



## Features and Benefits

Frequency range: 10MHz  
Supply voltage: 5V  
Steady current: 600mA/Max  
Output waveform: Sinewave  
Frequency stability vs. operating temperature:  $\pm 0.1$ PPB  
Aging:  $\pm 50$ PPB per year  
Phase noise@10KHz: -155dBc/Hz  
Operating temperature: -40°C to +85°C  
Size: 51x51x19mm

## Typical Applications

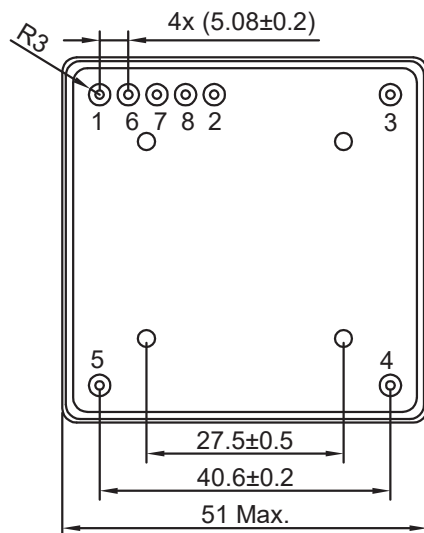
5G, Telecommunication, Test & Measurement

## Description

DOCXO5151AN-SPI-10MHz-A-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

## Mechanical Drawing & Pin Connections

Drawing No: MD220028-1



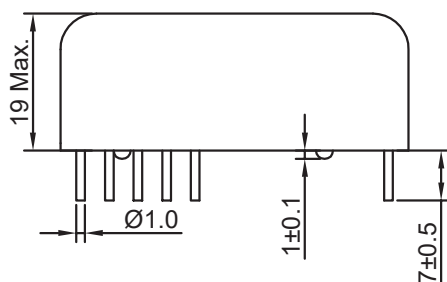
### Pin Connections:

Pin#	Function
1	DIN*
2	SCLK*
3	RF Output
4	Ground
5	Supply Voltage
6	Not used
7	$\overline{\text{CS}}^*$
8	$\overline{\text{LDAC}}^*$

\*inputs connected to  $U_{\text{DAC}}$  via 10 kOhm

Unit in mm

1mm = 0.0394 inches





## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	$F_{nom}$			10		MHz	
<b>RF Output</b>							
Signal Waveform			Sinewave				
Load	$R_L$		50ohm $\pm$ 5%				
Level Voltage			300			mV	RMS
Harmonics					-30	dBc	
<b>Power Supply</b>							
Supply Voltage	$V_{cc}$	$\pm$ 5%		5		V	
$V_{DAC}$				4.1		V	
DAC Type (Digital frequency control by SPI protocol)			MAX5719				
Power Consumption		Steady state, +25°C			600	mA	
		Warm-up			2	A	
Warm-up Time	$T_{up}$	within accuracy of $<\pm 5 \times 10^{-8}$ @ 25°C			15	min	
<b>Frequency Stability</b>							
Versus Operating Temperature Range					$\pm 0.1$	ppb	
Versus Load		$\pm$ 5%			$\pm 0.01$	ppb	
Versus supply voltage		$\pm$ 5%			$\pm 0.01$	ppb	
Aging per year					$\pm 50$	ppb	
Short term stability (Allan deviation)		per 1 sec			$5 \times 10^{-12}$		
SSB Phase noise		1Hz			-95	dBc	
		10Hz			-125	dBc	
		100Hz			-150	dBc	
		1kHz			-150	dBc	
		10kHz			-155	dBc	
<b>Environmental, Mechanical Conditions</b>							
Operating temperature range	-40°C to +85°C						
Storage temperature range	-55°C to +85°C						
Vibration	Frequency Range: 10 to 200Hz; Acceleration: 5g.						
Shock	75 g/ 3 $\pm$ 1 ms						
Humidity @ 25°C	98%						