



Features and Benefits

- Miniature DIP8 sizes
- Very low power consumption(to 130mW at +25 °C)
- High frequency stability(less than±5 0ppb over -40°C to +85°C)
- Very fast warming-up (up to 30s)
- Very low phase-noise level (-172dBc/Hz, floor)
- Low aging (to 0.1ppb/day, 0.15ppm/year)
- Fundamental operation at up to 150MHz

Typical Applications

- Portable Wireless Communications
- Mobile Test Equipment
- Beacons and Rescue Systems
- Battery Powered Applications

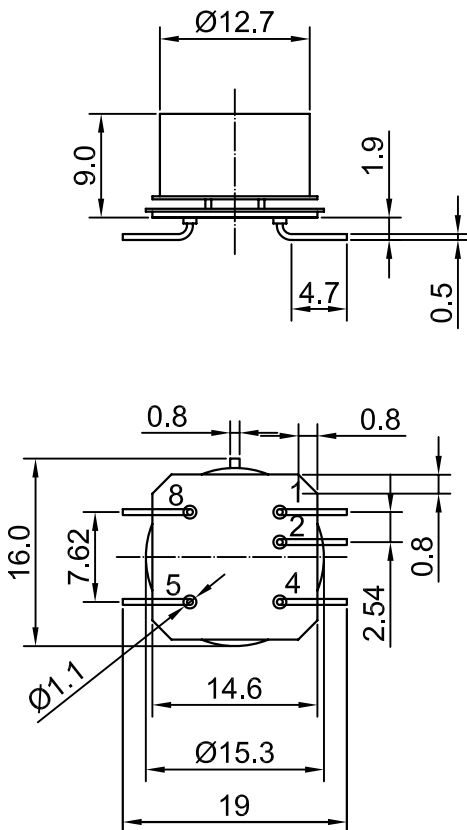
Description

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. The OCXO3313C models have DIP8 compatible sizes and pins-out and are among the world smallest high stability OCXOs.

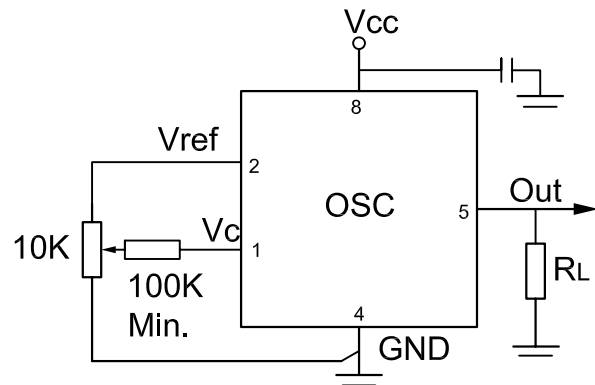
Mechanical Drawing & Pin Connections

Drawing No: MD140077-4

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



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0			100		MHz	
Initial Tolerance	$(f-f_0)/f_0$	+25°C, $V_{CC}=0.5 \cdot V_{ref}$		±0.1		ppm	
RF Output							
Sine-wave	Level	L	$V_{CC}=5V$	+7			dBm
	Load	R_L			50		Ohm
	Harmonics Level					-25	dBc
Sub-harmonics level				None			
Power Supply							
Voltage	V_{CC}		4.75	5.00	5.25	V	
Power Consumption		Warm-up			1200	mW	10MHz,
		Steady-state, +25°C	130	180		W	-40°C to +85°C
Warm-up Time:	T_{up}	At+25°C to $\Delta f/f=1e-8$ At+25°C to $\Delta f/f=1e-7$	30	60		s	ref. frequency after 15 min work.
Frequency Control							
Control Voltage Range	V_c	$V_{CC}=5V$	0		4.3	V	
Tuning Range		Compliance with 10 years of aging	±0.3	±1.0		ppm	Positive slope
Reference Voltage Output	V_{ref}			4.2		V	
Frequency Stability							
Versus Temperature		ref 25°C			±50	ppb	
Versus Supply Voltage		Ref V_{CC} typ.		±2		ppb	
Versus Acceleration		Worst direction	±0.3	±1.0		ppb/G	
Retrace		24 th work after 24 th off			±10	ppb	10MHz
Aging	Per day	After 30 days of operation	±2.0			ppb	10MHz
	First Year		±0.2			ppm	
SSB Phase noise (typ.) @100 MHz Sinewave output and $V_{CC} = 5.0V$		10 Hz		-95	-90	dBc/Hz	100MHz $V_{CC}=5V$
		100 Hz		-125	-120		
		1 KHz		-155	-150		
		10 KHz		-168	-165		
Allan Variance		1s	5		40	e-12	10MHz
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					
Solderability		Hand solder only – not reflow compatible 260°C 10s (on pins)					
Soldering Condition		Washing with water or alcohol based detergent allowed only with final enough drying stage					



Typical Noise

