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

OCXO3320AW_5V
Ultra Low Power Miniature Low Profile OCXO

Features and Benefits

Frequency range: 8-100MHz
Supply voltage: 5.0V
Steady current: 180mW Typ
Output waveform: HCMOS(TTL)
Frequency stability vs. operating temperature: ±10ppb
Aging: 0.015ppm Min. per year
Phase noise@100KHz:-163dBc/Hz
Operating temperature: -40°C to +85°C
Size: 16x15x7.5mm

Typical Applications

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

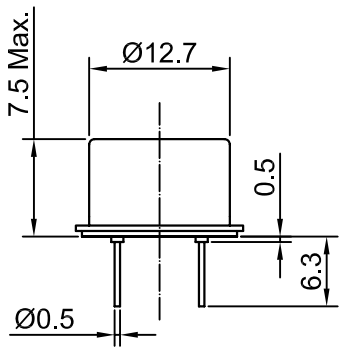
Description

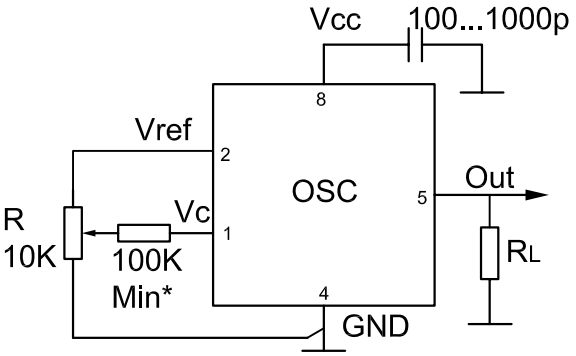
The crystal plate inside the TO-8 vacuum holder. Such approach results in radical reduction of the OCXO sizes, power consumption and warm-up time. In spite of very small sizes and extremely low power consumption these oscillators exhibit excellent frequency stability and low phase-noise level comparable with that of the high-end conventional OCXO designs.

Mechanical Drawing & Pin Connections

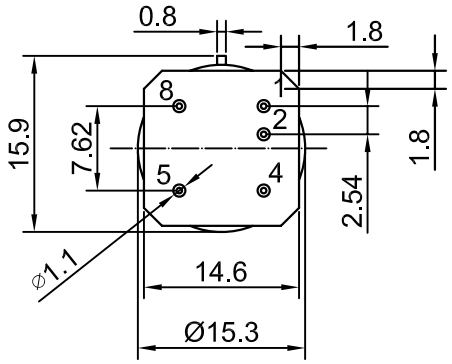
Drawing No: MD200049-1

Physical dimensions





* Required for some version



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

Unit in mm
1mm = 0.0394 inches

Notes:
1. The 7.5mm height not for all frequencies. Please contact us for the detail information.
2. We reserves the right to reduce the external dimensions without changing of connecting dimensions.

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F_{nom}		8		100	MHz	
RF Output							
Signal Waveform				HCMOS(TTL)			
Load	R_L			10kohm//5pf (10kohm//15pf)			100MHz (10MHz)
H-Level Voltage	V_H	Vcc=5V	3.7			V	
L- Level Voltage	V_L				0.4	V	
Duty Cycle			45		55	%	
Rise/Fall time				10/3		ns	10MHz/100MHz
Power Supply							
Reference Voltage	Vref	Vcc=5V	4.0	4.2	4.3	V	
Supply Voltage	V_{cc}		4.75	5.0	5.25	V	
Warm-up Time	T_{up}	at +25ºC to Δf/f=1e-7	30	60		sec	ref. to freq. after15 min. of operation
		at +25ºC to Δf/f=1e-8		120		sec	
Power Consumption		Steady state, +25°C		180		mW	10MHz, -40°C -+85°C
		Warm-up			1200	mW	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Compliance with 10 years of aging	±0.3	±1.0		ppm	
EFC voltage	V_c	Vcc=5V	0		4.2	V	
EFC Slope				positive			
Frequency Stability							
Versus Operating Temperature Range		ref. 25ºC, air flow 0.5 m/s max.	±10			ppb	Pls consult our sales
Initial Tolerance	(f-f0)/f0	+25ºC, Vc=0.5*Vref		±0.1		ppm	
Versus supply voltage		ref Vcc typ		±2		ppb	
G – sensitivity		worst direction, 0 – 1kHz vibration BW (for 0 – 2kHz BW consult our sales)	±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	Pls consult our sales
Aging 1st Year			±0.015			ppm	
Allan Variance		1s	5		30	e-12	10MHz
SSB Phase noise		1Hz	-100/---		-85/---	dBc/Hz	10/100MHz Vcc=5V
		10Hz	-130/-95		-115/-85	dBc/Hz	
		100Hz	-148/-125		-143/-115	dBc/Hz	
		1kHz	-155/-150		-150/-145	dBc/Hz	
		10kHz	-163/-163		-160/-158	dBc/Hz	
		100kHz	-163/-163		-160/-160	dBc/Hz	
Environmental,Mechanical Conditions							
Operating temperature range	-40°C to 85°C						
Storage temperature range	-60°C to 85°C						
Humidity	Non-condensing 95%						