



Features and Benefits

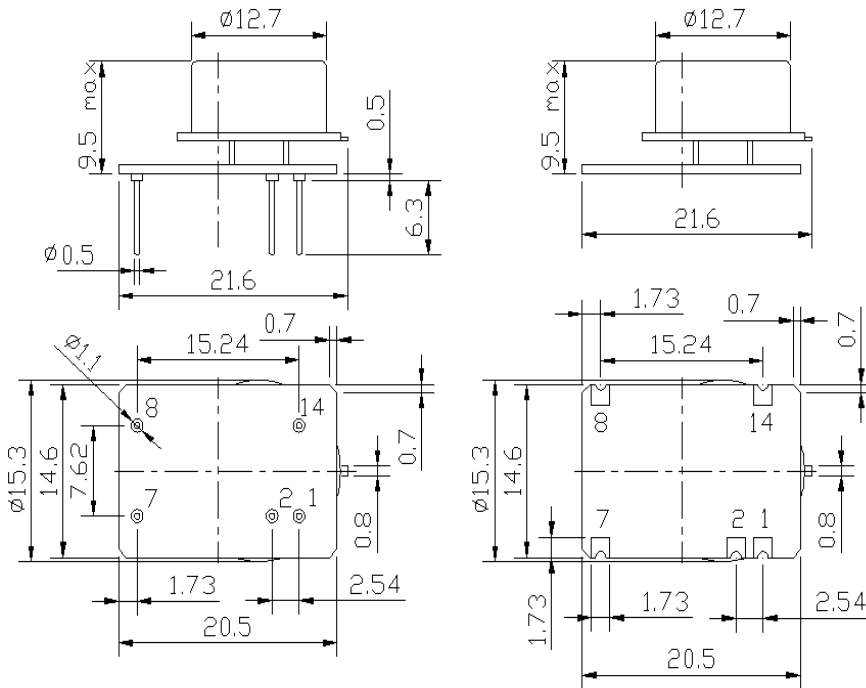
Frequency range: 8-150MHz
Supply voltage: 3.3V or 5.0V
Steady power: 180mW Typ
Output waveform: HCMOS(TTL) or Sinewave
Frequency stability vs. operating temperature: ±1.0ppb
Aging: 0.015ppm per year
Phase noise@100KHz: -172dBc/Hz
Operating temperature: -60°C to +85°C
Size: 21.6x15.3x9.5mm

Typical Applications

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

Mechanical Drawing & Pin Connections

Drawing No: MD230019-1



PIN	Pin Function
1	Electrical tuning
2	Reference Voltage
7	GND
8	Output
14	Supply Voltage

