



HCD 331

Features

- 50pF HCMOS
- Temperature stability down to 20ppb
- Single 5V oven and oscillator supply
- Low profile compact package
- Standard European IEC CO-08 pin-out
- Custom options available

Standard Models

The table below shows the most common models; in most cases selecting one of these will ensure best combination of price, performance and availability.

Product Code	Freq	Ageing per day	Temp stability
HCD331/BNDL	16.384MHz	$\pm 5 \times 10^{-9}$	$\pm 5 \times 10^{-8}$ -20+60°C
HCD331/BNDL	19.440MHz	$\pm 5 \times 10^{-9}$	$\pm 5 \times 10^{-8}$ -20+60°C

Parameters HCD331		Standard / Option	Code
Frequency range:	13.0 ~ 20.0MHz	Standard	
Ageing per day (at dispatch):	$< 1 \times 10^{-8}$	Optional	A
	$< 5 \times 10^{-9}$	Standard	B
	$< 3 \times 10^{-9}$	Optional	C
Frequency stability:	$< 5 \times 10^{-7}$ per year max	Standard	
	$< 5 \times 10^{-8}$ per 5% change V_{DD}	Standard	
Temperature stability:	$< 1 \times 10^{-7}$	Optional	M
	$< 5 \times 10^{-8}$	Standard	N
	$< 2 \times 10^{-8}$	Optional	P
Operating temperature range:	0 to +50°C	Optional	A
	-20 to +60°C	Standard	D
	-20 to +70°C	Optional	F
Storage temp:	-40 to +90°C	Standard	
Output waveform:	50pF HCMOS, 45:55 duty	Standard	
Frequency adjustment:	$\pm 1 \times 10^{-5}$ typ (10MHz), +0.5 to +4.0V (sufficient for 15 years ageing min) Stabilised +4.0V supply provided	Standard	
Supply Voltage (V_{DD}):	+5.0V ($\pm 0.25V$)	Standard	L
Power consumption:	4.5W max at switch on	Standard	
	$< 1.0W$ typ (stabilised at 25°C)	Standard	
Warm up:	$< \pm 5 \times 10^{-8}$ after 10mins at 25°C	Standard	
Phase noise (@10MHz):	$< -100dBc/Hz$ @ 10Hz	Standard	
	$< -120dBc/Hz$ @ 100Hz	Standard	
	$< -135dBc/Hz$ @ 1kHz	Standard	
	$< -150dBc/Hz$ @ 10kHz	Standard	
	$< -150dBc/Hz$ @ 50kHz	Standard	
Shock:	IEC68-2-27 Test Ea 50G for 11ms	Standard	
Vibration:	IEC68-2-06 Test Fc 10-55Hz, 1.5mm. 55-500Hz, 10G	Standard	

