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

OCXO3314C
Low power miniature high stability OCXO

Features and Benefits

Miniature DIP 8 sizes
Very low power consumption (to 0.15W at +25°C)
High frequency stability (to ±5 ppb over -40°C to 85°C)
Very fast warming-up (to 15s)
Low phase-noise level (-165 dBc/Hz, floor)
Low aging (to ±0.2 ppb/day, ±20 ppb/year)
Frequency range 8-100MHz

Description

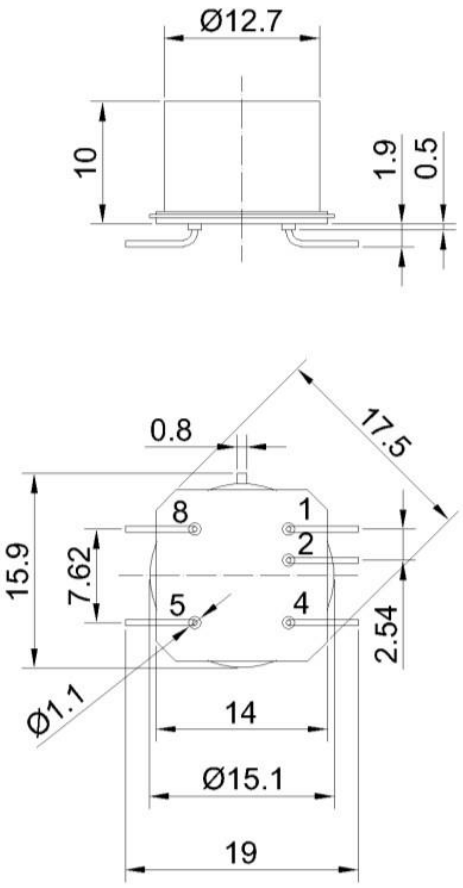
The OCXO3314C series ovenized oscillator employs a directly heated crystal process which delivers very fast warm- up, excellent phase noise and frequency long term stability in a very small industry-standard package.

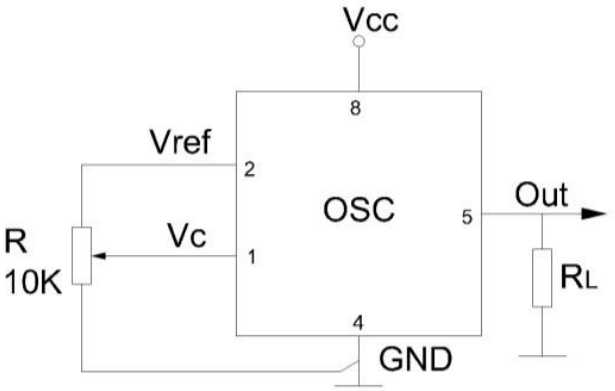
Typical Applications

Portable Wireless Communications
Mobile Test Equipment
Beacons & Rescue Systems
Battery Powered Applications

Mechanical Drawing & Pin Connections

Drawing No **MD140038-3**





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

Unit : mm

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Specifications

OCXO Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Frequency Range		F_0		8		100	MHz	
RF Output								
HCMOS	Load			10			kOhm	For 10MHz
						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
Power Supply								
Voltage		V_{cc}		4.75	5.0	5.25	V	3.3V available
Power Consumption			Warm-up state		0.7		W	
		$I_{Warm-up}$	Steady state, +25°C		0.15		W	
Warm-up Time		t_{up}	$\triangle f/f_0$ = 1e-7 at 25°C	15	60		s	ref. to frequency after 15 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	0.2	0.5		ppb	For more information, please consult sale
	First Year			0.03	0.05		ppm	
Phase Noise								
Phase Noise			1Hz	-100	-90		dBc/Hz	For 10MHz operational frequency
			10Hz	-130	-125			
			100Hz	-148	-145			
			1kHz	-158	-155			
			10kHz	-165	-165			
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)						