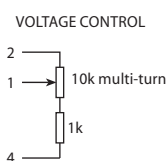


PIN	CONNECTION
1	Freq adjustment
2	Ref voltage out
3	RF output
4	Ground
5	Supply



## Features

- ▶ **Fast warm up**
- ▶ **Temperature stability down to 1ppb**
- ▶ **Single 12V supply (12V ~ 30V optional)**
- ▶ **Standard US footprint & pin-out**
- ▶ **“Best in class” close-in phase noise option**

## Specifications

Parameters	Product	Option Codes
	HCD686	
<b>Frequency range:</b> 5.0 ~ 20.0MHz	■	
<b>Ageing per day (at despatch):</b> $< 1 \times 10^{-9}$ $< 5 \times 10^{-10}$ $< 2 \times 10^{-10}$	■ □ ■	D E F
<b>Frequency stability:</b> $< 1 \times 10^{-7}$ per year (option D) $< 2 \times 10^{-8}$ per year (option F) $< 1 \times 10^{-9}$ per 10% change in $V_{DD}$ $< 5 \times 10^{-10}$ per 10% change in load	□ □ ■ ■	
<b>Temperature stability:</b> $< 1 \times 10^{-8}$ $< 5 \times 10^{-9}$ $< 3 \times 10^{-9}$ $< 1 \times 10^{-9}$	■ □ ■ □	R S T V
<b>Operating temperature range:</b> -10 to +60°C -20 to +70°C -40 to +70°C	□ ■ □	C F G
<b>Storage temperature range:</b> -40 to +90°C	■	
<b>Output waveform:</b> CMOS / TTL compatible	■	
<b>Frequency adjustment:</b> $\pm 5 \times 10^{-7}$ (typ) over +0.5 to +7.0V (sufficient for 10 years ageing min) Stabilised +7.0V supply provided	■	
<b>Supply voltage (<math>V_{DD}</math>):</b> +12V ( $\pm 0.5$ V) Other options from 12~30V	■ □	N specify
<b>Power consumption:</b> 10.0W max at switch on 1.3W typ when stabilised at 25°C	■ ■	
<b>Warm up:</b> $< 1 \times 10^{-8}$ after 2.25mins at +25°C	■	
<b>Allan deviation (ADEV), 1 sec:</b> $< 5 \times 10^{-13}$ over 1 sec (5.0MHz) $< 1 \times 10^{-12}$ over 1 sec (10.0MHz)	■ ■	
<b>Close-in phase noise (@ 5.0MHz):</b> $< -110$ dBc/Hz @ 1Hz, $< -135$ @ 10Hz $< -123$ dBc/Hz @ 1Hz, $< -140$ @ 10Hz $< -150$ dBc/Hz @ 100Hz	■ □ ■	Z
<b>Close-in phase noise (@ 10.0MHz):</b> $< -95$ dBc/Hz @ 1Hz, $< -130$ @ 10Hz $< -108$ dBc/Hz @ 1Hz, $< -135$ @ 10Hz $< -145$ dBc/Hz @ 100Hz	■ □ ■	Z
<b>Far-out phase noise (all freqs):</b> $< -155$ dBc/Hz @ 1kHz $< -157$ dBc/Hz @ 10kHz $< -157$ dBc/Hz @ 100kHz	■ ■ ■	
<b>Harmonics:</b> $< -30$ dB wrt carrier	■	

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

## Ordering Information

Part No, or product name + option codes + frequency  
 eg: **HCD686/FTFN 10.0MHz**  
 Option code X (eg HCD686/X) denotes a custom specification.