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

OCXO3307AW-10MHz-H-V
Ultra Low Power High Stability Miniature OCXO

Features and Benefits

Frequency range: 10MHz
Supply voltage: 3.3V
Steady current: 180mW
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±10ppb
Aging: ±0.05ppm
Phase noise@100KHz: -172dBc/Hz
Operating temperature: -40°C to +85°C
Size: 20x15x9.5mm

Typical Applications

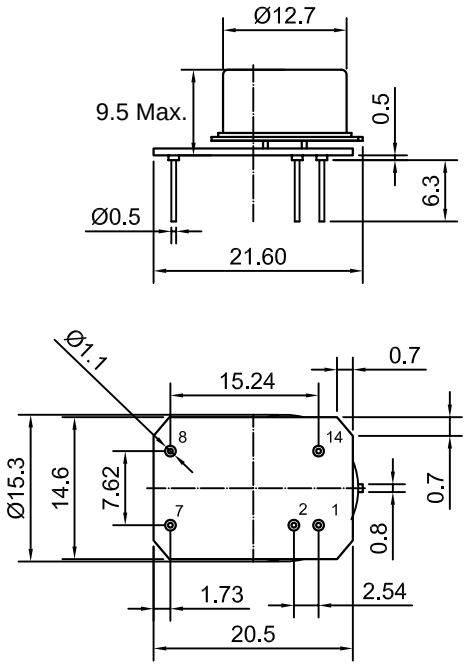
Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

Description

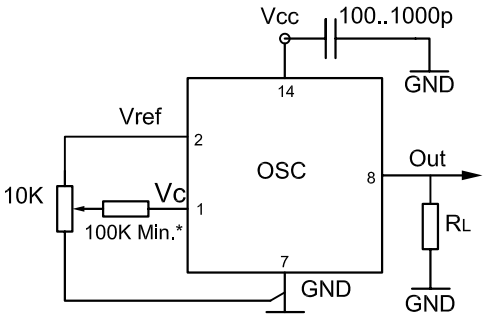
OCXO3307AW-10MHz-H-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

Mechanical Drawing & Pin Connections

Drawing No: MD140076-4



Schematic connections



Pin	Signal
1	Electrical tuning
2	Reference voltage
7	GND
8	RF Out
14	+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_{nom}			10		MHz	
RF Output							
Signal Waveform				HCMOS			
Level	H level		2.4			V	
	L level				0.4	V	
Load				10Kohm// 15pF			
Duty Cycle			45		55	%	
Rise/Fall time					10	nS	
Power Supply							
Reference Voltage VREF Output			2.7		3.1	V	
Supply Voltage	V_S		3.15	3.3	3.45	V	
Warm-up Time	T_{up}	At +25°C to ∆f/f=1e-7	30	60		s	ref to freq after 15 min of operation
		At +25°C to ∆f/f=1e-8		120		s	
Power Consumption		Steady state, +25°C		180		mW	
		Warm-up		700	1200	mW	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Compliance with 10 years aging	±0.3	±1		ppm	
EFC voltage	V_c		0		2.8	V	
EFC Slope				positive			
Frequency Stability							
Versus Operating Temperature Range		-40°C to +85°C		±10		ppb	ref. 25ºC, air flow 0.5 m/s max.
Initial Tolerance @+25°C		V_C@ VREF / 2		±0.1		ppm	
Versus supply voltage	V_S	Ref Vcc typ		±2		ppb	
G-Sensitivity		Worst direction, 0 – 1kHz vibration BW	±0.2		±1.0	ppb/G	
Retrace		24h work after 24h off			±10	ppb	
Allan deviation		1s	5		30	e-12	
Aging Per Day		After 30 days of operation		±0.5		ppb	
Aging 1st Year				±0.05		ppm	
Phase Noise		1Hz	-105		-90	dBc	
		10Hz	-135		-120	dBc	
		100Hz	-155		-145	dBc	
		1kHz	-165		-155	dBc	
		10kHz	-170		-165	dBc	
		100kHz	-172		-165	dBc	

Environmental,Mechanical Conditions	
Operating temperature range	-40°C to 85°C
Storage temperature range	-60°C to 85°C
Airflow velocity	0.5 m/s maximum
Power voltage	-0.5V to Vcc+20%
Control voltage	-0.5V to 6V
Humidity	Non-condensing 95%
Mechanical shock	Per MIL-STD-202, 30G half sine pulse, 11ms
Vibration	Per MIL-STD-202, 10G swept sine 0 to 2000Hz
Soldering conditions	Hand solder only – not reflow compatible. 260ºC 10s (on pins)
Washing conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage