Dynamic Engineers Inc.
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OCXO3315C-100MHz-66512
Low G 100MHz OCXO_Oven Controlled Crystal Oscillator

Features and Benefits

Frequency range: 100MHz
Supply voltage: 5.0V
Steady current: 50mA Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±100ppb
Aging: ±0.2ppm per year
Operating temperature: -40°C to +85°C
Size: 20.5x15.3x9.5mm
Package type: Through hole

Typical Applications

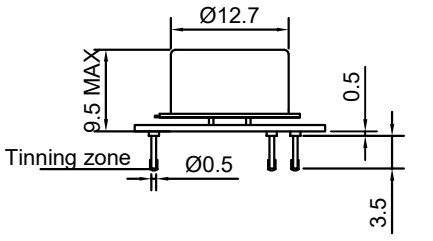
Wireless Communications
Test equipment
Synthesizers

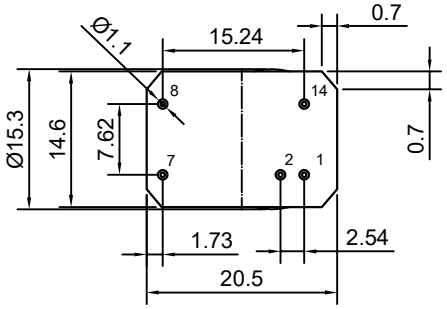
Description

OCXO3315C-100MHz-66512 offers Low G and High frequency stability, good long-term aging and low phase noise, all in a compact package to suit the different communication needs.

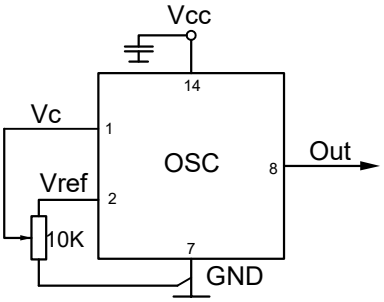
Mechanical Drawing & Pin Connections

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			+7	+8		dBm	note
Harmonics					-25	dBc	
Load			45	50	55	ohm	
Power Supply							
Reference Voltage	Vref		4	4.2	4.3	V	
Supply Voltage	Vcc		4.75	5.0	5.25	V	
Warm-up current		V_{CC}=5.0V	120		220	mA	
Continuous current		at +25°C, V_{CC}=5.0V		35	50	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15 min		90		sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0 V			-1	ppm	note
	$(f-f)/f$	$Vc=Vc_0$		0		ppm	
	$(f_H-f)/f$	Vc=Vref	+1			ppm	note
EFC voltage	Vc		0		4.2	V	
Slope				positive			
Input BW		-3dB level		160		Hz	
Input impedance	Rin			11		Kohm	
	Cin			5		pF	
Preset control voltage	V_{C0}	disconnected Vc pin	1.9	2.1	2.3	V	
Output resistance of Vref				91		ohm	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±100	ppb	note
Initial Tolerance @+25°C	$(f-f_0)/f_0$	$V_C= V_{C0}$	-0.2		+0.2	ppm	note
Versus supply voltage		ref V_{CC} typ.			±2	ppb	
Versus load		5% change			±2	ppb	
G-sensitivity		worst axis, 0 – 1 kHz vibration BW		±1		ppb/G	
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	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, 500G, 1ms						
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						