



Features and Benefits

Frequency range: 50MHz
Supply voltage: 3.3V
Steady current: 50mA Max.
Output waveform: HCMOS
Frequency stability vs. operating temperature: ± 30 ppb
Aging: ± 2.0 ppb/day
Phase noise@100KHz: -165dBc/Hz
Operating temperature: -40°C to +85°C
Size: 16x15.24x9.5mm

Typical Applications

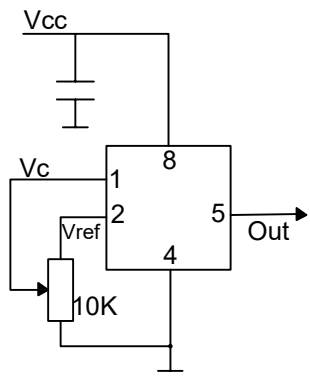
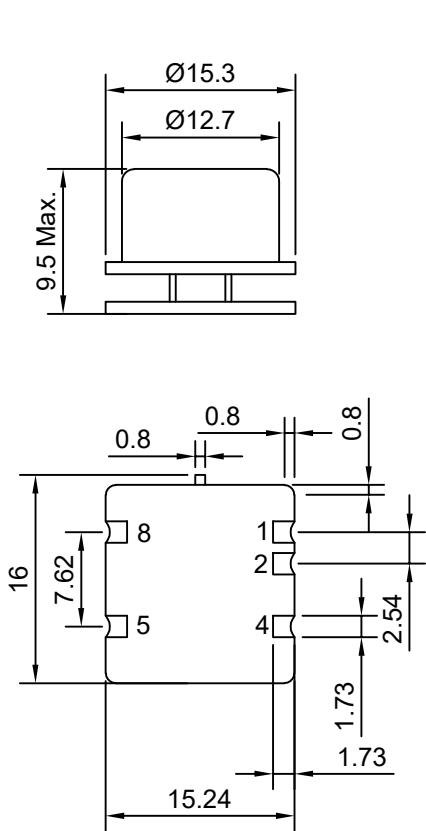
Portable and Low Power Wireless
Mobile Test Equipment
Battery Powered Applications
Beacons and Rescue Systems

Description

The OCXO3318CV-50MHz-2-6-5-7-1-1 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: 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			50		MHz	
Initial Tolerance	$(f-f_0)/f_0$	@+25°C, $V_c=V_{c0}$	-0.15		0.15	ppm	+
RF Output							
Waveform			HCMOS				
Load			10			Kohm	
					8	pF	
Output High			2.4			V	
Output Low					0.4	V	
Duty Cycle			45	50	55	%	
Power Supply							
Voltage	V_{cc}		3.15	3.3	3.45	V	
Power Consumption		Warm-up	130		240	mA	$V_{cc}=3.3V$
		Steady state, @+25°C		35	60	mA	$V_{cc}=3.3V$
Warm-up Time		@+25°C, to $df/f=1e-7$		60	90	s	Ref. to freq. after 15min.
Frequency Control							
Input Impedance	R_{in}			11		KOhm	
	C_{in}			5		pF	
Input BW		-3dB level		160		Hz	
Control Voltage Range	V_c		0		2.8	V	
Preset Control Voltage	V_{c0}	Disconnected V_c Pin	1.2	1.4	1.6	V	
Slope			positive				
Tuning Range	$(f_L-f)/f$	$V_c=0V$			-0.5	ppm	+
	$(f-f)/f$	$V_c=V_{c0}$	0			ppm	
	$(f_H-f)/f$	$V_c=V_{ref}$	0.5			ppm	+
Output Resistance of V_{ref}				91		Ohm	
Reference Voltage	V_{ref}		2.7	2.8	2.9	V	
Frequency Stability							
Versus Temperature		ref 25°C			±30	ppb	+
Versus Supply Voltage		Ref V_{cc} typ.			±2.0	ppb	
Versus Load		5% change			±2.0	ppb	
Aging	Per day	After 30 days of operation			±2.0	ppb	
	First Year				±0.2	ppm	
Allan Deviation 1s		1s. 100KHz BW		20		e-12	
SSB Phase noise (Static Values are for reference only and are subject to change)		10 Hz		-110		dBc/Hz	
		100 Hz		-140			
		1 KHz		-155			
		10 KHz		-165			
		100 KHz		-165			
Environmental Conditions							
Operating Temperature Range	-40°C to +85°C						
Storage Temperature range	-60°C to +85 °C						
Air Flow Velocity	0.5m/s maximum						
Humidity	Non-condensing 95%						
Mechanical Shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 10G, 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						

Note: "+" included in the test data