fordahl
FREQUENCY CONTROL PRODUCTS

HCMOS & TTL COMPATIBLE CLOCK OSCILLATORS

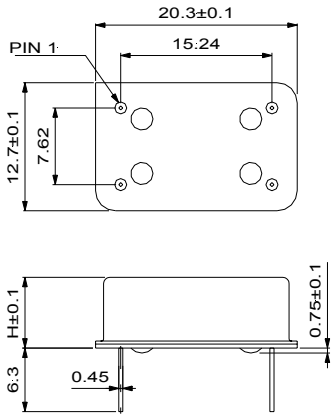
DFN 14-HL & DFN 4-HL (3.3 V)

KEY FEATURES
1 to 100 MHz
3.3 V, HCMOS/TTL compatible output
Standard DIL 14 or DIL 8 packages

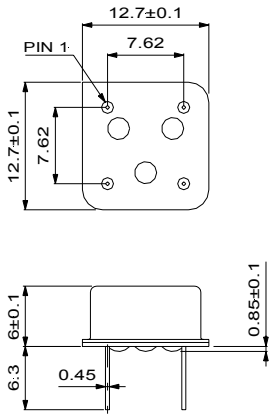
APPLICATIONS
Clocking

Function	DFN 14	DFN 4
NC/Enable	1	1
GND	7	4
Output	8	5
Vcc	14	8

DFN 14



DFN 4



H = 5.10 mm

TYPE	DFN 14-HL	DFN 4-HL
Frequency Range	1 to 100 MHz	1 to 100 MHz

ELECTRICAL SPECIFICATIONS		
supply voltage		3.3 V ± 5 %
supply current (no load)	≤ 20 MHz	≤ 10 mA
	≤ 50 MHz	≤ 20 mA
	> 50 MHz	≤ 40 mA
output load		HCMOS 50 pF up to 25 MHz or 15 pF > 25 MHz
duty cycle		40/60...60/40 % @ 50% level
rise/fall times		10 to 90 % ≤ 10 ns up to 25 MHz ≤ 5 ns > 25MHz
high/low levels		≥ 2.7 V/ ≤ 0.4 V
start up		≤ 10 ms @ 3.15 V

FREQUENCY STABILITY		stability [ppm] and temperature code					
types	temperature range	stability	code	stability	code	stability	code
all types	0 to 70°C	≤ ± 25	XB25	≤ ± 50	XB50	≤ ± 100	XB100
	-40 to 85°C	≤ ± 50	XE50	≤ ± 75	XE75	≤ ± 100	XE100
		stability includes calibration at 25°C, temperature, ageing, Vcc and load changes 1st yr.					

OPTIONS	CODE	
tight symmetry	R	45/55...55/45 %
tri-state output on pin 1	Z	high or open = enable, low = high Z

ORDERING CODE	type + option code + frequency + stability/temperature code	
Example	DFN 14-HLZ 16.000 MHz XE50	DFN 4-HL 65.536 MHz XB25

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FREQUENCY CONTROL PRODUCTS

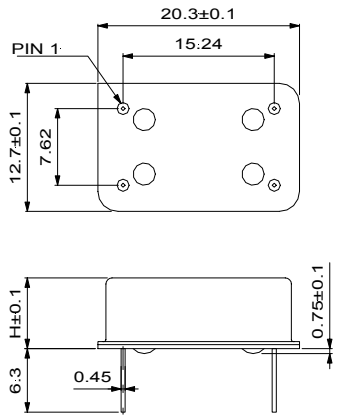
HCMOS & TTL COMPATIBLE CLOCK OSCILLATORS

DFN 14-B, DFN 4-B, DFN 14-H & DFN 4-H

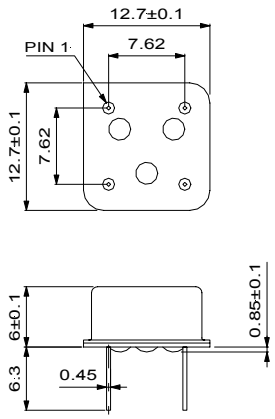
KEY FEATURES
1 to 100 MHz
HCMOS/TTL compatible output
Standard DIL 14 or DIL 8 packages
APPLICATIONS
Clocking

Function	DFN 14	DFN 4
NC/Enable	1	1
GND	7	4
Output	8	5
Vcc	14	8

DFN 14



DFN 4



H = 5.10 mm

TYPE	DFN 14-B	DFN 4-B	DFN 14-H	DFN 4-H
Frequency Range	1 to 100 MHz	1 to 70 MHz	1 to 100 MHz	1 to 70 MHz

ELECTRICAL SPECIFICATIONS			
supply voltage	5 V ± 5 %		5 V ± 5 %
supply current (no load)	≤ 20 MHz	≤ 20 mA	≤ 20 mA
	≤ 70 MHz	≤ 40 mA	≤ 40 mA
	> 70 MHz	≤ 90 mA	≤ 90 mA
output load		HCMOS 15 pF or 10 TTL	HCMOS 50 pF up to 25 MHz or 15 pF > 25 MHz
duty cycle		40/60...60/40 % @ 50% level or 1.4 V	40/60...60/40 % @ 50% level
rise/fall times		10 to 90 % ≤ 5 ns 0.4 to 2.4 V ≤ 3.5 ns	10 to 90 % ≤ 10 ns up to 25 MHz ≤ 6 ns > 25MHz
high/low levels		≥ 4.5 V/ ≤ 0.5 V	≥ 4.5 V/ ≤ 0.5 V
start up		≤ 10 ms @ 4.75 V	≤ 10 ms @ 4.75 V

FREQUENCY STABILITY		stability [ppm] and temperature code					
types	temperature range	stability	code	stability	code	stability	code
all types	0 to 70°C	≤ ± 25	XB25	≤ ± 50	XB50	≤ ± 100	XB100
	-40 to 85°C	≤ ± 50	XE50	≤ ± 75	XE75	≤ ± 100	XE100
remarks		all types > 70 MHz available with XB50 or XB100 stability/temperature codes					
		stability includes calibration at 25°C, temperature, ageing, Vcc and load changes 1st yr.					

OPTIONS	CODE		
tight symmetry	R		45/55...55/45 % available up to 25 MHz
tri-state output on pin 1	Z	high or open = enable, low = high Z	high or open = enable, low = high Z

ORDERING CODE	type + option code + frequency + stability/temperature code	
Example	DFN 14-BZ 16.000 MHz XE75	DFN 4-H 24.576 MHz XB100