



Features and Benefits

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

Typical Applications

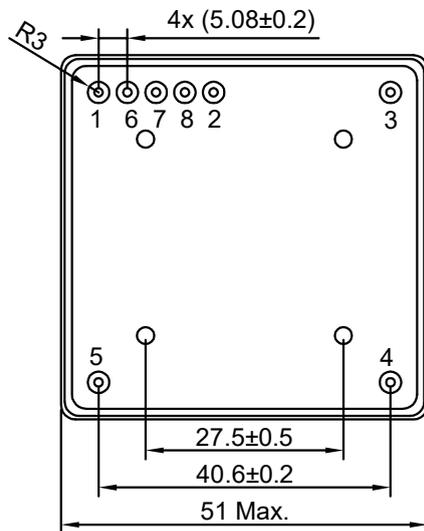
5G, Telecommunication, Test & Measurement

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: A8&&\$&, !%

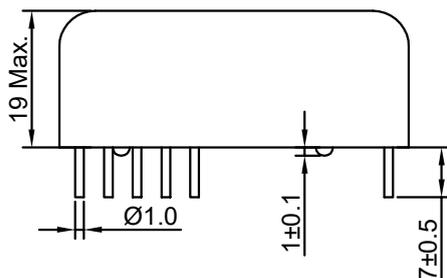


Pin Connections:

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

*inputs connected to U_{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	
RF Output							
Signal Waveform			Sinewave				
Load	R _L		50ohm±5%				
Level Voltage			300			mV	RMS
Harmonics					-30	dBc	
Power Supply							
Supply Voltage	V _{cc}	±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 <±5x10 ⁻⁸ @ 25°C			15	min	
Frequency Stability							
Versus Operating Temperature Range					±0.1	ppb	
Versus Load		±5%			±0.01	ppb	
Versus supply voltage		±5%			±0.01	ppb	
Aging per year					±50	ppb	
Short term stability (Allan deviation)		per 1 sec			5x10 ⁻¹²		
SSB Phase noise		1Hz			-95	dBc	
		10Hz			-125	dBc	
		100Hz			-150	dBc	
		1kHz			-150	dBc	
		10kHz			-155	dBc	
Environmental, Mechanical Conditions							
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±1 ms						
Humidity @ 25°C	98%						