Unit in mm
1mm = 0.0394 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	f ₀		8		150	MHz	
RF Output							
Signal Waveform			HCMOS(TTL) option				
Load	R _L		10kohm//5pf (10kohm//15pf)				100MHz(10MHz)
H-Level Voltage	V _H	V _{cc} =5V	3.8			V	
		V _{cc} =3.3V	2.4			V	
L- Level Voltage	V _L				0.4	V	
Duty Cycle			45		55	%	
Rise/Fall time					10/3	ns	10MHz/100MHz
Signal Waveform			Sinewave option				
Level		V _{cc} =5V	+7			dBm	
		V _{cc} =3.3V	+4				
Load				50		ohm	
Harmonics					-25	dBc	
Sub-Harmonics			none				dBc
Power Supply							
Reference Voltage	V _{ref}	V _{cc} =5V	4.0		4.3	V	
		V _{cc} =3.3V	2.7		3.1	V	
Supply Voltage	V _{cc}		4.75	5.0	5.25	V	
			3.15	3.3	3.45		
Warm-up Time	T _{up}	at +25°C to Δf/f=1e-7	30	60		sec	ref. to freq. after15 min. of operation
		at +25°C to Δf/f=1e-8		120		sec	
Power Consumption		Steady state, +25°C		180		mW	10MHz, -40°C - +85°C
		Warm-up		700	1200	mW	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Compliance with 10 years of aging	±0.3	±1.0		ppm	
EFC voltage	V _c	V _{cc} =5V	0		4.2	V	
		V _{cc} =3.3V	0		2.8	V	
EFC Slope			positive				
Frequency Stability							
Versus Operating Temperature Range		ref. 25°C, air flow 0.5 m/s max.	±1.0			ppb	See ordering information
Initial Tolerance	(f-f ₀)/f ₀	+25°C, V _c =0.5*V _{ref}		±0.1		ppm	
Versus supply voltage		ref V _{cc} typ		±2.0		ppb	
G – sensitivity		worst direction, 0 – 1kHz vibration BW (for 0 – 2kHz BW height of OCXO 10.5mm)	±0.2		±1.0	ppb/G	
Retrace		24h work after 24h off			±10	ppb	10MHz
Aging Per Day		after 30 days of operation	±0.1			ppb	10MHz see ordering information
Aging 1 st Year			±0.015			ppm	
Allan Variance		1s	5		30	e-12	10MHz
SSB Phase noise		1Hz	-105/-		-90/-	dBc/Hz	10/100MHz V _{cc} =5V
		10Hz	-135/-100		-120/-90	dBc/Hz	
		100Hz	-155/-120		-145/-120	dBc/Hz	
		1kHz	-165/-155		-155/-150	dBc/Hz	
		10kHz	-170/-170		-165/-165	dBc/Hz	
		100kHz	-172/-172		-165/-165	dBc/Hz	
Environmental, Mechanical Conditions							
Airflow velocity	0.5 m/s maximum						
Operating temperature range	See ordering information						
Storage temperature range	-60°C to +85°C						
Mechanical shock	Per MIL-STD-202, 30G half sine pulse, 11ms						
Soldering conditions	Hand solder only – not reflow compatible. 260°C 10s (on pins)						
Humidity	Non-condensing 95%						
Power Voltage	-0.5V to V _{cc} +20%						
Control Voltage	-0.5V to +6V						
Vibration	Per MIL-STD-202, 10G swept sine 0 to 2000Hz						
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						



Ordering Information

OCXO3307AW	-	10MHz	-	x	x	x	x	x	x
Group				01	02	03	04	05	06

For example, OCXO3307AW-10MHz-1-1-2-2-2 denotes the OCXO has the following specifications:

Temperature Range: 0°C to +50°C
 Stability Over Temperature: ±1ppb
 Aging per day / per year: 0.2ppb/0.02ppm
 Supply Voltage: 5V
 Output: Sinewave
 Package: DIP

01	Temperature Range
Code	Specification
1	0°C to +50°C
2	-10°C to +60°C
3	0°C to +70°C
4	-20°C to +70°C
5	-30°C to +70°C
6	-40°C to +85°C
7	-55°C to +85°C
8	-60°C to +85°C

02	Frequency Stability		
Code	Spec	Temperature range code available for 10MHz 5V	Temperature range code available for 100MHz 5V
1	±1ppb	1,2,3,4,5	--
2	±2ppb	1,2,3,4,5,6	--
3	±3ppb	1,2,3,4,5,6	--
4	±5ppb	1,2,3,4,5,6,7	1
5	±10ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6
6	±20ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7
7	±30ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8
8	±50ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8
9	±100ppb	1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8

03	Aging per day/per year,ppb/ppm		
Code	Specification		
1	0.1/0.015	(available for temperature range 1,2,3,4,5)	<=10MHz
2	0.2/0.02		<=10MHz
3	0.3/0.03		<=10MHz
4	0.5/0.05		<=20MHz
5	1/0.1		<=40MHz
6	1.5/0.15		<=50MHz
7	2/0.2		<=120MHz
8	3/0.3		<=120MHz
9	5/0.5		<=150MHz

04	Supply Voltage
Code	Specification
1	3.3V±5%
2	5V±5%

05	Output
Code	Specification
1	HCMOS
2	Sinewave

06	Package
Code	Specification
1	SMD
2	DIP