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

OCXO3320AW-10MHz-3-2-4-2-1

Low Power High Stability Miniature OCXO

Features and Benefits

Frequency range: 10MHz
Supply voltage: 5.0V
Steady current: 50mA Max.
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±10ppb
Aging: ±0.5ppb/day
Phase noise@100KHz: -165dBc/Hz
Operating temperature: 0°C to +70°C
Size: 16x15.3x7.5mm

Typical Applications

Portable and Low Power Wireless
Mobile Test Equipment
Battery Powered Applications
Beacons and Rescue Systems

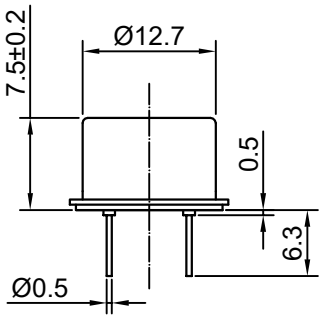
Description

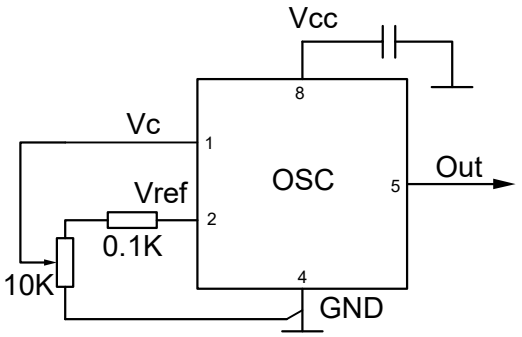
The OCXO3320AW-10MHz-3-2-4-2-1 offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

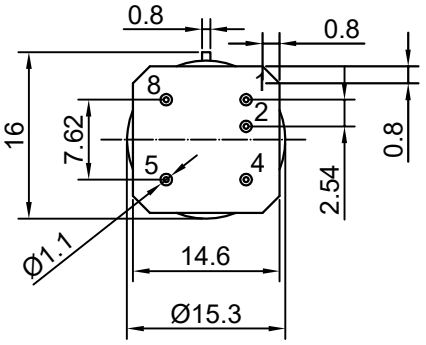
Mechanical Drawing & Pin Connections

Drawing No: MD2000049-2

Physical dimensions







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			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0			10		MHz	
Initial Tolerance	$(f-f_0)/f_0$	@+25°C, $V_c=V_{c0}$	-0.1		0.1	ppm	+
RF Output							
Waveform				HCMOS			
High Voltage			3.8			V	
Low Voltage					0.4	V	
Load	R_L		10			KOhm	
Load	C_L				15	pF	
Duty Cycle			45	50	55	%	
Rise & Fall time		10, 90%			10	ns	
Frequency Control							
Input Impedance	R_{in}			11		KOhm	
	C_{in}			5		pF	
Control Voltage Range	V_c		0		4.2	V	
Preset Control Voltage	V_{c0}	Disconnected V_c Pin	1.9	2.1	2.3	V	
Tuning Range	$(f_L-f)/f$	V_c=0V			-0.5	ppm	+
	$(f-f)/f$	$V_c=V_{c0}$		0		ppm	
	$(f_H-f)/f$	$V_c=V_{ref}$	0.5			ppm	+
Output Resistance of V_{ref}				91		Ohm	
Reference Voltage	V_{ref}		4.1	4.2	4.3	V	
Power Supply							
Voltage	V_{cc}		4.75	5.0	5.25	V	
Power Consumption		Warm-up			220	mA	
		Steady-state, @+25°C		35	50	mA	
Warm-up Time:	T_F	@+25°C, to df/f=1e-7		90	120	s	Ref. to freq. after 15min. of operation
Frequency Stability							
Versus Temperature		ref 25°C			±10	ppb	+
Versus Supply Voltage		Ref V_{CC} typ.			±2	ppb	
Load		5% change			±2	ppb	
Allan Deviation 1s		1s. 100KHz BW		20		e-12	
Aging Per day		After 30 days of operation			±0.5	ppb	
Aging First Year					±0.05	ppm	
SSB Phase noise (Static Values are for reference only and are subject to change)		1 Hz		-95		dBc/Hz	
		10 Hz		-125			
		100 Hz		-145			
		1 KHz		-155			
		10 KHz		-163			
		100 KHz		-165			

Environmental Conditions	
Operating Temperature Range	0°C to +70°C
Storage Temperature range	-60°C to +85 °C
Air Flow Velocity	0.5m/s maximum
Humidity	Non-condensing 95%
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 10G, to 2000 Hz
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 test data