DEI P/N: OCXO3312C

Nominal Freq.: 8 ~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 (OCXO3312C)

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

Features and Benefits

Miniature DIP8 sizes
Very low power consumption (to 0.15W at +25 °C)
High frequency stability (to +/-5ppb over -40°C to 85°C)
Very fast warming-up (to 15s)
Low phase-noise level (-173dBc/Hz, floor)
Low aging (to 0.2ppb/day, 30ppb/year)
Fundamental operation at up to 150MHz

Description

The OCXO3312C series ovenized oscillator employs a directly heated crystal process which delivers very fast warm-up, excellent phase noise and frequency long term stability in a very small industry-standard package. The OCXO3312C is excellent solution for various portable or/and battery fed applications with elevated requirements to frequency stability and phase-noise of the OCXO

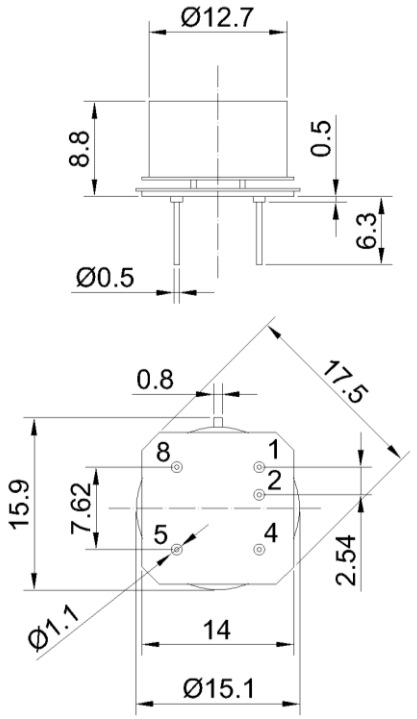
Typical Applications

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

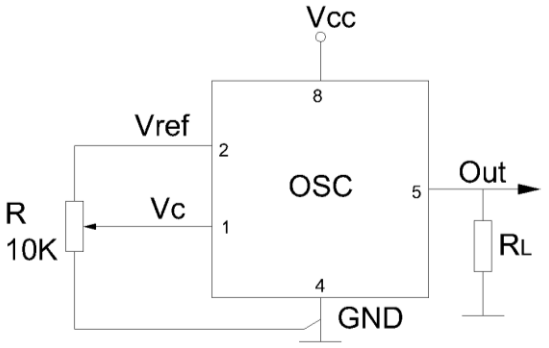
Mechanical Drawing & Pin Connections

Drawing No: MD140077-1

Physical dimensions



Schematic connections



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

Unit : mm

Specifications

OCXO Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Frequency Range		F_0		8		150	MHz	
RF Output								
HCMOS (TTL) Option	Load			10			kOhm	
						15	pF	
	H-level Voltage	V_H		3.8			V	
	L-level Voltage	V_L				0.4	V	
	Duty Cycle			45		55	%	
	Rise/Fall Time					10	ns	For 10MHz optional frequency
Sine Wave Option	Level	L		+6	+8	+10	dBm	
	Load	R_L			50		Ohm	
	Harmonics Level					-25	dBc	
Sub-harmonics Level					None			
Power Supply								
Voltage		V_{cc}		4.75	5.0	5.25	V	3.3V available
Power Consumption		$I_{Warm-up}$	Warm-up state		0.7		W	
			Steady state, +25°C		0.15		W	
Warm-up Time		t_{up}	$\triangle f/f_0$ = 1e-7 at 25°C	15	45		s	ref. to frequency after 10 min
Frequency Control								
Control Voltage Range		V_c	@ V_{cc} = 5V	0		4.2	V	Tuning slope – positive (standard option)
			@ V_{cc} = 3.3V	0		2.8	V	
Tuning Range				+/-0.5	+/-1		ppm	
Reference Voltage		V_{ref}	@ V_{cc} = 5V	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			+/-5	ppb	For more information, please consult sale
vs. Supply Voltage			Ref. V_{cc} typ.		+/-2		ppb	
vs. Acceleration			Worst direction	+/-0.5		+/-1	ppb/G	
Aging	Per Day		After 30 days of operation		+/-0.5		ppb	For more information, please consult sale
	First Year				+/-0.05		ppm	
Phase Noise								
Phase Noise			1Hz	-100	-95		dBc/Hz	For 10MHz operational frequency
			10Hz	-130	-125			
			100Hz	-150	-145			
			1kHz	-160	-155			
			10kHz	-170	-165			
			100KHz	-173	-168			
Allan Variance			1s		20		e-12	
Environmental								
Operating Temperature Range		-40°C to +85°C						
Storage Temperature Range		-60°C to +90°C						
Humidity		Non-condensing 95%						
Mechanical Shock		Per MIL-STD-202, 30G half sine pulse, 11ms (500G, 1ms-special option)						
Vibration		Per MIL-STD-202, 10G swept sine 10 to 2000Hz						
Soldering Conditions		Hand solder only – not reflow compatible. 260°C 10s (on pins)						