



## Features

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

## Standard Models

The table shows the most common models. In most cases selecting one of these models will ensure the best combination of price / performance and availability.

Freq	Specification	Ageing per day	Temperature stability	Part No
5.0MHz	HCD351/DPFL	$\pm 1 \times 10^{-9}$	$\pm 2 \times 10^{-8}$ -20+70°C	MA05181
5.0MHz	HCD351/ERFL	$\pm 5 \times 10^{-10}$	$\pm 1 \times 10^{-8}$ -20+70°C	MA05182
10.0MHz	HCD351/DPFL	$\pm 1 \times 10^{-9}$	$\pm 2 \times 10^{-8}$ -20+70°C	MS09403
10.0MHz	HCD351/ERFL	$\pm 5 \times 10^{-10}$	$\pm 1 \times 10^{-8}$ -20+70°C	MS09404
13.0MHz	HCD351/DPFL	$\pm 1 \times 10^{-9}$	$\pm 2 \times 10^{-8}$ -20+70°C	MS08787
13.0MHz	HCD351/ERFL	$\pm 5 \times 10^{-10}$	$\pm 1 \times 10^{-8}$ -20+70°C	MS08788

## Specifications

Parameters	Product	Option Codes
	HCD351	
<b>Frequency range:</b> 5.0 ~ 20.0MHz	■	
<b>Ageing per day (at despatch):</b> $< \pm 1 \times 10^{-9}$ $< \pm 5 \times 10^{-10}$ $< \pm 2 \times 10^{-10}$	■ ■ □	D E F
<b>Frequency stability:</b> $< \pm 5 \times 10^{-8}$ per year $< \pm 1 \times 10^{-9}$ per 10% change in $V_{DD}$	■ ■	
<b>Short term stability:</b> $< \pm 1 \times 10^{-11}$ over 1 sec	■	
<b>Temperature stability:</b> $< \pm 2 \times 10^{-8}$ $< \pm 1 \times 10^{-8}$ $< \pm 5 \times 10^{-9}$	■ ■ □	P R S
<b>Operating temperature range:</b> 0 to +50°C -10 to +60°C -20 to +70°C	□ □ ■	A C F
<b>Storage temperature range:</b> -40 to +90°C	■	
<b>Output waveform:</b> HCMOS / TTL compatible	■	
<b>Frequency adjustment:</b> $\pm 5 \times 10^{-7}$ (typ) over +0.5 to +4.0V (sufficient for 10 years ageing min) Stabilised +4.0V supply provided	■	
<b>Supply voltage (<math>V_{DD}</math>):</b> +5.0V ( $\pm 0.5$ V)	■	L
<b>Power consumption:</b> 5.0W max at switch on 1.2W typ when stabilised at 25°C	■ ■	
<b>Warm up:</b> $< \pm 2 \times 10^{-8}$ after 8mins at +20°C	■	
<b>Phase noise (@ 10.0MHz):</b> $< -120$ dBc/Hz @ 10Hz $< -130$ dBc/Hz @ 100Hz $< -150$ dBc/Hz @ 1kHz $< -155$ dBc/Hz @ 10kHz $< -155$ dBc/Hz @ 50kHz	■ ■ ■ ■ ■	
<b>Harmonics:</b> $< -30$ dB wrt carrier	■	
<b>Shock:</b> IEC 68-2-27 Test Ea 50G for 11ms	■	
<b>Vibration:</b> 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: **HCD351/ERFL 10.0MHz**

**HCD351/DPFL 5.0MHz**

Option code X (eg HCD351/X) denotes a custom specification.