ABB3008

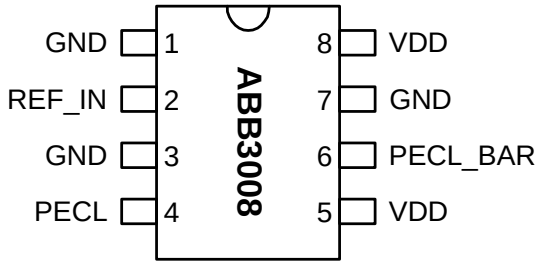
High Speed Translator Buffer to PECL

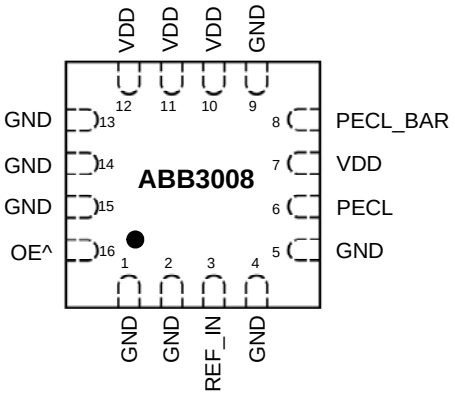
FEATURES

- Differential PECL output
- Single AC coupled input (min. 100mV swing).
- Input range from DC to 1.0 GHz.
- 2.5V to 3.3V operation.
- Available in 8-Pin SOIC or 3x3mm QFN.

PIN CONFIGURATION

(TOP VIEW)



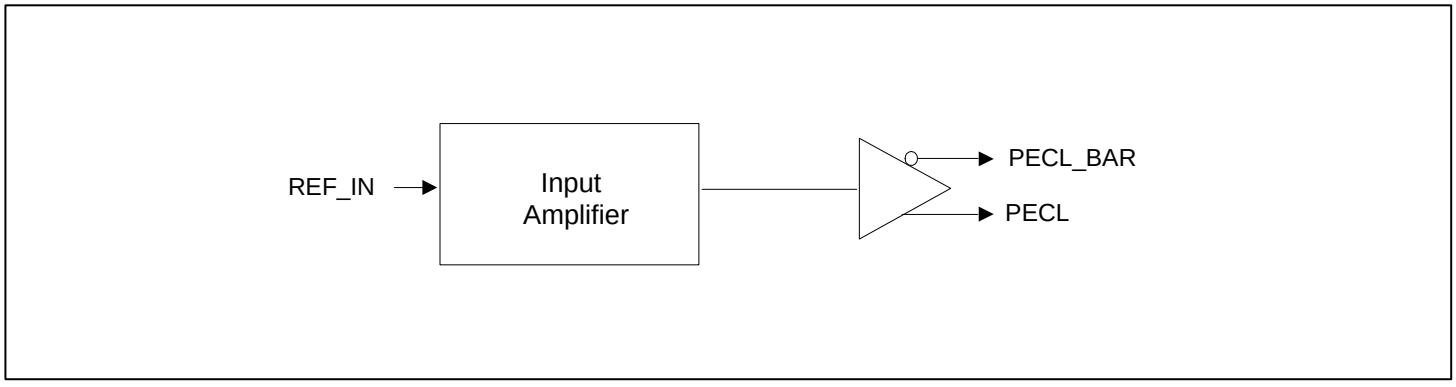


Note: ^ denotes internal pull up

DESCRIPTION

The ABB3008 is a low cost, high performance, high speed, buffer that reproduces any input frequency from DC to 1.0GHz. It provides a pair of differential PECL output. Any input signal with at least 100mV swing can be used as reference signal. This chip is ideal for conversion from sine wave, TTL, CMOS, or LVDS to PECL.

BLOCK DIAGRAM



PIN DESCRIPTIONS

Name	8pin SOIC Pin number	3x3mm QFN Pin number	Type	Description
GND	1,3,7	1,2,4,5, 9,13,14,15	P	Ground.
VDD	5,8	7,10,11,12	P	Power supply.
REF_IN	2	3	I	Reference input signal. The frequency of this signal will be reproduced at the output (after translation to PECL level).
PECL	4	6	O	PECL True output.
PECL_BAR	7	8	O	PECL Complementary output.
OE	N/A	16	I	Output enable ('1' for enable). Internal pull-up (default is '1').

