Dynamic Engineers Inc.
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OCXO3322AW02-50MHz-62121
High Stability 50MHz OCXO_Oven Controlled Crystal Oscillator

Features and Benefits

Frequency range: 50MHz
Supply voltage: 5.0V
Steady current: 50mA Max
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±10ppb
Aging: ±0.015ppm per year
Operating temperature: -40°C to +85°C
Size: 20.5x15.3x9.5mm
Package type: Through hole

Typical Applications

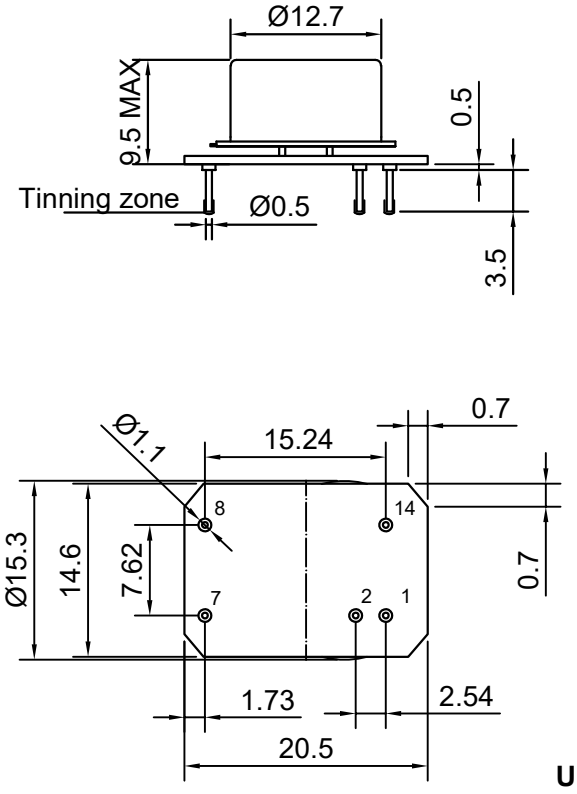
Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

Description

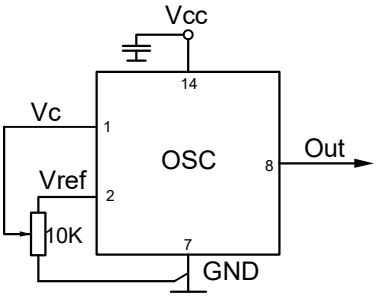
OCXO3322AW02-50MHz-62121 offers high frequency stability, good long-term aging and low phase noise, all in a compact package to suit the different communication needs.

Mechanical Drawing & Pin Connections

Drawing No: MD240004-1



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			50		MHz	
RF Output							
Signal Waveform				HCMOS			
High level			3.8			V	
Low level					0.4	V	
Sub-harmonics		$f_{SH}=f_0\pm(n*f_0/5)$ n=1,2,3...			-40	dBc	
Load				10ohm//10pF			
Duty cycle			45	50	55	%	
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		40	50	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15 min		60	90	sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0 V			-0.35	ppm	note
	$(f-f)/f$	$Vc=V_{c0}$				ppm	
	$(f_H-f)/f$	Vc=Vref	+0.35			ppm	note
EFC voltage	Vc		0		4.2	V	
Input impedance	Rin			11		Kohm	
Preset control voltage	V_{C0}	disconnected Vc pin	1.8	2.1	2.4	V	
Output resistance of Vref				91		ohm	
Slope				positive			
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±10	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.			±2	ppb	
Versus supply load		5% change			±2	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		10Hz		-100		dBc/Hz	
		100Hz		-130			
		1KHz		-145			
		10KHz		-155			
		100KHz		-155			
Aging Per Day		After 30 days of operation			±0.1	ppb	
Aging 1st Year					±0.015	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, 150G, 1ms						
Vibration	Per MIL-STD-202, 10G 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