

DESCRIPTION

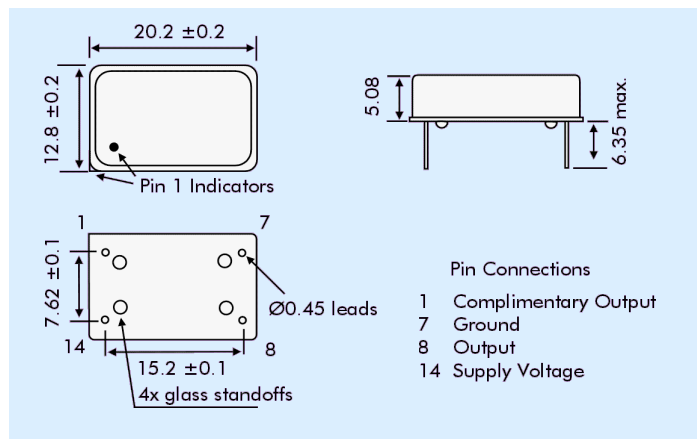
HDW14 series LVDS output oscillators cover the frequency range 750kHz to 800MHz. The design contains a high 'Q' fundamental crystal and a multiplier circuit. Integrated phase jitter is 4.0ps maximum.



SPECIFICATION

Frequency Range:	750kHz to 800.0MHz
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:	+3.3VDC ±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):	
<24MHz:	25mA max.
24.01 to 96MHz:	45mA max.
96.01 to 800MHz:	80mA max.
Load:	50Ω from each output
Start-up Time:	5ms typ., 10ms max.
Duty Cycle:	50%±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:	±3ppm per year max., ±2ppm thereafter. At T amb +25°C
ABSOLUTE MAXIMUM RATINGS	
<i>(Permanent damage may be caused if operated beyond these limits.)</i>	
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	-60
100Hz	-90
1kHz	-115
10kHz	-125
100kHz	-119
1MHz	-120
10MHz	-140

JITTER (155.520MHz)

	Typ.	Max.
Integrated Phase Jitter: (12kHz to 20MHz)	2.6ps	4.0ps
Period Jitter: (RMS)	4.3ps	
Period Jitter: (peak to peak)	27ps	

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

PART NUMBERS

HDW14 oscillator part numbers are derived as follows:

Example:

