



Features

- Temperature stability down to 20ppb
- Single 5V oven & oscillator supply
- Low height compact package
- Standard European IEC CO-08 pin-out
- Custom options available

Standard Models

Freq	Specification	Ageing per day	Temperature stability	Part No
16.3840MHz	HCD331/BNDL	$\pm 5 \times 10^{-9}$	$\pm 5 \times 10^{-8}$ -20+60°C	MA05207
19.440MHz	HCD331/BNDL	$\pm 5 \times 10^{-9}$	$\pm 5 \times 10^{-8}$ -20+60°C	MA05208

Specifications

Parameters	Product	Option Codes
	HCD331	
Frequency range: 13.0 ~ 20.0MHz	■	
Ageing per day (at despatch): < $\pm 1 \times 10^{-8}$ < $\pm 5 \times 10^{-9}$ < $\pm 3 \times 10^{-9}$	□ ■ □	A B C
Frequency stability: < $\pm 3 \times 10^{-7}$ per year < $\pm 5 \times 10^{-8}$ per 10% change in V_{DD}	■ ■	
Temperature stability: < $\pm 1 \times 10^{-7}$ < $\pm 5 \times 10^{-8}$ < $\pm 2 \times 10^{-8}$	□ ■ □	M N P
Operating temperature range: 0 to +50°C -20 to +60°C -20 to +70°C	□ ■ □	A D F
Storage temperature range: -40 to +90°C	■	
Output waveform: 50pF HCMOS, 45:55 duty	■	
Frequency adjustment: $\pm 1 \times 10^{-5}$ (typ) over +0.5 to +4.0V (sufficient for 15 years ageing min) Stabilised +4.0V supply provided	■	
Supply voltage (V_{DD}): +5.0V (± 0.25 V)	■	L
Power consumption: 4.5W max at switch on 1.0W typ when stabilised at 25°C	■ ■	
Warm up: < $\pm 5 \times 10^{-8}$ after 10mins at +25°C	■	
Phase noise (@ 10.0MHz): < -100dBc/Hz @ 10Hz < -120dBc/Hz @ 100Hz < -135dBc/Hz @ 1kHz < -150dBc/Hz @ 10kHz < -150dBc/Hz @ 50kHz	■ ■ ■ ■ ■	
Shock: IEC 68-2-27 Test Ea 50G for 11ms	■	
Vibration: IEC 68-2-06 Test Fc 10-55Hz, 1.5mm. 55-500Hz, 10G	■	

■ Standard. □ Optional - Please specify required code(s) when ordering

Ordering Information

Part No, or product name + option codes + frequency
eg: HCD331/BNDL 16.3840MHz

HCD331/CMAL 19.440MHz

Option code X (eg HCD331/X) denotes a custom specification.