Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

DOCXO5151AN01-HS
Double Oven Ultra Precision OCXO

Features and Benefits

Frequency range: 4.096-10MHz
Supply voltage: 12V
Steady current: 350mA/Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±0.05PPB
Aging: ±5PPB per year
Phase noise@10KHz: -155dBc/Hz
Operating temperature: -40°C to +70°C
Size: 51x51x38mm

Typical Applications

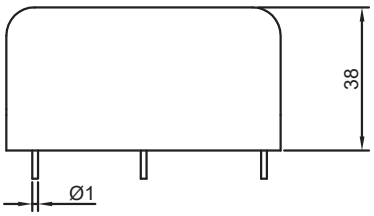
5G, GPS, CDMA
Telecommunication, Test & Measurement

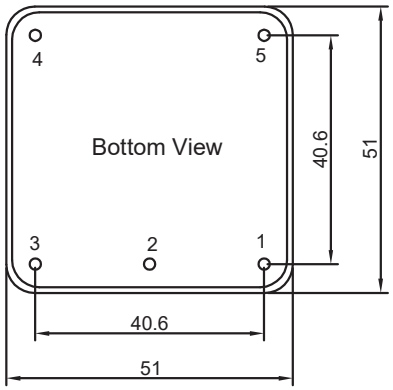
Description

DOCXO5151AN01-HS offers high frequency stability, low long term aging and low phase noise, all in a compact package to suit the different communication needs, Not sensitive for rapid changes of ambient temperature.

Mechanical Drawing & Pin Connections

Drawing No: MD220027-1





Pin Connections:

Pin#	Function
1	Control Voltage
2	Reference Voltage
3	RF Output
4	Ground
5	Supply Voltage

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}		4.096		10	MHz	
RF Output							
Signal Waveform				Sinewave			
Load	R_L	±5%		50		ohm	
Level			+5	+7	+9	dBm	
Sub Harmonics		For 8.192MHz and 10MHz			-40	dBc	
Harmonic suppression			30		dBc		
Power Supply							
Supply Voltage	V_{CC}	±5%		12.0		V	
Power Consumption		Steady state, +25°C			350	mA	Still air
		Warm-up			1.5	A	
Warm-up Time	T_{up}	within accuracy of $<\pm5x10^{-8}$			15	min	
Frequency Adjustment Range							
Frequency pulling range			±0.25			ppm	
External control voltage	Vin		0		+5.0	V	
Reference voltage	Vref			+5.0		V	
Frequency Stability							
Versus Operating Temperature Range						ppb	See ordering information
Versus Load					$\pm1x10^{-10}$		
Versus supply voltage					$\pm1x10^{-10}$		
Short term stability (Allan deviation)		per 1 sec			$2x10^{-12}$		
Phase noise for 5MHz		1Hz			-105	dBc	
		10Hz			-130	dBc	
		100Hz			-145	dBc	
		1kHz			-150	dBc	
		10kHz			-155	dBc	
Environmental, Mechanical Conditions							
Operating temperature range	See ordering information						
Storage temperature range	-55°C to +80°C						
Vibration	Frequency range: 1 to 500Hz. Acceleration: 5g.						
Shock	Acceleration: 150g. Duration: 2±0.5ms						

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Ordering Information

DOCXO5151AN01-HS-XXMHz	-	01	02	03
Group		Code		

For example, DOCXO5151AN01-HS-10MHz-1-1-1 denotes the OCXO has the following specifications:

Frequency: 10MHz
Stability vs. Temperature: ±0.3PPB
Temperature Range: 0°C to +55°C
Aging: ±30PPB

01	Frequency Stability
Code	Specification
1	±0.3 PPB
2	±0.2 PPB
3	±0.1 PPB
4	±0.05 PPB

02	Temperature Range
Code	Specification
1	0°C to +55°C
2	-10°C to +60°C
3	-20°C to +70°C
4	-40°C to +70°C

03	Year Aging
Code	Specification
1	±30 PPB
2	±20 PPB
3	±10 PPB
4	±5.0 PPB

Availability of stability vs. operating temperature range	±0.3 PPB	±0.2 PPB	±0.1 PPB	±0.05 PPB
0°C to +55°C	Available	Available	Available	Conditional
-10°C to +60°C	Available	Available	Available	Conditional
-20°C to +70°C	Available	Available	Available	Conditional
-40°C to +70°C	Available	Available	Conditional	Not Available

Availability of first year aging values for frequencies	4.096 MHz	5.0 MHz	8.192 MHz	10.0 MHz
±30 PPB	Available	Available	Available	Available
±20 PPB	Available	Available	Available	Available
±10 PPB	Conditional	Available	Conditional	Available
±5.0 PPB	Conditional	Available	Conditional	Available

Note: This is the initial general datasheet, not the final datasheet. For reference only.