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

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

Features and Benefits

Frequency range: 10MHz
Supply voltage: 3.3V
Steady current: 35mA Typ
Output waveform: HCMOS
Frequency stability vs. operating temperature: ±3.0ppb
Aging: 0.02ppm per year
Phase noise@100KHz: -168dBc/Hz
Operating temperature: -40°C to +85°C
Size: 20.5x15.3x9.5mm

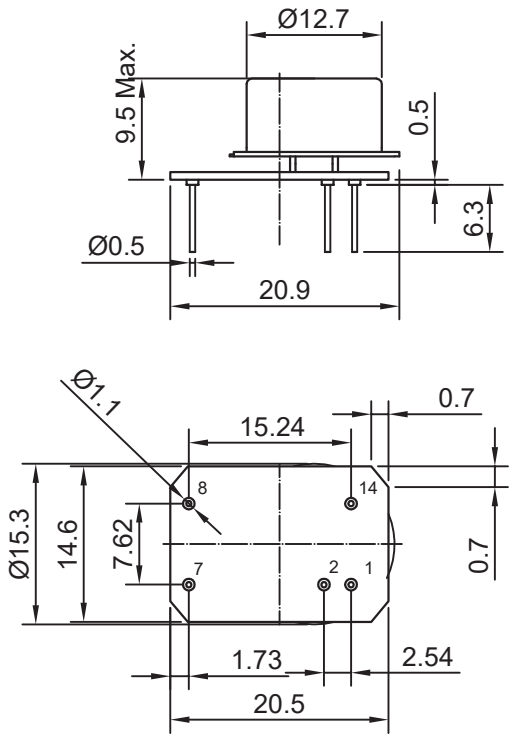
Typical Applications

Portable Wireless Communications
Mobile Test equipment
Beacons & Rescue systems
Battery Powered Applications

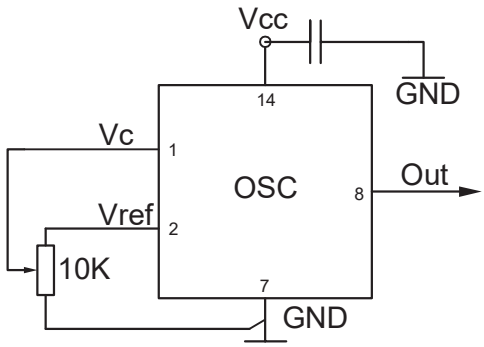
Mechanical Drawing & Pin Connections

Drawing No: MD140076-7

DIP Package



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			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	f_0			10		MHz	
RF Output							
Signal Waveform				HCMOS 2.8V			
Load	R_L		10			Kohm	
Load	C_L				15	pF	
H-Level Voltage	V_H		2.4			V	
L- Level Voltage	V_L				0.4	V	
Duty Cycle			45	50	55	%	
Rise/Fall time		10%-90%			10	ns	
Power Supply							
Voltage supply	Vcc		3.15	3.3	3.45	V	
Warm-up Time	T_{up}	at +25ºC to Δf/f=1e-7		60	90	sec	
Current consumption		Steady state, +25°C		35	50	mA	
		Warm-up	140		220	mA	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	$(f_L-f)/f$	Vc=0V			-0.3	ppm	+
	(f-f)/f	$Vc=V_{c0}$		0		ppm	
	$(f_H-f)/f$	Vc=Vref	+0.3			ppm	+
Input impedance	Rin			11		Kohm	
	Cin			5		pF	
Input BW		-3dB Level		160		Hz	
Preset control voltage	V_{c0}	Disconnected Vc pin	1.3	1.4	1.5	V	
EFC voltage	V_c		0		2.8	V	
Reference voltage			2.7	2.8	2.9	V	
Output resistance of Vref				91		Ohm	
Frequency Stability							
Versus Operating Temperature Range		ref. 25ºC			±3.0	ppb	+
Initial Tolerance	$(f-f_0)/f_0$	@+25ºC, Vc= V_{c0}	-0.1		+0.1	ppm	+
Versus supply voltage		ref Vcc typ			±1.0	ppb	
Versus load		5 % change			±1.0	ppb	
Aging Per Day		after 30 days of operation			±0.2	ppb	
Aging 1st Year					±0.02	ppm	
Allan Variance		1s 100KHz BW		20		e-12	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		1Hz		-95		dBc/Hz	
		10Hz		-125		dBc/Hz	
		100Hz		-146		dBc/Hz	
		1kHz		-160		dBc/Hz	
		10kHz		-165		dBc/Hz	
		100kHz		-168		dBc/Hz	

Environmental,Mechanical Conditions	
Airflow velocity	0.5 m/s maximum
Operating temperature range	-40°C to +85°C
Storage temperature range	-60°C to +85°C
Mechanical shock	Per MIL-STD-202, 30G, 11ms
Soldering conditions	Hand solder only – not reflow compatible. 260ºC 10s (on pins)
Humidity	Non-condensing 95%
Power Voltage	-0.5V to +4V
Control Voltage	-1V to +6V
Vibration	Per MIL-STD-202, 10G to 2000Hz
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage

Note: "+" included in the test data