ELECTRICAL SPECIFICATIONS

1. Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN.	MAX.	UNITS
Supply Voltage	V_{DD}		4.6	V
Input Voltage, dc	V_I	-0.5	V_{DD}+0.5	V
Output Voltage, dc	V_O	-0.5	V_{DD}+0.5	V
Storage Temperature	T_S	-65	150	°C
Ambient Operating Temperature*	T_A	-40	85	°C
Junction Temperature	T_J		125	°C
Lead Temperature (soldering, 10s)			260	°C
ESD Protection, Human Body Model			2	kV

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.

* Note: Operating Temperature is guaranteed by design for all parts (COMMERCIAL and INDUSTRIAL), but tested for COMMERCIAL grade only.

2. AC Specifications

PARAMETERS	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Frequency		0		1000	MHz
Input signal swing	REF_IN input	100			mV
Output Frequency		0		1000	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

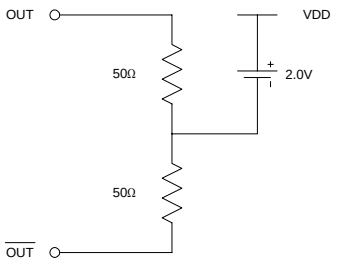
3. PECL Electrical Characteristics

PARAMETERS	SYMBOL	CONDITIONS	MIN.	MAX.	UNITS
Output High Voltage	V_{OH}	R_L = 50 Ω to (V_{DD} – 2V) (see figure)	V_{DD} – 1.025		V
Output Low Voltage	V_{OL}			V_{DD} – 1.620	V

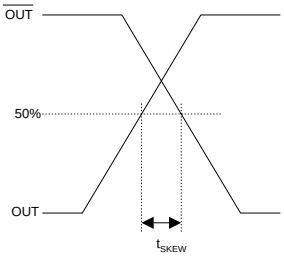
4. PECL Switching Characteristics

PARAMETERS	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Clock Rise Time	t_r	@20/80% - PECL		0.6	1.5	ns
Clock Fall Time	t_f	@80/20% - PECL		0.5	1.5	ns

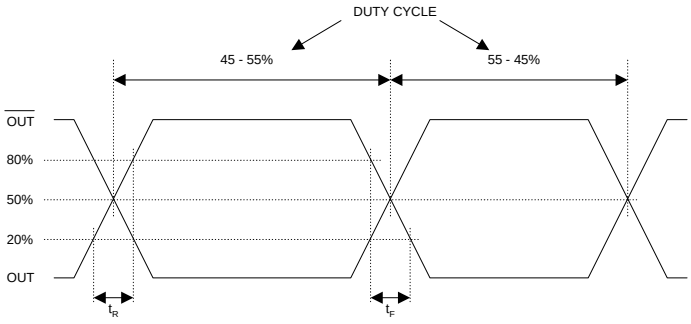
PECL Levels Test Circuit



PECL Output Skew



PECL Transistion Time Waveform

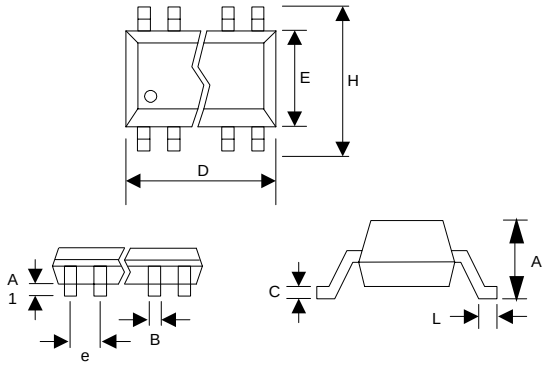


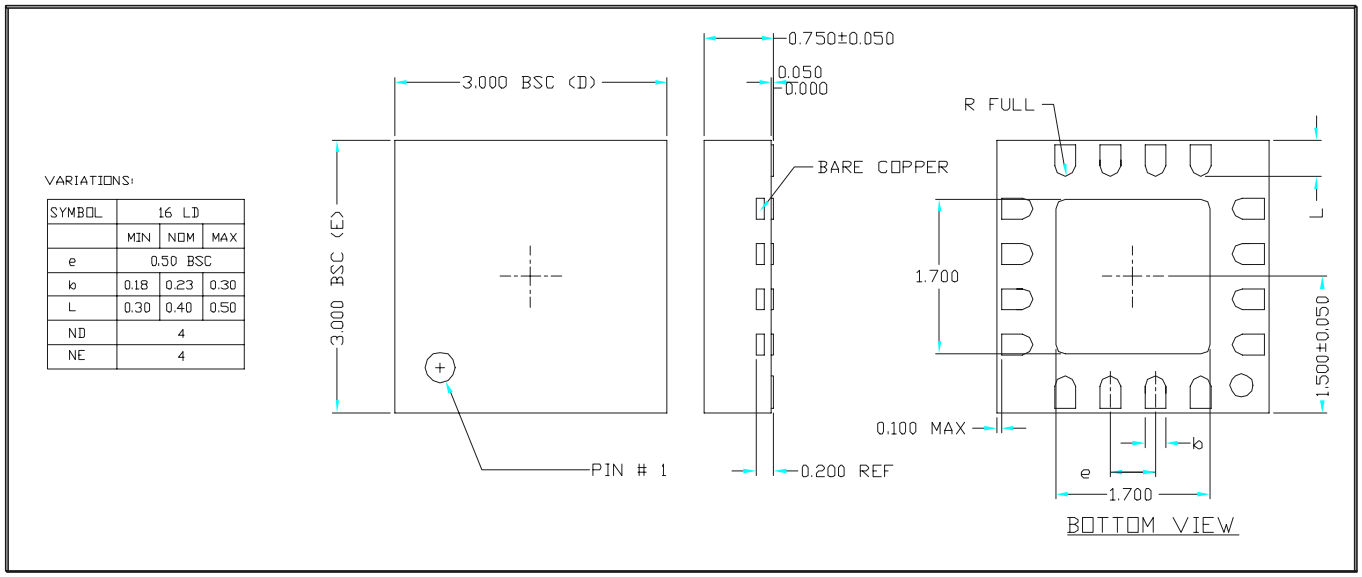
High Speed Translator Buffer to PECL

PACKAGE INFORMATION

8 PIN (dimensions in mm)

	Narrow SOIC	
Symbol	Min.	Max.
A	1.47	1.73
A1	0.10	0.25
B	0.33	0.51
C	0.19	0.25
D	4.80	4.95
E	3.80	4.00
H	5.80	6.20
L	0.38	1.27
e	1.27 BSC	





High Speed Translator Buffer to PECL

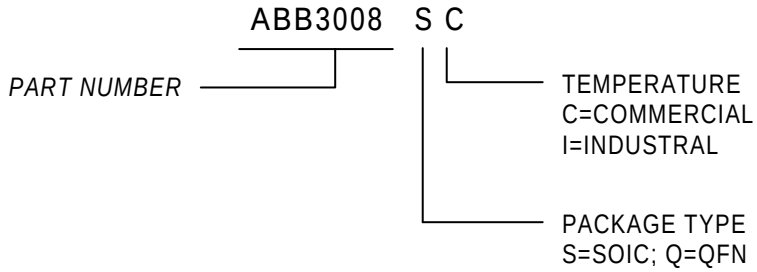
ORDERING INFORMATION

For part ordering, please contact our Sales Department:

30332 Esperanza., Rancho Santa Margarita, Ca 92688
Ph: 949-546-8000 Fax: 949-546-8001

PART NUMBER

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



Order Number	Marking	Package Option
ABB3008QC-T	A3008QC	QFN - Tape and Reel
ABB3008QC	A3008QC	QFN - Tube
ABB3008SC-T	ABB3008SC	SOIC - Tape and Reel
ABB3008SC	ABB3008SC	SOIC - Tube

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