

DESCRIPTION

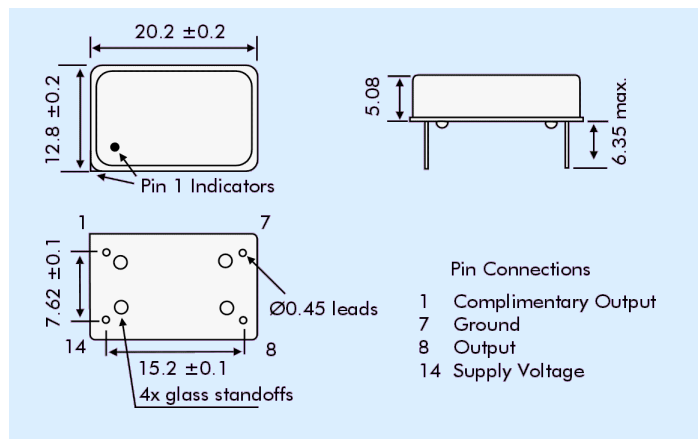
HDA14 series LVDS output oscillators cover the frequency range 750kHz to 800MHz. The design consists of a crystal operating in 3rd overtone mode, without a PLL circuit.

SPECIFICATION

Frequency Range:	60MHz to 320.0MHz
Output Logic	LVDS
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 $\pm$ 5% or +3.3VDC $\pm$ 5%
Output Logic	
High '1' V_{OH} :	1.4V typical, 1.6V max.
Low '0' V_{OL} :	0.9V min., 1.1V typical
Differential Output Voltage V_{OD} :	247mV min., 355mV typ., 454mV max. Output 1 - Output 2
Differential Output Error dV_{OD} :	-50mV min., 50mV max.
Output Offset Voltage V_{OS} :	1.125V min., 1.20V typ., 1.375V max.
Offset Magnitude Error dV_{OS} :	0mV min., 3mV typ., 25mV max.
Rise/Fall Times:	0.7ns typical, 1.0ns max. (20% to 80% of LVDS waveform)
Current Consumption (15pF load):	16mA max at 212.5MHz
Load:	50 Ω from each output
Start-up Time:	5ms typ., 10ms max.
Duty Cycle:	50% $\pm$ 5% (at 1.5V)
Drive Capability:	100 Ohms between outputs
Input Static Discharge Prot:	2kV min.
Storage Temperature Range:	-55°C to +150°C
Ageing:	$\pm$ 3ppm per year max., $\pm$ 2ppm thereafter. At T amb +25°C
ABSOLUTE MAXIMUM RATINGS	
(Permanent damage may be caused if operated beyond these limits.)	
Supply Voltage V_{DD} :	+4.6VDC max.
Input Voltage V_i :	V_{SS} -0.5 min., V_{DD} +0.5V max.
Input Voltage V_o :	V_{SS} -0.5 min., V_{DD} +0.5V max.



OUTLINE & DIMENSIONS



PHASE NOISE (155.520MHz)

Offset	dBc/Hz
10Hz	-72
100Hz	-100
1kHz	-125
10kHz	-132
100kHz	-142
1MHz	-147
10MHz	-149

JITTER (155.520MHz)

	Typ.	Max.
Integrated Phase Jitter: (12kHz to 20MHz)	0.25ps	4.0ps
Period Jitter: (RMS)	3.0ps	
Period Jitter: (peak to peak)	21ps	

STABILITY OVER TEMPERATURE RANGE

Stability $\pm$ 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

PART NUMBERS

HDA14 oscillator part numbers are derived as follows:

