

Low-voltage logic spectrum

Features and functions

Increasing speed

Typical features and performance for 5-volt products								
Family	HEF4000B	HC(T)	AHC(T)	VHC(T) / XC7	FAST	ABT	NPIC	CBT(D)
Supply Voltage	3 to 15 V	2 to 6 V	2 to 5.5 V	2 to 5.5 V	4.5 to 5.5 V	4.5 to 5.5 V	4.5 to 5.5 V	4.5 to 5.5 V
Typ Prop delay	60 ns	9 ns	5 ns	5 ns	4 ns	3 ns	5 ns	0.25 ns
Output drive	+/- 3 mA	+/- 8 mA	+/- 8 mA	+/- 8 mA	-15/24 mA	-32/64 mA	100 mA	n.a.
Standby Current	600 μ A	80 μ A	40 μ A	40 μ A	10 mA	50 μ A	200 μ A	3 μ A
T _{amb}	-40 °C to 85 °C	-40 °C to 125 °C	-40 °C to 125 °C	-40 °C to 125 °C	0 °C to 70 °C	-40 °C to 85 °C	-40 °C to 125 °C	-40 °C to 85 °C
-Q100 option	yes	yes	yes	yes	no	yes	yes	yes
Functions	Gates, MSI, buffer functions Analog switch functions	Gates, MSI, buffer functions Analog switch functions	Gates, MSI, 8-bit bus interface functions Analog switch functions	Gates, MSI, 8-bit bus interface functions	Gates, MSI, 8-bit bus interface functions	Gates, 8 and 16-bit bus interface functions	LED drivers	Bus switches Level shifting functions
Features	Input clamp diodes	Input clamp diodes TTL input option	5 V tolerant inputs TTL input option	5 V tolerant inputs TTL input option	Series damping resistor options	5 V tolerant inputs Bus hold and series damping resistor options Power off disable	33 V open drain outputs	Low delay isolation

* Some functions operate up to 5.5 V
 ** PicoGate functions operate up to 5.5 V
 # PicoGate functions



High Voltage logic spectrum

Features and functions

Increasing speed

Typical features and performance for low-voltage products								
	LV	LVC	ALVC	LVT	ALVT	AVC(M)	AUP	CBTLV(D)
Supply Voltage	1 to 3.6 V*	1.2 to 3.6 V**	1.2 to 3.6 V	2.7 to 3.6 V	2.3 to 3.6 V	1.2 to 3.6 V	0.8 to 3.6 V	2.3 to 3.6 V
Typ. Prop. Delay	9 ns	2 ns	2 ns	2 ns	1.5 ns	2 ns	4 ns	0.15 ns
Output drive	+/- 8 mA	+/-24 mA	+/-24 mA	-32/64 mA	-32/64 mA	+/- 8 mA	+/- 4 mA	n.a.
Standby Current	20 uA	20 uA	40 uA	120 uA	90 uA	20 uA	0.9 uA	10 uA
Tamb	-40 °C to 125 °C	-40 °C to 125 °C	-40 °C to 85 °C	-40 °C to 85 °C	-40 °C to 125 °C	-40 °C to 85 °C	-40 °C to 125 °C	-40 °C to 125 °C
-Q100 option	yes	yes	no	yes	no	yes	yes	yes
Functions	Gates, MSI, buffer functions Analog switch functions	Gates, MSI, Configurable and combination logic 8, 16 and 32-bit bus interface functions Analog switch functions Level translator functions	Gates, 8, 16 and 32-bit bus interface functions Level translator functions	Gates, 8, 16 and 32-bit bus interface functions	8 and 16-bit bus interface functions	16 and 32-bit bus interface functions Level translator functions	Gates, Configurable and combination logic Level translator functions	Bus switches Level shifting functions
Features	Input clamp diodes	5 V tolerant inputs Bus hold and series damping resistor options Power off disable#	3.6 V tolerant inputs Bus hold and series damping resistor options	5 V tolerant inputs Bus hold Series damping resistor option Power off disable	3.6 V tolerant inputs Bus hold Series damping resistor option Power off disable	3.6 V tolerant inputs Bus hold and series damping resistor options Power off disable	3.6 V tolerant inputs Low threshold input options Power off disable	Low delay isolation Rail to rail switching

* Some functions operate up to 5.5 V
 ** PicoGate functions operate up to 5.5 V
 # PicoGate functions

www.nxp.com

© 2013 NXP Semiconductors N.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.
 The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use.
 Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

Date of release: April 2013
 Document order number: 9397 750 17378
 Printed in the Netherlands