OCXO3307CV-LN-100MHz-C-V
Low G High Stability 100MHz OCXO_Oven Controlled Crystal Oscillator

Features and Benefits

Frequency range: 100MHz
Supply voltage: 5V
Steady current: 50mA Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±30ppb
Aging: 0.05ppm per year
Operating temperature: -30°C to +85°C
Size: 20.5x15.3x9.5mm
Package type: Through hole

Typical Applications

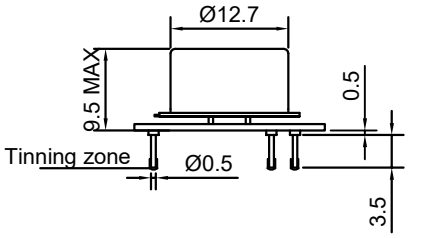
Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

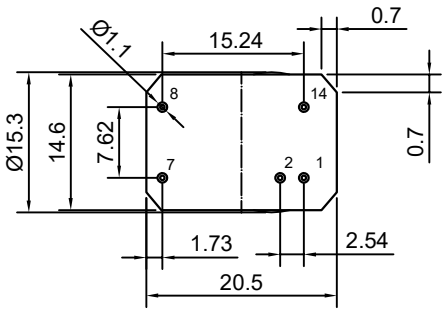
Description

OCXO3307CV-LN-100MHz-C-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

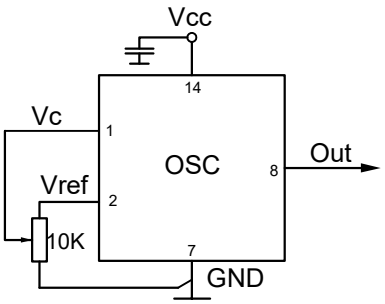
Mechanical Drawing & Pin Connections

Drawing No: MD250004-1





Schematic connections



Pin	Signal
1	Control Voltage
2	Reference voltage
7	GND
8	RF Out
14	Supply Voltage

Unit in mm
1mm = 0.0394 inches

Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0			100		MHz	
RF Output							
Signal Waveform				Sinewave			
Level			+10	+12		dBm	note
Harmonics					-30	dBc	
Load			45	50	55	ohm	
Spurious level		$f_S=f_0\pm2$MHz			-80	dBc	
Power Supply							
Supply Voltage	Vcc		4.75	5	5.25	V	
Warm-up current		V_{CC}=5V	120		220	mA	
Continuous current		at +25°C, V_{CC}=5V		35	50	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15 min		60		sec	
Reference voltage	Vref		4.1	4.2	4.3	V	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0 V			-1	ppm	note
	$(f-f)/f$	Vc=V_{c0}		0		ppm	
	$(f_H-f)/f$	Vc=Vref	+1			ppm	note
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	
EFC Slope				positive			
Output resistance of Vref				91		ohm	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±30	ppb	note
Initial Tolerance @+25°C	$(f-f_0)/f_0$	V_C= V_{C0}	-0.1		+0.1	ppm	note
Versus supply voltage		ref V_{CC} typ.			±5	ppb	
Overall		Initial accuracy + Temp + Load + Supply + Aging 10 years; 5% change			±0.5	ppm	
G-sensitivity		worst axis			±1	ppb/G	
Allan deviation		1 s. 100 kHz BW			2	ppb	
SSB Phase noise (Static)		10Hz		-95	-90	dBc/Hz	
		100Hz		-125	-120		
		1KHz		-155	-150		
		10KHz		-168	-165		
		100KHz		-170	-165		
		1MHz		-172	-167		
Aging Per Day		After 30 days of operation			±0.5	ppb	
Aging 1st Year					±0.05	ppm	
Maximum ratings, environmental, mechanical conditions							
Operating temperature range	-30°C to +85°C						
Storage temperature range	-60°C to +85°C						
Power voltage	-0.5 to 6 V						
Control voltage	-1.0 to 6 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, 10G swept sine 10 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						

Note: Included in the test data