



Features and Benefits

- Ensures TIE of <400 ns for 24 hours
- High stability vs. temperature: up to 1×10^{-11}
- Standard frequency: 10.0 MHz
- Package size: 51x51x19 mm
- High long-term stability: up to 1×10^{-8} /year
- Power supply: 5 V and 12 V
- Available as RoHS

Typical Applications

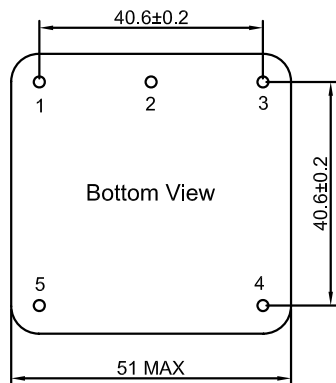
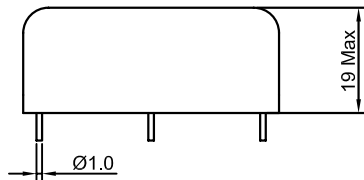
5G, Telecommunication, Test & Measurement

Description

DOCXO5050AN-10MHz 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: MD200003-1



Pin Connections:

Pin#	Symbol	Function
1	N.C.	No Connection
2	N.C.	No Connection
3	RF Out	RF Output
4	GND	Ground
5	Vdc	Supply Voltage

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	V _H		300			mV	RMS
Harmonics					-30	dBc	
Power Supply							
Supply Voltage	V _s	±5%		5		V	
Power Consumption		Steady state, +25°C			800	mA	
		Warm-up			2	A	
Supply Voltage	V _s	±5%		12		V	
Power Consumption		Steady state, +25°C			300	mA	
		Warm-up			1	A	
Warm-up Time	T _{up}	within accuracy of <±5x10 ⁻⁸ @ 25°C			15	min	
Frequency Stability							
Versus Operating Temperature Range						ppb	See ordering information
Versus Load		±5%			±1x10 ⁻¹¹		
Versus supply voltage		±5%			±1x10 ⁻¹¹		
Short term stability (Allan deviation)		per 1 sec			2x10 ⁻¹²		
SSB Phase noise		1Hz			-100	dBc	
		10Hz			-130	dBc	
		100Hz			-150	dBc	
		1kHz			-155	dBc	
		10kHz			-155 or -160 for 12V	dBc	
Environmental, Mechanical Conditions							
Operating temperature range	See ordering information						
Storage temperature range	-55°C to 85°C						
Vibration	10 to 200Hz						
Acceleration	5g						
Shock	75 g/ 3±1 ms						
Humidity @ 25°C	98%						



Ordering Information

DOCXO5050AN	-	10MHz	-	01	02	03	04
Group				Code			

For example, DOCXO5050AN -10MHz-1-1-1-1 denotes the DOCXO has the following specifications:

Temperature Range: 0°C to +55°C
 Stability Over Temperature: ±0.1ppb
 Supply Voltage: 12.0V
 Aging: ±50ppb

01	Frequency Stability
Code	Specification
1	±0.1ppb
2	±0.05ppb
3	±0.03ppb
4	±0.02ppb
5	±0.01ppb
Upon request: up to $<1 \times 10^{-11}$ at any 20°C window	
for 5V only (operable for 12V with $<1.25 \times 10^{-8}$ vs. +75... +85°C	

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
5	-40°C to +75°C
6	-40°C to +85°C

03	Supply Voltage
Code	Specification
1	12.0V
2	5.0V

04	Aging
Code	Specification
1	±50ppb
2	±30ppb
3	±20ppb
4	±10ppb