

DEI P/N: OCXO2020C

Nominal Freq.: 5 ~150 MHz

GSL P/N: _____

Revision: 01

Date: 2015.04.01

Approved / Date	Checked / Date	Prepared / Date
Greg/2015.04	David/2015.04.01	Catherine/2015.04.01

Customer: _____

Customer P/N: N/A

REVISION HISTORY (OCXO2020C)

Revision #	Revised Page(s)	Revision Content	Date	Ref Number	Revision Requested by	Reviser
1		Initial Release	04/01/15		Lee	Catherine

OCXO2020C

High stability Low phase-noise OCXO

Features and Benefits

High temperature stability: to +/-1ppb in (-40 to +85) °C
Very low phase noise: (to -175dBc/Hz, floor)
Low aging: to 0.2ppb/day and 0.02ppm/year
Fundamental operation at 5 through 150MHz
Small sizes packaging

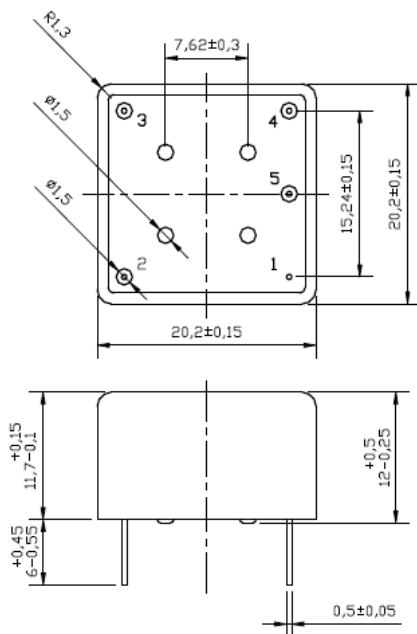
Description

The OCXO2020C series oven-controlled crystal oscillator are intended for wide applications where high temperature stability, low aging, low phase-noise along and compact sizes are major requirements

Typical Applications

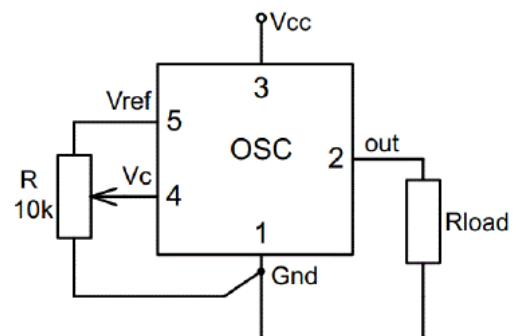
Cellular Base Stations
Instrumentation
Stratum 3E clock systems
Microwave Applications
Radar reference

Mechanical Drawing & Pin Connections



* - 10.3 mm, 12.9 mm heights and 0.8 mm pins diameter are available on customer requirement

Drawing No: MD140082-1



Pin	Signal
1	GND
2	RF Out
3	+V Supply
4	Electrical tuning
5	Reference voltage

OCXO2020C

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Specifications

OCXO Specification		Sym	Condition	Value			Unit	Note	
				Min.	Typ.	Max.			
Frequency Range		F ₀		5		150	MHz	Fundamental operation	
RF Output									
HCOMS (TTL) Option	Load			10			kOhm		
						15	pF		
	H-level Voltage	V _H	@ V _{cc} = 5V or 12V	3.8			V		
	L-level Voltage	V _L	@ V _{cc} = 3.3V	2.4			V		
	Duty Cycle			45		55	%		
	Rise/Fall Time					10	ns	For 10MHz operational frequency	
Sine Wave Option	Level	L		+6	+8	+10	dBm		
	Load	R _L				50	Ohm		
	Harmonics Level								
Spurious Level									
Power Supply									
Voltage		V _{cc}		4.75	5.0	5.25	V	3.3V, 12V optional	
Power Consumption		Warm-up state			3.2	3.5	W		
		Steady state, +25°C			1	1.2	W		
Warm-up Time		t _{up}	To Δf/f ₀ = 1e-7 at 25°C			180	s	ref. to frequency after 30 min	
Frequency Control									
Control Voltage Range		V _c	@ V _{cc} = 5V or 12V	0		4.2	V	Positive tuning slope (standard option)	
			@ V _{cc} = 3.3V	0		2.8	V		
Tuning Range				+/-0.5	+/-1		ppm		
Reference Voltage		V _{ref}	@ V _{cc} = 5V or 12V	4.1	4.2	4.3	V		
			@ V _{cc} = 3.3V	2.7	2.8	2.9	V		
Frequency Stability									
vs. Temperature			-40°C to +85°C, ref. 25°C		+/-10		ppb	For more information, please consult sale	
vs. Supply Voltage			Ref. V _{cc} typ.		+/-1		ppb		
vs. Acceleration			Worst direction	+/-0.5		+/-1	ppb/G		
Aging	Per Day		After 30 days of operation	0.2	0.5		ppb	For 10MHz, For more information, please consult sale	
	First Year			20	50		ppb		
	For 20 Years			0.3	0.5		ppm		
Phase Noise									
Phase Noise				1Hz	-110	-100		dBc/Hz	For 10MHz operational frequency
				10Hz	-135	-125			
				100Hz	-155	-145			
				1kHz	-163	-155			
				10kHz	-173	-168			
				100kHz	-175	-173			
Allan Variance			1s	5	10		e-12		
Environmental									
Operating Temperature Range		For more information, please consult sale							
Storage Temperature Range		-60°C to +90°C							
Humidity		Hermetically sealed							
Mechanical Shock		Per MIL-STD-202, 30G half sine pulse, 11ms							
Vibration		Per MIL-STD-202, 10G swept sine 10 to 500Hz (pins 0.5mm), 10G swept sine 0-2000Hz (pins 0.8mm)							
Soldering Conditions		Hand solder only – not reflow compatible, 260°C 10s							