

DESCRIPTION

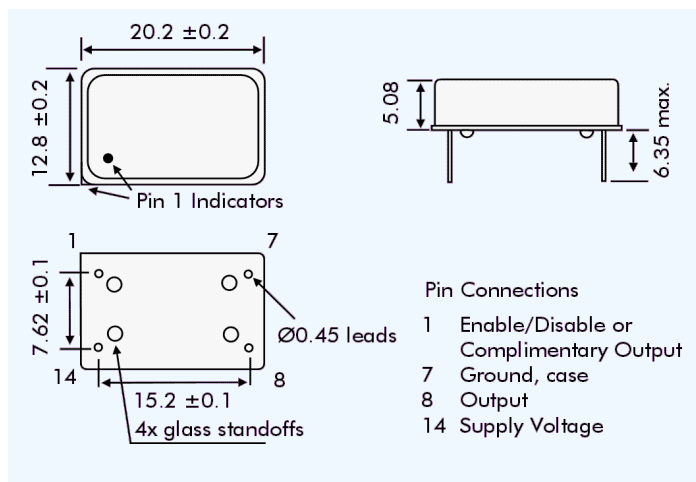
HPF14 series LVPECL output oscillators cover the frequency range 38MHz to 640MHz. The part contains a high 'Q' fundamental crystal and utilizes a low jitter multiplier circuit. Integrated Phase jitter 0.4ps typical.



SPECIFICATION

Frequency Range:	38.0MHz to 640.0MHz
Output Logic	LVPECL
Phase Noise:	See table
Frequency Stability:	See table
Operating Temp Range	
Commercial:	-10° to +70°C
Industrial:	-40° to +85°C
Input Voltage:	+2.5V or +3.3VDC ±5%
Output Voltage	
High '1':	Vdd -1.025V min.
Low '0':	Vdd -1.620V max. (RL = 50Ω to Vdd -2.0V)
Rise/Fall Times:	0.7ns typical (20% Vdd to 80% Vdd)
Current Consumption (15pF load):	
38MHz to 100MHz:	65mA max.
100.01 to 320MHz:	80mA max.
320.01 to 640MHz:	90mA max.
Load:	50Ω into Vdd-2.0V
Start-up Time:	5ms typ., 10ms max.
Duty Cycle:	50%±5% (at Vdd -1.3V)
Input Static Discharge Prot:	2kV min.
Storage Temperature Range:	-55°C to +150°C
Ageing:	±3ppm per year max., ±2ppm thereafter. At T amb +25°C
Enable/Disable	
No connection:	Both outputs enabled
Disable:	Both outputs are disabled when control pad is taken below 0.3V referenced to ground. Oscillator is always 'on'. (Special request - oscillator is off when disabled.)
Enable:	Both Outputs are enabled when control pad is taken above 0.7 Vcc referenced to ground.
ABSOLUTE MAXIMUM RATINGS	
<i>(Permanent damage may be caused if operated beyond these limits.)</i>	
Supply Voltage Vdd:	+4.6V max.
Input Voltage Vi:	Vss -0.5 min., VDD +0.5V max.
Input Voltage Vo:	Vss -0.5 min., Vdd +0.5V max.

OUTLINE & DIMENSIONS



PHASE NOISE (156.250MHz)

Offset	dBc/Hz
10Hz	-62
100Hz	-92
1kHz	-120
10kHz	-132
100kHz	-128
1MHz	-140
10MHz	-150

STABILITY OVER TEMPERATURE RANGE

Stability ±ppm	Temperature Range °C	Order Code
25	-10 to +70	A
50	-10 to +70	B
100	-10 to +70	C
25	-40 to +85	D
50	-40 to +85	E
100	-40 to +85	F

JITTER (at Fr = 156.520MHz)

Integrated Phase Jitter:	0.4ps typical, 0.5ps max. (12kHz to 20MHz)
Period Jitter (RMS):	3ps typical 5ps maximum
Period Jitter (peak to peak):	20ps typical 30ps maximum

PART NUMBERS

HPF14 oscillator part numbers are derived as follows:

Example:

3HPF14-A-250.000

Supply Voltage

25 = 2.5VDC
3 = 3.3VDC

Series Designation

Package Style

Stability Code

(See table)

Frequency