



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):	$< \pm 1 \times 10^{-8}$ $< \pm 5 \times 10^{-9}$ $< \pm 3 \times 10^{-9}$	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Frequency stability:	$< \pm 3 \times 10^{-7}$ per year $< \pm 5 \times 10^{-8}$ per 10% change in V_{DD}	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Temperature stability:	$< \pm 1 \times 10^{-7}$ $< \pm 5 \times 10^{-8}$ $< \pm 2 \times 10^{-8}$	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Operating temperature range:	0 to +50°C -20 to +60°C -20 to +70°C	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
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 ($\pm 0.25V$)	■
Power consumption:	4.5W max at switch on 1.0W typ when stabilised at 25°C	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Warm up:	$< \pm 5 \times 10^{-8}$ after 10mins at +25°C	■
Phase noise (@ 10.0MHz):	$< -100\text{dBc/Hz}$ @ 10Hz $< -120\text{dBc/Hz}$ @ 100Hz $< -135\text{dBc/Hz}$ @ 1kHz $< -150\text{dBc/Hz}$ @ 10kHz $< -150\text{dBc/Hz}$ @ 50kHz	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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.