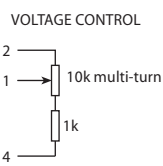







PIN	CONNECTION
1	Freq adjustment
2	Ref voltage out
3	RF output
4	Ground
5	Supply



Scale 1:1

## Features

-  **Fast warm up**
-  **Temperature stability down to 3ppb**
-  **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	
Frequency range:	5.0 ~ 20.0MHz	
Ageing per day (at despatch):	$< 1 \times 10^{-9}$ <input checked="" type="checkbox"/> $< 5 \times 10^{-10}$ <input type="checkbox"/> $< 2 \times 10^{-10}$ <input checked="" type="checkbox"/>	D E F
Frequency stability:	$< 1 \times 10^{-7}$ per year (option D) <input type="checkbox"/> $< 2 \times 10^{-8}$ per year (option F) <input type="checkbox"/> $< 1 \times 10^{-9}$ per 10% change in $V_{DD}$ <input checked="" type="checkbox"/> $< 5 \times 10^{-10}$ per 10% change in load <input checked="" type="checkbox"/>	
Short term stability:	$< 5 \times 10^{-13}$ over 1 sec (5.0MHz) <input checked="" type="checkbox"/> $< 1 \times 10^{-12}$ over 1 sec (10.0MHz) <input checked="" type="checkbox"/>	
Temperature stability:	$< 1 \times 10^{-8}$ <input checked="" type="checkbox"/> $< 5 \times 10^{-9}$ <input type="checkbox"/> $< 3 \times 10^{-9}$ <input checked="" type="checkbox"/>	R S T
Operating temperature range:	$-10$ to $+60^{\circ}\text{C}$ <input type="checkbox"/> $-20$ to $+70^{\circ}\text{C}$ <input checked="" type="checkbox"/> $-40$ to $+70^{\circ}\text{C}$ <input type="checkbox"/>	C F G
Storage temperature range:	$-40$ to $+90^{\circ}\text{C}$ <input checked="" type="checkbox"/>	
Output waveform:	CMOS / TTL compatible <input checked="" type="checkbox"/>	
Frequency adjustment:	$\pm 5 \times 10^{-7}$ (typ) over $+0.5$ to $+7.0\text{V}$ (sufficient for 10 years ageing min) Stabilised $+7.0\text{V}$ supply provided	
Supply voltage ( $V_{DD}$ ):	$+12\text{V} (\pm 0.5\text{V})$ <input checked="" type="checkbox"/> $+24\text{V} (\pm 0.5\text{V})$ <input type="checkbox"/> Other options from 12-30V <input type="checkbox"/>	N T specify
Power consumption:	10.0W max at switch on 1.3W typ when stabilised at $25^{\circ}\text{C}$	
Warm up:	$< 1 \times 10^{-8}$ after 2.25mins at $+25^{\circ}\text{C}$ <input checked="" type="checkbox"/>	
Close-in phase noise (@ 5.0MHz):	$< -110$ dBc/Hz @ 1Hz, $< -135$ @ 10Hz <input checked="" type="checkbox"/> $< -123$ dBc/Hz @ 1Hz, $< -140$ @ 10Hz <input type="checkbox"/> $< -150$ dBc/Hz @ 100Hz <input checked="" type="checkbox"/>	Z
Close-in phase noise (@ 10.0MHz):	$< -95$ dBc/Hz @ 1Hz, $< -130$ @ 10Hz <input checked="" type="checkbox"/> $< -108$ dBc/Hz @ 1Hz, $< -135$ @ 10Hz <input type="checkbox"/> $< -145$ dBc/Hz @ 100Hz <input checked="" type="checkbox"/>	Z
Far-out phase noise (all freq):	$< -155$ dBc/Hz @ 1kHz <input checked="" type="checkbox"/> $< -157$ dBc/Hz @ 10kHz <input checked="" type="checkbox"/> $< -157$ dBc/Hz @ 100kHz <input checked="" type="checkbox"/>	
Harmonics:	$< -30$ dB wrt carrier <input checked="" type="checkbox"/>	

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

## Ordering Information

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