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

OCXO3321AW02-100MHz-657221
Low power high stability low phase-noise miniature OCXO

Features and Benefits

Frequency range: 100MHz
Supply voltage: 5.0V
Steady current: 45mA Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±10ppb
Aging: ±0.2ppm per year
Operating temperature: -40°C to +85°C
Size: 20.9x15.3x11.6mm

Typical Applications

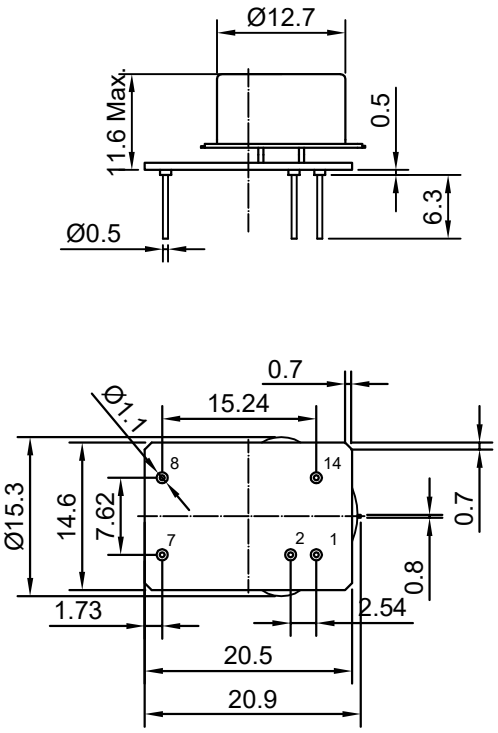
Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

Description

OCXO3321AW02-100MHz-657221 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: MD220024-2



Pin	Signal
1	Control voltage
2	Reference voltage
7	GND
8	Output
14	Supply voltage

Unit in mm
1mm = 0.0394 inches

We reserves the right to reduce the external dimensions without changing of connecting dimensions.

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Specifications

Oscillator Specification	Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
Operational Frequency	f_0			100		MHz	
RF Output							
Signal Waveform				Sinewave			
Level			+5.0	+7.0		dBm	
Load			45	50	55	ohm	
Harmonics level					-25	dBc	
Power Supply							
Reference Voltage	Vref		4.0	4.2	4.3	V	
Output resistance of Vref				91		ohm	
Supply Voltage	Vcc		4.75	5.0	5.25	V	
Warm-up current		V_{CC}=5.0V	140		220	mA	
Continuous current		at +25°C, V_{CC}=5.0V		35	45	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 1h		90	120	sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0 V			-1	ppm	
	$(f-f)/f$	Vc=Vc0		0		ppm	
	$(f_H-f)/f$	Vc=Vref	+1			ppm	
EFC voltage	Vc		0		4.2	V	
Input impedance				11kohm//5pF			
Input BW		-3dB level		160		Hz	
Preset control voltage	V_{C0}	disconnected Vc pin	1.9	2.1	2.3	V	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±10	ppb	
Initial Tolerance @+25°C	$(f-f_0)/f_0$	V_C= V_{C0}	-0.2		+0.2	ppm	
Versus supply voltage		ref V_{CC} typ.			±2	ppb	
Versus load		5% change			±2	ppb	
Allan deviation		1s, 100KHz BW		20		e-12	
SSB Phase noise (static values are for reference only and are subject to change.)		10Hz		-95		dBc/Hz	
		100Hz		-125			
		1KHz		-153			
		10KHz		-165			
		100KHz		-168			
Aging Per Day		After 30 days of operation			±2.0	ppb	
Aging 1st Year					±0.2	ppm	

Maximum ratings, environmental, mechanical conditions	
Operating temperature range	-40°C to +85°C
Storage temperature range	-60°C to +85°C
Power voltage	-0.5 to 6.0 V
Control voltage	-1.0 to 6.0 V
Air flow velocity	0.5 m/s maximum
Humidity	Non-condensing 95%
Mechanical shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 2000Hz
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)
Washing conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage