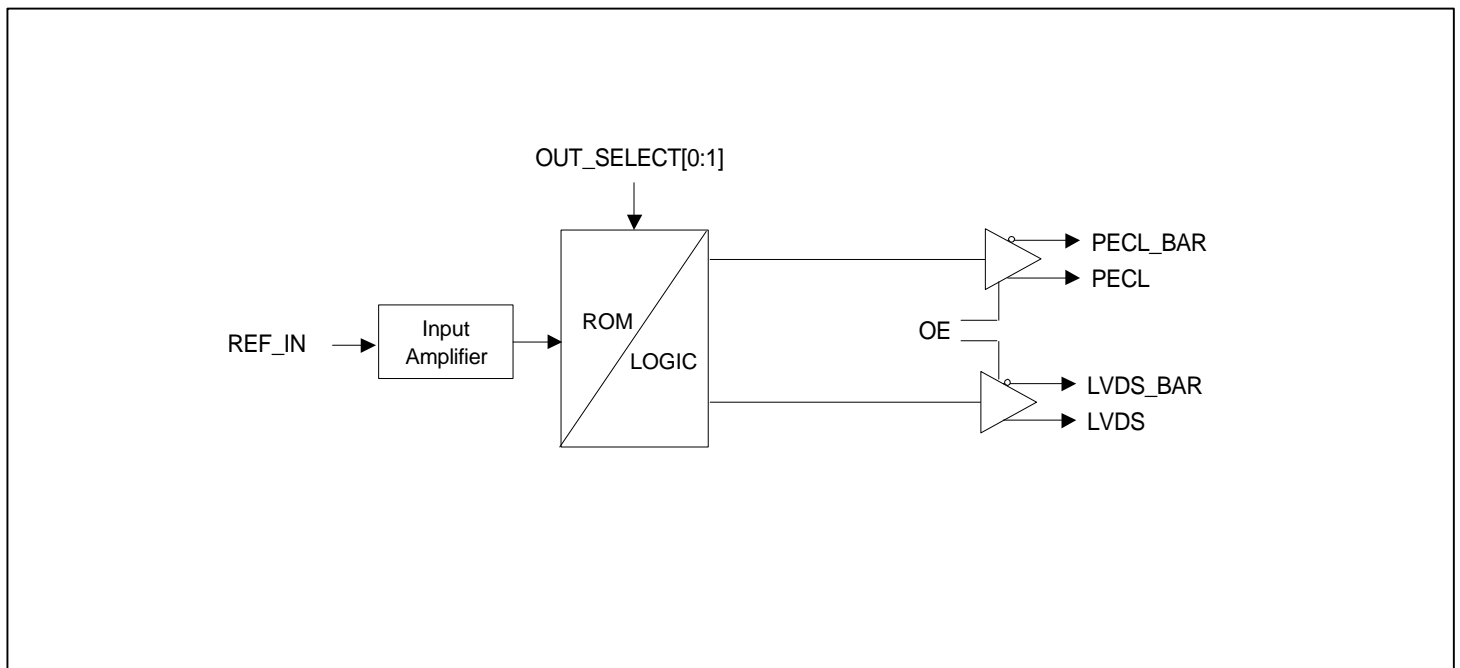
FEATURES

- Selectable PECL or LVDS outputs
- Single AC coupled input (100mV swing).
- Input range from DC to 1.3 GHz.
- Output Enable selector.
- 3.3V operation.
- Available in 16-Pin (SOIC or TSSOP).

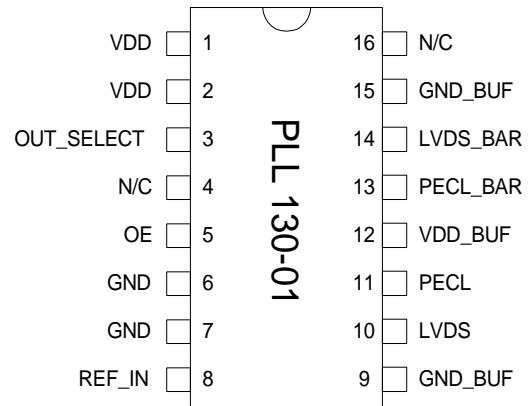
DESCRIPTIONS

The PLL130-01 is a low cost, high performance, high speed, buffer that reproduces any input frequency from DC to 1.3GHz. It provides selectable outputs (PECL or LVDS). Any input signal with at least 100mV swing can be used as reference signal. This chip is ideal for conversion from CMOS to PECL or LVDS, and for conversion from PECL to LVDS (and vice-versa).

