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

OCXO3312C-40MHz-A-V
Very Low Power High Stability Low Phase Noise Miniature OCXO

Features and Benefits

Very low power consumption(up to 130mW at +25°C)
High frequency stability(up to ±100ppb over -40°C to +85°C)
Very low phase-noise level (-166dBc/Hz, floor)
Very fast warming-up (up to 30s)
Low aging (up to 1 ppb / day, 100 ppb / year)
Miniature DIP8 size

Typical Applications

Mobile Test Equipment
Portable Wireless Communication
Battery Powered Applications
Beacon and Rescue Systems

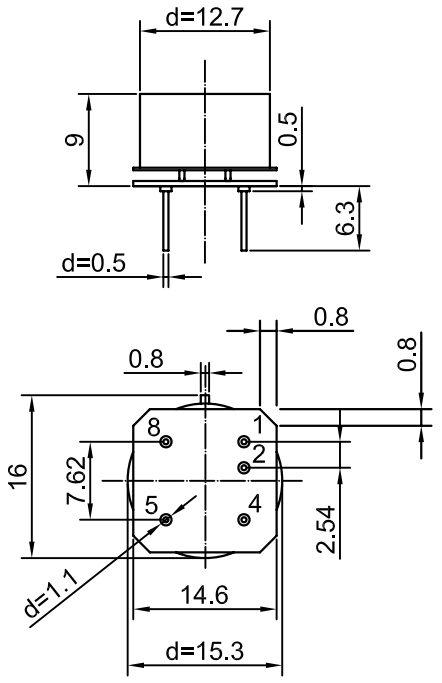
Description

OCXO3312C-40MHz-A-V offers state-of-the-art design which allows low power consumption and fast warm-up time, along with exceptional frequency stability and low phase-noise, all within a compact package.

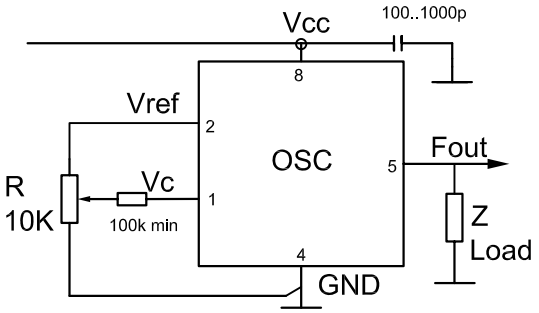
Mechanical Drawing & Pin Connections

Drawing No: MD170001-1

Physical dimensions



Schematic connections



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

Unit : mm
1mm=0.0394inch

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Specifications

Oscillator Specification		Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
Nominal Frequency		F_{nom}			40		MHz	
Output Waveform					LVCMOS			
Output Load				10		15/5	kOhm pF	10/100 MHz
H-level Voltage		V_H	V_{CC} = 3.3V	2.4			V	
L-level Voltage		V_L				0.4	V	
Duty Cycle				45		55	%	
Rise / Fall Time			10/100 MHz			10/3	ns	
Sub-harmonics Level					none			
Power Supply								
Voltage		V_{cc}		3.15	3.30	3.45	V	
Power Consumption			Warm-up state			1200	mW	10 MHz, -40°C to +85°C
			Steady-state, +25°C	130	180			
Warm-up Time:		T_{up}	At +25°C to ∆f/f = 1e-8 At +25°C to ∆f/f = 1e-7	 30	120 60		sec	ref. to frequency after 15 min work.
Frequency Control								
Control Voltage range		V_c	V_{CC} = 3.3V	0		2.8	V	
Tuning Range			Compliance with 10 years of aging	±0.3	±1.0		ppm	Positive slope
Reference Voltage		V_{ref}		2.7	2.8	2.9	V	
Frequency Stability								
Initial Tolerance		$(f-f_0)/f_0$	+25°C, V_C = 0.5*V_{ref}		±0.1		ppm	
Versus Temperature			ref 25°C, over -40°C to +85°C		±100		ppb	
Versus Supply Voltage			Ref V_{CC} typ		±2		ppb	
Versus Acceleration			Worst direction	±0.3	±1.0		ppb/G	
Retrace			24th work after 24H off			±10	ppb	10 MHz
SSB Phase noise			10 Hz	-113		-100	dBc/Hz	
			100 Hz	-133		-125		
			1 KHz	-153		-145		
			10 KHz	-173		-158		
Allan Variance			1s	5		40	e-12	10 MHz
Aging	Per day		After 30 days of operation		±1		ppb	
	Per year				±100		ppb	
Environmental Conditions								
Operating temperature range		-40°C to +85°C						
Storage temperature range		-60°C to +85°C						
Power Voltage		-0.5V to V_{CC} + 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 10 to 2000 Hz						
Soldering Condition		Hand solder only – not reflow compatible 260°C 10s (on pins)						
Washing Condition		Washing with water or alcohol based detergent allowed only with final enough drying stage						