



Features and Benefits

- Frequency range: 100MHz
- Supply voltage: 5.0V
- Steady current: 50mA Max
- Output waveform: Sinewave
- Frequency stability vs. operating temperature: ± 100 ppb
- Aging: ± 0.2 ppm per year
- Operating temperature: -40°C to $+85^{\circ}\text{C}$
- Size: 16x15.24x9.5mm
- Package type: SMD



Typical Applications

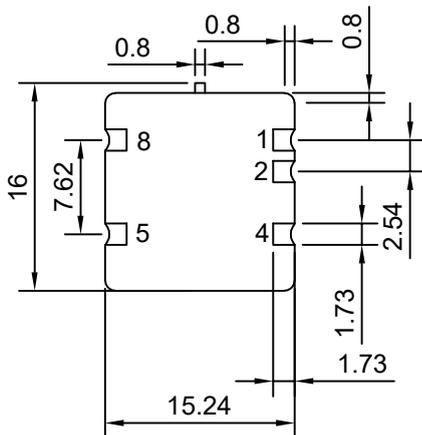
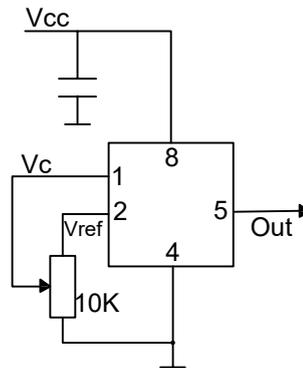
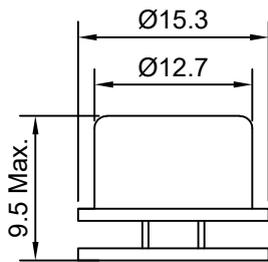
- Portable Wireless Communications Mobile
- Test equipment
- Synthesizers
- Battery Powered Application

Description

OCXO1615C-SMD-100MHz-6-100-7-1-2 offers high frequency stability, good long-term aging and low phase noise, all in a compact package to suit the different communication needs.

Mechanical Drawing & Pin Connections

Drawing No: MD230025-1



Pin Connection:

Pin#	Function
1	Voltage Control
2	Reference Voltage
4	GND
5	Output
8	Supply Voltage

Unit in mm
1mm = 0.039 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f ₀			100		MHz	
RF Output							
Signal Waveform			Sinewave				
Level			+7.0			dBm	note
Harmonics					-25	dBc	
Load			45	50	55	ohm	
Power Supply							
Reference Voltage	Vref		4.1	4.2	4.3	V	
Supply Voltage	Vcc		4.75	5.0	5.25	V	
Warm-up current		V _{CC} =5.0V	120		220	mA	
Continuous current		at +25°C, V _{CC} =5.0V		35	50	mA	
Frequency warm-up time		to df/f=1e-7 at +25°C ref at 15 min		60	90	sec	
Frequency Adjustment Range							
Electronic Frequency Control (EFC)	(f _L -f)/f	V _C =0 V			-1.0	ppm	note
	(f-f)/f	V _C =V _{C0}		0		ppm	
	(f _H -f)/f	V _C =Vref	+1.0			ppm	note
EFC voltage	V _C		0		4.2	V	
Slope				positive			
Input BW		-3dB level		160		Hz	
Input impedance	R _{in}			11		Kohm	
	C _{in}			5		pF	
Preset control voltage	V _{C0}	disconnected V _C pin	1.9	2.1	2.3	V	
Output resistance of Vref				91		ohm	
Frequency Stability							
Versus Operating Temperature Range		ref +25°C			±100	ppb	note
Initial Tolerance @ +25°C	(f-f ₀)/f ₀	V _C = V _{C0}	-0.2		+0.2	ppm	note
Versus supply voltage		ref V _{CC} typ.			±5	ppb	
Versus supply load		5% change			±5	ppb	
SSB Phase noise (Static. Values are for reference only and are subject to change.)		10Hz		-95		dBc/Hz	
		100Hz		-125			
		1KHz		-153			
		10KHz		-165			
		100KHz		-168			
Aging Per Day		After 30 days of operation			±2	ppb	
Aging 1 st Year					±0.2	ppm	
Maximum ratings, environmental, mechanical conditions							
Operating temperature range	-40°C to +85°C						
Storage temperature range	-60°C to +85°C						
Power voltage	-0.5 to 6.0 V						
Control voltage	-1.0 to 6.0 V						
Air flow velocity	0.5 m/s maximum						
Humidity	Non-condensing 95%						
Mechanical shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 10G swept sine 10 to 2000Hz						
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						

Note: Included in the test data