

### 14 pin Dual-in-Line

#### 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

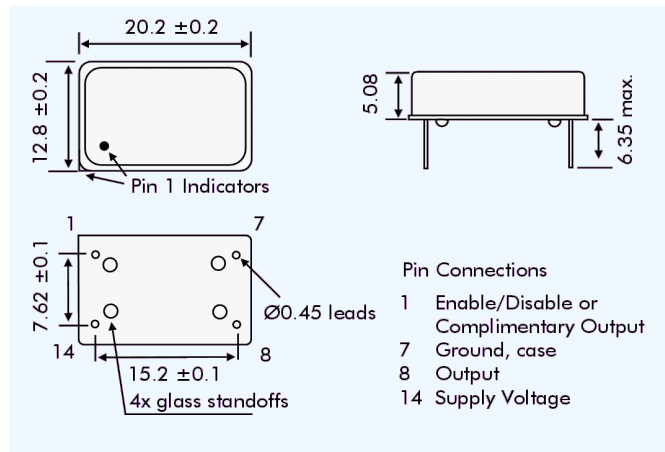
Stability ±ppm	Temperature Range °C	Order Code
25	-10 to +70	A
50	-10 to +70	B
100	-10 to +70	C
25	-40 to +85	D
50	-40 to +85	E
100	-40 to +85	F

#### 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:

