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

OCXO3312AW-16.384MHz-A-V
Low power high stability low phase-noise miniature OCXO

Features and Benefits

Miniature DIP8 sizes, Shock resistant
Low power consumption (to 180mW at +25°C)
High frequency stability (to ± 10 ppb over -40°C to 85°C)
Very fast warming-up to 30 s
Very low phase-noise level (-172 dBc/Hz, floor)

Typical Applications

Portable Wireless Communications Mobile
Test equipment
Synthesizers
Battery Powered Application

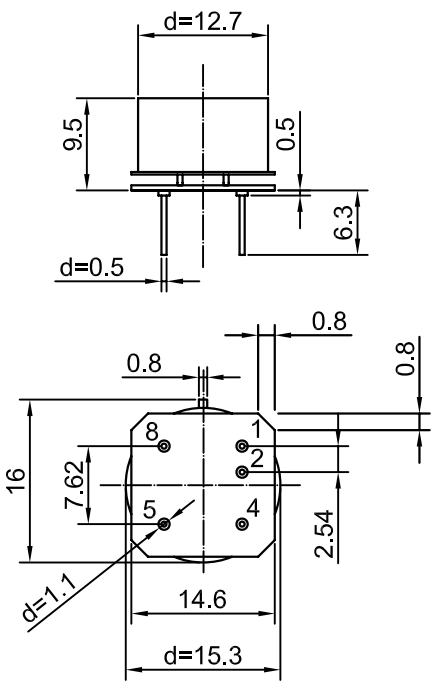
Description

OCXO3312AW-16.384MHz-A-V offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

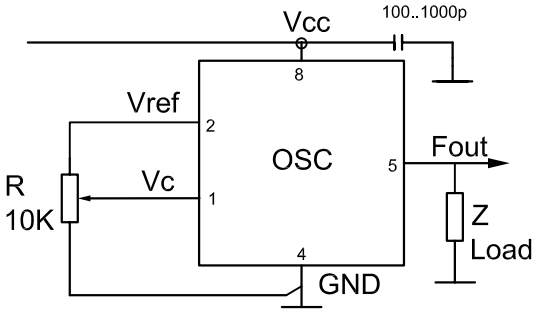
Mechanical Drawing & Pin Connections

Drawing No: MD170001-3

Physical dimensions



Schematic connections



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

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
Operational Frequency	F_{nom}			16.384		MHz	
RF Output							
Signal Waveform				HCMOS			
H-level voltage			3.8			V	
L-level voltage					0.4	V	
Duty cycle			45		55	%	
Rise/Fall time					10	ns	
Load				10kohm//15pF			
Power Supply							
Reference Voltage VREF Output			4.1	4.2	4.3	V	
Supply Voltage	V_S		4.75	5.0	5.25	V	
Warm-up Time	T_{up}	At +25°C to Δ f/f=1e-7	30	60		s	ref to freq after 15 min of operation
		At +25°C to Δ f/f=1e-8		120		s	
Power Consumption		Steady state, +25°C		180		mW	
		Warm-up			1200	mW	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Compliance with 10 years aging	±0.3	±1		ppm	
EFC voltage	V_c		0		4.2	V	
EFC Slope				positive			
Frequency Stability							
Versus Operating Temperature Range		-40°C to 85°C		±10		ppb	
Initial Tolerance @+25°C		V_C@ VREF / 2		±0.1		ppm	
Versus supply voltage	V_S	Ref Vcc typ		±2		ppb	
Versus acceleration		Worst direction,0-1KHz vibration BW	±0.2		±1.0	ppb/G	
Retrace		24h work after 24h off			±10	ppb	
Allan deviation		1s	5		30	e-12	
Aging Per Day		After 30 days of operation		±0.5		ppb	
Aging 1st Year				±0.05		ppm	
Phase Noise		1Hz		-95			
		10Hz		-125		dBc	
		100Hz		-150		dBc	
		1kHz		-160		dBc	
		10kHz		-168		dBc	
		100kHz		-170		dBc	

Environmental,Mechanical Conditions	
Operating temperature range	-40°C to 85°C
Storage temperature range	-60°C to 85°C
Airflow velocity	0.5m/s maximum
Power voltage	-0.5V to Vcc+20%
Control voltage	-0.5V to 6V
Humidity	Non-condensing 95%
Mechanical shock	Per MIL-STD-202, 30G half sine pulse, 11ms
Vibration	Per MIL-STD-202, 10G swept sine 0 to 2000 Hz
Soldering conditions	Hand solder only – not reflow compatible 260°C 10s (on pins)
Washing conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage