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

OCXO3313C-10MHz-232211
10MHz High stability low noise miniature OCXO

Features and Benefits

Frequency range: 10MHz
Supply voltage: 5.0V
Steady current: 50mA Max
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±5ppb
Aging: ±0.02ppm per year
Operating temperature: -10°C to +60°C
Size: 16x15.3x9.5mm

Typical Applications

Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

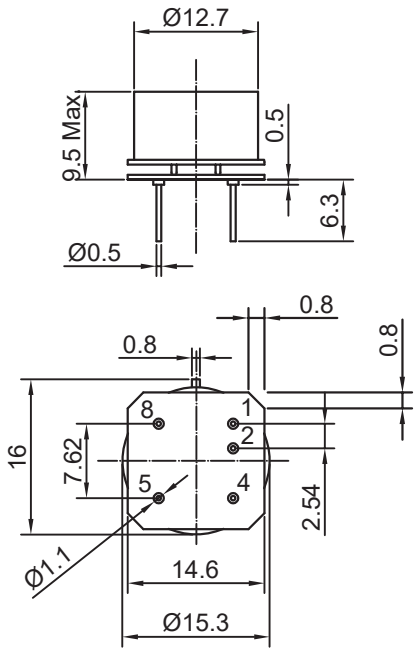
Description

OCXO3313C-10MHz-232211 offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

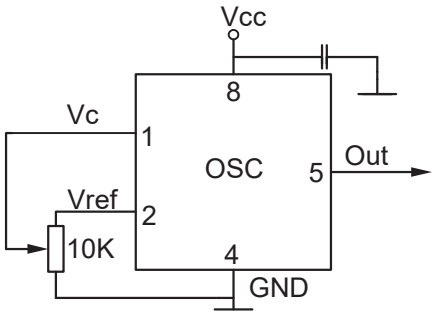
Mechanical Drawing & Pin Connections

Drawing No: MD170001-3

Physical dimensions



Schematic connections



Pin	Signal
1	Electrical tuning
2	Reference voltage
4	GND
5	RF Out
8	+V Supply

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
Operational Frequency	f_0			10		MHz	
RF Output							
Signal Waveform				HCMOS			
High Voltage			3.8			V	
Low Voltage					0.4	V	
Duty Cycle			45	50	55	%	
Load			10k			ohm	
Load					15	pF	
Power Supply							
Reference Voltage	Vref		4.1	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 15min			90	sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0 V			-0.35	ppm	Note 1
	(f-f)/f	Vc=Vc0		0		ppm	
	$(f_H-f)/f$	Vc=Vref	0.35			ppm	Note 1
EFC voltage	Vc		0		4.2	V	
Input impedance				11kohm//5pF			
Slope				positive			
Preset control voltage	V_{C0}	disconnected Vc pin	2.0	2.1	2.2	V	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±5	ppb	Note 1
Initial Tolerance @+25°C	$(f-f_0)/f_0$	V_C= V_{C0}	-0.1		+0.1	ppm	Note 1
Versus supply voltage		ref V_{CC} typ.			±1	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		1Hz		-90		dBc/Hz	
		10Hz		-120		dBc/Hz	
		100Hz		-145		dBc/Hz	
		1KHz		-155		dBc/Hz	
		10KHz		-165		dBc/Hz	
		100KHz		-165		dBc/Hz	
Aging Per Day		After 30 days of operation			±0.2	ppb	
Aging 1st Year					±0.02	ppm	
Maximum ratings, environmental, mechanical conditions							
Operating temperature range	-10°C to +60°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						

Note1: Included in the test data.