BLOCK DIAGRAM



PRELIMINARY PIN CONFIGURATION



(may change without notice)

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PIN DESCRIPTIONS

Name	Number	Type	Description
VDD	1,2	P	3.3V Power supply
OUT_SELECT	3	I	Output selector. This pin has internal pull-up (defaults to 1 = LVDS). Connect to GND (0) to select PECL outputs.
N/C	4	-	Not connected
OE	5	I	Output Enable. This pin has internal pull-up (defaults to 1 = enabled).
GND	6,7	P	Ground connector
REF_IN	8		Reference input signal. The frequency of this signal will be reproduced at the output (after translation to LVDS or PECL level).
GND_BUF	9,15	P	Ground connector for output buffer circuitry.
LVDS	10	O	LVDS True output.
PECL	11		PECL True output.
VDD_BUF	12		3.3V Power supply for output buffer circuitry.
PECL_BAR	13		PECL Complementary output.
LVDS_BAR	14		LVDS Complementary output.
N/C	16	-	Not connected

ELECTRICAL SPECIFICATIONS

1. Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN.	MAX.	UNITS
Supply Voltage Range	V_{CC}	-0.5	7	V
Input Voltage Range	V_I	-0.5	$V_{CC}+0.5$	V
Output Voltage Range	V_O	-0.5	$V_{CC}+0.5$	V
Soldering Temperature			260	°C
Storage Temperature	T_S	-65	150	°C
Ambient Operating Temperature		0	70	°C

Exposure of the device under conditions beyond the limits specified by Maximum Ratings for extended periods may cause permanent damage to the device and affect product reliability. These conditions represent a stress rating only, and functional operations of the device at these or any other conditions above the operational limits noted in this specification is not implied.

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2. AC Specification

PARAMETERS	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Frequency		0		1300	MHz
Input signal swing	REF_IN input	100			mV
Output Frequency		0		1300	MHz
Output Rise Time	0.8V to 2.0V with no load			1.5	ns
Output Fall Time	2.0V to 0.8V with no load			1.5	ns

3. DC Specification

PARAMETERS	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Operating Voltage	VDD		3.135		3.465	V
Input High Voltage	V _{IH}		2			V
Input Low Voltage	V _{IL}				0.8	V
Input High Voltage	V _{IH}	TBD				V
Input Low Voltage	V _{IL}	TBD				V
AC coupling	TBD	TBD	100			mV
Output High Voltage	V _{OH}	I _{OH} = TBD	TBD			V
Output Low Voltage	V _{OL}	I _{OL} = TBD			TBD	V
Output High Voltage At CMOS Level	V _{OH}	I _{OH} = TBD	TBD			V
Operating Supply Current	I _{DD}	No Load		TBD		mA
Short-circuit Current	I _S			TBD		mA
Input Capacitance	C _{IN}	OE, Select Pins		5		pF

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PACKAGE INFORMATION

16 PIN Narrow SOIC, TSSOP (mm)

Symbol	SOIC		TSSOP	
	Min.	Max.	Min.	Max.
A	1.35	1.75	-	1.20
A1	0.10	0.25	0.05	0.15
B	0.33	0.51	0.19	0.30
C	0.19	0.25	0.09	0.20
D	9.80	10.00	4.90	5.10
E	3.80	4.00	4.30	4.50
H	5.80	6.20	6.40 BSC	
L	0.40	1.27	0.45	0.75
e	1.27 BSC		0.65 BSC	

ORDERING INFORMATION

For part ordering, please contact our Sales Department:
 47745 Fremont Blvd., Fremont, CA 94538, USA
 Tel: (510) 492-0990 Fax: (510) 492-0991

PART NUMBER
 The order number for this device is a combination of the following:
 Device number, Package type and Operating temperature range

PLL130-01 S C XX

PART NUMBER _____

- REVISION CODE (when applicable)
- TEMPERATURATURE
 C=COMMERCIAL
 M=MILITARY
 I=INDUSTRAL
- PACKAGE TYPE
 S=SOIC, O=TSSOP, D=DIE

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