

DESCRIPTION

HPA14 series LVPECL output oscillators cover the frequency range 60MHz to 320MHz. The part utilizes a crystal operating in third overtone mode (Non-PLL)

SPECIFICATION

Frequency Range:	60.0MHz to 320.0MHz
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:	+2.5VDC 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:	0.25ns typical (20% Vdd to 80% Vdd)
Current Consumption:	75mA max. at 212.50MHz
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

(Permanent damage may be caused if operated beyond these limits.)

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.

STABILITY OVER TEMPERATURE RANGE

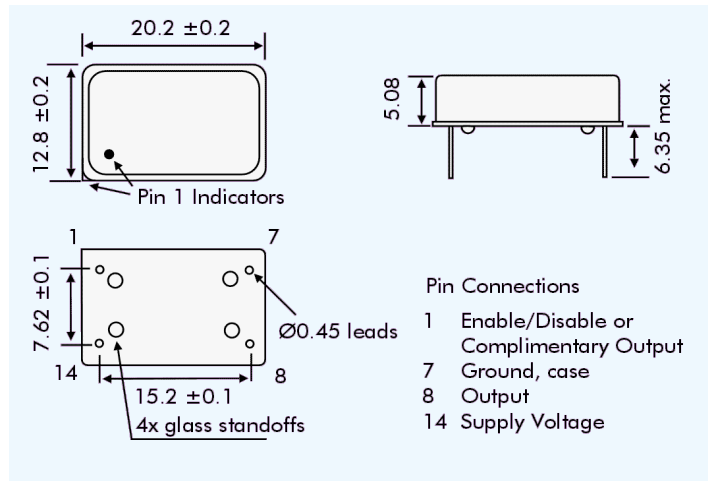
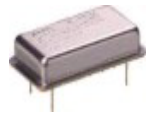
Stability ±ppm	Temperature Range °C	Order Code
25	-10 to +70	A
50	-10 to +70	B
100	-10 to +70	C
25	-40 to +85	D
50	-40 to +85	E
100	-40 to +85	F

JITTER

Integrated Phase Jitter: (12kHz to 20MHz)	0.25ps typical at 155.520MHz
Period Jitter (RMS):	3.0ps typical at 155.520MHz
Period Jitter (peak to peak):	21ps typical at 155.520MHz



OUTLINE & DIMENSIONS



PHASE NOISE (155.250MHz)

Offset	dBc/Hz
10Hz	-65
100Hz	-95
1kHz	-120
10kHz	-128
100kHz	-122
1MHz	-120
10MHz	-140

PART NUMBERS

HPA14 oscillator part numbers are derived as follows:

Example:

3HPA14-A-250.000

Supply Voltage

3 = 3.3VDC
25 = 2.5VDC

Series Designation

Package Style

Stability Code

(See table)

Frequency